State Office of Administrative Hearings

Kristofer S. Monson
Chief Administrative Law Judge

November 10, 2023

Mary Smith
General Counsel
Texas Commission on Environmental Quality
12100 Park 35 Circle, Bldg. F, Room 4225
Austin Texas 78753

VIA E-FILE TEXAS

RE: SOAH Docket Number 582-22-1222.TCEQ; TCEQ Docket No. 2021-0999-MWD; Application by City of Liberty Hill for Renewal of Texas Pollutant Discharge Elimination System Permit No. WQ0014477001

Dear Ms. Smith:

The above-referenced matter is ready to be considered by the Texas Commission on Environmental Quality on a date and time to be determined by the Chief Clerk's Office in Room 201S of Building E, 12118 N. Interstate 35, Austin, Texas.

Attached are copies of the Proposal for Decision and Order that have been recommended to the Commission for approval. Any party may file exceptions or briefs by filing the documents with the Chief Clerk of the Texas Commission on Environmental Quality no later than **November 30, 2023**. Any replies to exceptions or briefs must be filed in the same manner no later than **December 11, 2023**.

This matter has been designated **TCEQ Docket No. 2021-0999-MWD; SOAH Docket No. 582-22-1222**. All documents to be filed must clearly reference these assigned docket numbers. All exceptions, briefs and replies along with certification of service to the above parties shall be filed with the Chief Clerk of the TCEQ electronically at http://www14.tceq.texas.gov/epic/eFiling/ or by filing an original

and seven copies with the Chief Clerk of the TCEQ. Failure to provide copies may be grounds for withholding consideration of the pleadings.

CC: Service List

SOAH Docket No. 582-22-1222 **Suffix: TCEQ**

BEFORE THE STATE OFFICE OF ADMINISTRATIVE HEARINGS

APPLICATION BY CITY OF LIBERTY HILL FOR RENEWAL OF TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT NO. WQ0014477001

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SUPPLEMENTAL PROPOSAL FOR DECISION ON REMAND

On September 5, 2018, the City of Liberty Hill (City or Applicant) filed an application (Application) with the Texas Commission on Environmental Quality (TCEQ or Commission) for renewal of its Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0014477001, authorizing the discharge of treated domestic wastewater at an annual average flow not to exceed 4,000,000 gallons per day from the treatment plant located approximately 8,800 feet southeast of the intersection of U.S. Highway 290 and U.S. Highway 183, in Williamson County, Texas 78641 (Facility), into the South Fork San Gabriel River in Segment No. 1250 of the Brazos River Basin.

On March 12, 2020, the Executive Director (ED) of the TCEQ declared the Application technically complete and issued a draft permit (Draft Permit). On October 6, 2021, the Commission considered the hearing requests and requests for reconsideration, and the matter was then referred to the State Office Administrative Hearings (SOAH) to conduct a contested case hearing on ten issues. A hearing was held on the Draft Permit, and the Administrative Law Judges (ALJs) issued a Proposal for Decision (Initial PFD) recommending approval of the Draft Permit, with several modifications, including reducing the level of the effluent limit for Total Phosphorous (TP) for all phases. The Commission considered the Initial PFD and remanded this matter to SOAH for the parties to present additional evidence to determine the TP effluent limit necessary to comply with the Texas Surface Water Quality Standards (TSWQS).[1]

On remand, the City did not revise the Application, and continues to seek an effluent limit of 0.15 mg/L TP.[2] Likewise, on remand the ED did not perform an antidegradation review or propose any revisions to the original Draft Permit. In sum, both Applicant and the ED still recommend that the Draft Permit be issued with a TP effluent limit of 0.15 mg/L.

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[1] Interim Order, *Concerning the Administrative Law Judges' Proposal for Decision and Order regarding the Application of the City of Liberty Hill for renewal of Texas Pollutant Discharge Elimination System Permit No. WQ0014477001*; TCEQ Docket No. 2021-0999-MWD; SOAH Docket No. 582-22-1222 (Feb. 13, 2023) (Remand Order).

[2] Applicant appears to also be proposing the addition of permit conditions to address algal growth; however, it is not clear from the record or from Applicant's briefing what additional permit conditions Applicant recommends. *See* Applicant Initial Brief at 6, 16-18, 41.

For the reasons set out below, the ALJs disagree with Applicant and the ED on this point and conclude that the evidentiary record supports a TP effluent limit of 0.015 mg/L. The stricter effluent limit will comply with TSWQS and should prevent excessive algal growth that would impair existing uses of the receiving water, and should prevent the degradation of water quality by more than a *de minimis* amount.

I. PROCEDURAL HISTORY ON REMAND[3]

The Initial PFD was issued in this matter on October 24, 2022. The Commission considered the Initial PFD at an open meeting held on February 8, 2023, and determined that this matter should be remanded to SOAH to allow parties to present additional evidence to determine the TP effluent limit necessary to comply with the TSWQS.[4] The Remand Order stated that, under the TSWQS, the TP effluent limit should prevent excessive algal growth that impairs an existing use of the receiving water and should prevent the degradation of water quality by more than a *de minimis* amount.[5]

The preliminary hearing on remand was held on March 29, 2023, via Zoom videoconference. At the preliminary hearing, the ALJs adopted a procedural schedule for the hearing on the merits on remand. Additionally, the ALJs granted a motion to compel lodged by Stephanie Morris (Protestant Morris) against the ED,

[3] The procedural history prior to the remand is set forth in the Initial PFD.

[4] Remand Order.

[5] Remand Order.

ordering the ED to supplement or amend their responses to Protestant Morris's Interrogatories 6, 7, and 8.

The ALJs convened a second preliminary hearing on July 21, 2023, via Zoom videoconference, where the ALJs discussed hearing logistics and ruled on outstanding objections and motions to strike, one of which is discussed in greater detail below.

The hearing on the merits on remand convened via Zoom videoconference before SOAH ALJs Meitra Farhadi and Rachelle Robles on July 26, 2023, and concluded on July 28, 2023. The record closed on September 14, 2023, after parties submitted their final closing arguments and proposed findings of fact and conclusions of law.

The parties to this proceeding are: Applicant; the ED; the Office of Public Interest Counsel (OPIC); Protestants Morris; David and Louise Bunnell; Sharon Terry; Jackson Cassady; Jon and Carolyn Ahrens; Gerald and Susan Harkins; Frank and LaWann Tull; Andrew and Elizabeth Engelke; Pamela Sylvest; Joanne and John Swanson; Tom and Valerie Erikson; and Carolyn and Donnie Dixon (collectively, Bunnell Protestants).

A. DISCOVERY DISPUTE

On July 12, 2023, Protestant Morris filed an objection to and motion to strike (Motion) portions of direct testimony filed by Dr. James Miertschin, a testifying

expert witness for Applicant, arguing that Applicant failed to disclose additional data, modeling runs, and consulting work relied upon by its witness.[6] Protestant Morris stated that she only discovered the additional undisclosed modeling runs performed by Dr. Miertschin during his deposition taken on July 10, 2023, even though the information existed as far back as May 29, 2023.[7] By the time Protestant Morris discovered the additional undisclosed information, her expert witnesses had already filed their prefiled direct testimony. Upon the discovery, Protestant Morris attempted to obtain the information, but, as of the filing of the motion, Applicant still had not divulged the requested information.

Additionally, during Dr. Miertschin's deposition, Protestant Morris learned that Dr. Miertschin consulted with Bruce Wiland, who assisted with Dr. Miertschin's QUAL-2K modeling.[8] In addition to the modeling, Applicant had not produced communications between Dr. Miertschin and Mr. Wiland.

Protestant Morris argued in her Motion that she was prejudiced by Applicant's failure to disclose the requested information in a timely fashion because the information was not made available before Protestant Morris's experts prepared their testimony, much less were they given sufficient opportunity to examine the different modeling runs before the hearing on the merits commenced.

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[6] Protestant Morris's Objections to and Motion to Strike Portions of Applicant's and Executive Director's Prefiled Testimony (Protestant Morris Objections) at 6-7. (Jul. 13, 2023).

[7] Protestant Morris Objections at 8.

[8] Protestant Morris Objections at 8.

At the preliminary hearing held on July 21, 2023, the ALJs allowed parties to present oral arguments regarding Protestant Morris's objections. The ALJs sustained Protestant Morris's motion to compel the communications between Dr. Miertschin and Mr. Wiland, and overruled Protestant Morris's motion to strike the portions of Dr. Miertschin's testimony that relied upon model runs and work done by Mr. Wiland that was not disclosed to Protestant Morris.

Upon Applicant's presentation of Dr. Miertschin as a witness at the hearing on the merits, Protestant Morris reurged her motion.[9] Applicant responded that there were only minor changes to the final modeling run and that Applicant withheld drafts because it did not believe it was required to produce drafts. After taking additional oral argument on this issue, the ALJs overruled the objection, stating that they were not inclined to strike the modeling, since it included information relevant to the issue that the Commission remanded to SOAH. The ALJs offered Protestant Morris the opportunity to ask for a continuance, which was declined; or recall Dr. Miertschin at the end of the hearing to ask additional questions, if necessary.[10] The ALJs also allowed Protestant Morris to present her expert witness designated to respond to Dr. Miertschin's testimony, Dr. Lauren Ross, at the end of the hearing, with live supplemental direct testimony in order to maximize the amount of time her expert witness had to review the newly divulged information.

[9] Tr. Vol. 1 at 25.

[10] Tr. Vol. 1 at 31.

On the last day of the hearing on the merits, Protestant Morris presented the testimony of Dr. Ross, who had been given access to the modeling and the emails between Dr. Miertschin and Mr. Wiland the day before the hearing began. Dr. Ross testified regarding the difficulties she experienced with giving her recommendations given the incomplete information presented by Applicant and how it affected the presentation of her recommendations.[11] In summary, Applicant initially only provided a model run for one TP concentration level, when the corresponding exhibits referenced three different TP concentration levels.[12] Moreover, the results from the one model run that was provided did not match the corresponding curve referenced in Dr. Miertschin's direct testimony.[13] Applicant's failure to produce these documents resulted in Dr. Ross's inability to analyze the data underlying Dr. Miertschin's recommendations, including inputs that informed his modeling.[14]

After lengthy testimony on the impact of Applicant's failure to disclose the model runs and consulting expert work of Mr. Wiland (upon which Dr. Miertschin relied), the unfair prejudicial impact of Applicant's failure became apparent and the ALJs modified their previous ruling on Protest Morris's objections, striking the modeling runs and the related testimony.[15] Applicant offered to recall Dr. Miertschin to present good cause as to why the documents had not been produced in a timely

[11] Tr. Vol. 3 at 56-57.

[12] Tr. Vol. 3 at 56.

[13] Tr. Vol. 3 at 56-57.

[14] Tr. Vol. 3 at 57-58.

[15] Tr. Vol. 3 at 140-141.

fashion. The ALJs declined the request to recall the witness because Applicant had already been given several previous opportunities to present these arguments in response to Protestant Morris's Motion to Strike, at the preliminary hearing, and again at the beginning of the hearing on the merits.[16]

On August 10, 2023, and August 14, 2023, Applicant filed a Motion for Reconsideration and Supplemental Motion for Reconsideration, respectively, requesting for the ALJs to revisit their ruling striking Dr. Miertschin's undisclosed modeling runs and the corresponding portions of his testimony.[17] The ALJs denied Applicant's request to reconvene and reconsider their ruling.[18]

II. BURDEN OF PROOF

Applicant, as the moving party, bears the burden of proof by a preponderance of the evidence.[19] For applications filed after September 1, 2015, such as this one, an applicant's presentation of evidence to meet its burden of proof may consist solely of the filing with SOAH, and admission by the ALJ, of the administrative record.[20]

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[16] Tr. Vol. 3 at 143.

[17] Applicant's Motion for Reconsideration (Motion for Reconsideration) (Aug. 10, 2023) and Applicant's Supplement to its Motion for Reconsideration of Administrative Law Judges' Decision to Strike Portions of Prefiled Written Testimony of Dr. James Miertschin, PE (Supplemental Motion for Reconsideration) (Aug. 14, 2023).

[18] *See* Order No. 15, Denying Motions for Conference and Reconsideration (Aug. 17, 2023). The ALJs reasoned that Applicant's argument that the ALJs imposed an improper discovery sanction because it was not afforded notice and opportunity for a hearing on the issue is without merit because the parties were given multiple opportunities to opine on the issue, oral and written. Moreover, the ALJs rejected Applicant's arguments that there was good cause for failure to disclose the model runs and emails, that there was no unfair surprise to the Protestants for Applicant's failure to produce the information and documents, and that Dr. Ross was not prejudiced.

[19] 30 Tex. Admin. Code § 80.17(a).

[20] 30 Tex. Admin. Code §§ 80.17(c)(1); 80.117(b), (c).

A party may rebut an applicant's prima facie demonstration by presenting evidence demonstrating that the draft permit violates a specifically applicable state or federal legal or technical requirement. If a rebuttal case is presented, the applicant and the ED may present additional evidence to support the ED's draft permit.[21]

Although this law creates a presumption, sets up a method for rebutting that presumption, and shifts the burden of production on the rebuttal, it does not change the underlying burden of proof. The burden of proof remains with Applicant to establish by a preponderance of the evidence that the Application would satisfy applicable requirements and that a permit, if issued consistent with the Draft Permit, would protect human health and safety, the environment, and physical property.[22]

In this case, the parties went through this process, and in the Initial PFD, the ALJs found that Applicant did not meet its burden of proof on certain issues. The Commission then remanded the case for the parties to present additional evidence to determine the TP effluent limit necessary to comply with the TSWQS—an issue where the ALJs found that Applicant had not met its burden of proof.

Based on the remand posture, the parties have already completed the shifting steps set out in the statute and Commission rules. As discussed in the Initial PFD, the protestants have rebutted the presumption and Applicant's evidence was insufficient to meet its burden of proof on the remanded topic. Because the remand

[21] 30 Tex. Admin. Code §§ 80.17(c)(2)-(3); 80.117(c)(3), (d).

[22] 30 Tex. Admin. Code § 80.17(a), (c).

was to take additional evidence on an issue where the presumption has already been rebutted, the presumption is not reinstated.

III. TOTAL PHOSPHOROUS EFFLUENT LIMIT

At the February 8, 2023, Agenda Meeting, the commissioners discussed the Initial PFD and the ALJs' analyses.[23] With respect to Referred Issue A[24] in the Initial PFD, Chairman Jon Niermann emphasized that the "analysis must begin with what is protective of the waters under the Texas water quality standards," not with what is reasonably achievable.[25]

A. THE LIMIT SHOULD PREVENT EXCESSIVE ALGAL GROWTH

1. Background/Applicable Law

The TSWQS's purpose is to maintain the quality of water in the state consistent with public health and enjoyment, propagation, and protection of

[23] Tex. Comm. on Envt'l. Quality, Agenda Meeting, Chairman Niermann's Comments on the ALJs' PFD (Feb. 8, 2023) (Agenda Meeting).

[24] Issue A considers "[w]hether the draft permit is protective of water quality, groundwater, and uses of the receiving waters of the South Fork San Gabriel River in accordance with the Texas Surface Water Quality Standards, including recreational use and with consideration of the maximum volume of the proposed discharge." Initial PFD at 7.

[25] "The legal standard for implementing the narrative criteria of the Texas Surface Water Quality Standards is to maintain the existing uses of the receiving waters and to prevent degradation of water quality by more than a *de minimis* amount. But rather than address what is necessary to maintain uses and prevent degradations, the ALJs, it seems to me, have recommended a total phosphorus limit based on testimony about what is achievable with existing technology. And that, colleagues, in my view, is a misreading, or at least an overreading, of the implementing procedures. The limit is not predominantly a question of the capability of reasonable, available, reasonably available, technology, rather the analysis must begin with what is protective of the waters under the Texas Surface Water Quality Standards." Agenda Meeting.

territorial and aquatic life.[26] In maintaining water quality, nutrients from permitted discharges must not cause excessive growth of aquatic vegetation that impairs an existing or designated use.[27] TSWQS does not define the term "excessive."

Moreover, existing and designated uses and water quality sufficient to protect those existing uses must be maintained.[28] The numeric and narrative criteria for nutrients must be designed to preclude excessive growth of aquatic vegetation and are intended to protect multiple uses, such as primary, secondary, and noncontact recreation, aquatic life, and public water supplies.[29]

Additionally, TSWQS includes aesthetic parameters pertaining to substances attributable to waste discharges or human activities stating that surface waters must be maintained in an aesthetically attractive condition.[30]

The Facility's proposed discharge must meet the requirements of the TSWQS. TCEQ uses standard procedures for applying the TSWQS, described as

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[26] 30 Tex. Admin. Code § 307.1.

[27] 30 Tex. Admin. Code § 307.4(e).

[28] 30 Tex. Admin. Code § 307.5(a), referring to the TSWQS's antidegradation policy, which is discussed in Section III.A.3. of the Initial PFD, and in Section III.B. of this PFD.

[29] 30 Tex. Admin. Code § 307.7(b)(4)(E).

[30] 30 Tex. Admin. Code § 307.4(b)(4).

the Implementation Procedures (IPs).[31] TCEQ applies TSWQS and IPs to set permit limits for wastewater discharges and other activities that might affect water quality.

As described in the Initial PFD, the Draft Permit would authorize discharge of treated domestic wastewater effluent from Applicant's Facility, into the South Fork San Gabriel River (the River) in Segment No. 1250 of the Brazos River Basin.[32] The designated uses for Segment 1250 fall under primary contact recreation one, public water supply, aquifer protection, and high aquatic life use.[33] The River is an oligotrophic stream and is naturally low in nutrients, and, due to this characteristic, has limited aquatic vegetation.[34] The effluent limit for TP proposed for the Draft Permit in all phases is 0.15 mg/L.[35]

2. Supplemental Evidence and Argument on Remand

(a) Applicant and ED

As in the initial hearing, both Applicant and the ED continue to take the position that the TP limit of 0.15 mg/L proposed in the Draft Permit is sufficient to prevent excessive algae growth in the River, reasoning that the instant application

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[31] 30 Tex. Admin. Code § 307.2(e); Ex. ED-JL-3 ("Procedures to Implement the Texas Surface Water Quality Standards (RG-194)"(IPs)).

[32] Initial PFD at 14; Administrative Record (AR)-5, Tab-C; Exs. ED-JL-1 (Jenna Lueg direct) at 4; ED-PS-1-R (Peter Schaefer remand direct) at 6.

[33] Initial PFD at 14; 30 Tex. Admin. Code § 307.10(1); Exs. ED-JL-1 at 4; ED-PS-1-R at 7.

[34] Initial PFD at 14.

[35] Ex. AR-5, Tab-C at 2, 2a, 2b, 2c.

only requests to insert an interim phase between the approved initial and final phases.[36] For the same reason, the ED did not perform an antidegradation review in connection with the current application.[37] Instead, Applicant and the ED rely upon information gleaned from an antidegradation review performed in 2013.[38]

On remand, Applicant provided additional testimony from David Buzan, James Miertschin, James L. Machin, Aaron J. Laughlin, and David Thomison. The ED provided testimony on remand from Peter Schaefer and James Michalk. Of these witnesses, only one provided testimony relevant to the specific issue of what effluent level of TP complies with the TSQWS in preventing excessive algal growth that impairs an existing use of the receiving water.

ED witness Mr. Schaefer is the Team Leader of the Standards Implementation Team in the Water Quality Assessment Section of the Water Quality Division.[39] Previously, he was an Aquatic Scientist on the same team, from 2001 to 2015.[40] In his direct testimony, he recommended a TP limit of 0.15 mg/L.[41] However, at the hearing, Mr. Schaefer qualified this recommendation, stating that a

[36] Applicant Initial Brief at 11; ED Initial Brief at 2-3.

[37] Applicant Initial Brief at 11; Ex. ED-PS-1-R at 9.

[38] Applicant Initial Brief at 34; Ex. ED-PS-1-R at 10-11.

[39] Ex. ED-PS-1-R at 3.

[40] Ex. ED-PS-1-R at 3.

[41] Ex. ED-PS-1-R at 11.

range of 0.02 to 0.05 mg/L of TP would be protective of the River.[42] Mr. Schaefer also agreed with Protestant Morris witness Dr. Ryan King that the presence of more than 0.02 mg/L results in increased algae growth, indicating that there is a threshold level of TP that facilitates excessive algae presence in the River.[43]

Mr. Schaefer notes that this recommendation is based on his professional opinion as a trained aquatic biologist, and not necessarily the ED's position.[44] He testified that, from a scientific point of view, the TP effluent limit should be well below 0.15 mg/L.[45] However, he explained that management involves itself in the approval process if there is a proposal by Staff to set a permit limit below 0.5 mg/L for TP; and that 0.15 mg/L is the lowest limit that has been approved for a permit to date, because management will not approve anything lower for TP.[46] Mr. Schaefer stated that a member of the standards implementation team must consider the terms proposed in the Draft Permit not only as to what will not degrade the River, but also whether management will approve the terms of the draft permit.[47]

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[42] Tr. Vol. 2 at 147.

[43] Tr. Vol. 2 at 155.

[44] Tr. Vol. 2 at 145-46.

[45] Tr. Vol. 2 at 149.

[46] Tr. Vol. 2 at 166-67.

[47] Tr. Vol. 3 at 38.

Applicant witness David Buzan is an aquatic biologist who testified on remand concerning a nutrient study he performed on the River.[48] He recited the factors that contribute to algal growth[49] but cautioned that the study was not designed to "identify an appropriate total phosphorous effluent limit."[50] Rather, he stated that the results of the study could be used to compare the TP levels in the receiving stream at various points.[51] The nutrient study indicated that there are several sources of phosphorous that contribute to algal growth in the River, in addition to the Facility.[52]

Mr. Buzan cites potential compliance issues if the TP effluent limit is set below Applicant's recommended limit. To achieve the level of algal growth that would occur naturally without contributions of nutrients from the Facility, Mr. Buzon testified that Applicant's TP effluent limit would need to be set at a level below what a National Environmental Laboratory Accreditation Program (NELAP)-certified laboratory can detect.[53] Otherwise, it would be "impossible" for Applicant to comply with the terms of the permit.[54] Mr. Buzan did not provide a

[48] Ex. APP-R-3 at 11.

[49] Ex. APP-R-3 at 10.

[50] Ex. APP-R-3 at 18.

[51] Ex. APP-R-3 at 11.

[52] Ex. APP-R-3 at 19.

[53] Ex. APP-R-3 at 18.

[54] Ex. APP-R-3 at 18-19.

recommended TP effluent limit that should prevent excessive algal growth in the River.

Applicant witness Dr. Miertschin is a professional engineer with a Ph.D. in engineering and extensive experience in water quality studies. His firm provides engineering design services for water and wastewater treatment facilities.[55] He stated that the characteristics of the River immediately downstream of the outfall are perfect for the proliferation of algae, given that the reach is wide and shallow, the flow is low, with little shade.[56] Moreover, Dr. Miertschin testified that the typical laboratory detection limit for TP is 0.02 mg/L in NELAP-certified laboratories.[57] Given these two factors, he recommended that the TP effluent limit be set at 0.15 mg/L, because it is the most practical target and that a lower limit would only ensure Applicant's noncompliance with the terms set in the permit regarding TP effluent limits.[58] Dr. Miertschin did not provide a recommended TP effluent limit that should prevent excessive algal growth in the River.

Applicant witness Mr. Machin is a licensed professional engineer with 40 years of experience as a water quality and water resources expert.[59] He stated that 0.15 mg/L is the lowest reasonable economically achievable TP effluent limit for

[55] Ex. APP-R-1 at 2-8.

[56] Ex. APP-R-2 at 13-14.

[57] Ex. APP-R-2 at 22.

[58] Ex. APP-R-2 at 14.

[59] Ex. APP-R-2 at 3.

municipal wastewater treatment.[60] He also stated that requiring a lower limit would be beyond the financial capability of smaller municipalities.[61] Mr. Machin did not give a recommendation as to what level of TP is required to prevent excessive growth of algae in the River.

Applicant witness Mr. Laughlin is a registered professional engineer and an expert in wastewater treatment plant design and permitting, who prepared the Application for the City.[62] He attested to the construction of the Facility and that the design contemplated 0.15 mg/L TP effluent limit set in the permit issued on September 22, 2015.[63] Mr. Laughlin states that the current design of the plant cannot consistently comply with TP effluent limits set below 0.15 mg/L and that modifications would need to be made if the TP effluent limits are reduced.[64] Such modifications are possible,[65] but it would require a significant investment of capital.[66] His testimony did not include a recommendation on what level of TP effluent limit is necessary to comply with the TSWQS.

[60] Ex. APP-R-2 at 10.

[61] Ex. APP-R-2 at 10.

[62] Ex. APP-R-4 at 3.

[63] Ex. APP-R-4 at 8.

[64] Ex. APP-R-4 at 9.

[65] Ex. APP-R-4 at 9.

[66] Ex. APP-R-4 at 11.

Applicant witness David Thomison, the City's Director of Public Works and former wastewater treatment superintendent, testified on remand that the City files monthly Discharge Monitoring Reports (DMRs) with the TCEQ showing the plant's effluent concentrations.[67] He explained that the reports are prepared monthly, but the data is entered daily.[68] Mr. Thomison noted that the plant discharged the following levels on a monthly average:

December 2022	0.05 mg/L TP
January 2023	0.088 mg/L TP
February 2023	0.056 mg/L TP
March 2023	0.066 mg/L TP
April 2023	0.062 mg/L TP[69]

Mr. Thomison did not provide a recommended TP effluent limit that should prevent excessive algal growth in the River.

ED witness Mr. Michalk is a modeler on the Water Quality Assessment Team in the Water Quality Division at TCEQ.[70] Mr. Michalk performed the dissolved oxygen (DO) modeling analysis as part of the initial technical review of the Application; but he did not perform any modeling to evaluate TP levels or to

[67] Ex. APP-R-5 at 3.

[68] Tr. Vol. 1 at 179.

[69] Exs. APP-R-5 at 3-4; APP-R-5-01.

[70] Ex. ED-JM-7-R at 2.

determine a TP limit to be included in the Draft Permit.[71] He explained that TP can affect DO in a stream by increasing the algal levels in the stream, which in turn impacts DO levels.[72] He did not offer a recommendation as to the level of TP necessary to achieve compliance with the requirements of the TSWQS.

In sum, Applicant and ED only present one witness that opined on the issue of what TP effluent limit would prevent excessive algal growth in the River. The others discussed or opined on other matters, such as what is reasonably achievable, the fact that the permit conditions align with effluent limits imposed in permits approved for other similar systems in the area,[73] and the potential cost of configuring the existing plant to comply with a potentially lower TP limit.[74] In short, neither Applicant nor the ED presented new evidence or current data to support that a TP limit of 0.15 mg/L does not result in excessive growth of algae in the River.

(b) Protestants

Protestants recommend a limit of 0.015 mg/L for the TP in the effluent.[75] The framework of this recommendation begins by observing the minimally disturbed

[71] Ex. ED-JM-7-R at 3, 7.

[72] Ex. ED-JM-7-R at 6.

[73] Applicant Initial Brief at 15.

[74] Applicant Initial Brief at 18.

[75] Protestant Morris Initial Brief at 3; Ex. SM-King-9-R at 2 and 18.

condition of the River, then studying the effect of nutrients on the River as it relates to the River's designated uses.[76]

First, Protestants reference the River's baseline conditions.[77] Since the River is an oligotrophic stream, meaning that it is low in nutrients and aquatic vegetation, it typically has clear water and a visible white limestone riverbed.[78] However, below the outfall, nutrient levels, particularly phosphorous, exceed levels found naturally due to nutrients present in the runoff from the Facility, resulting in current levels of excessive algae growth on the River.[79] Protestants concluded that a level of 0.015 mg/L of TP is the threshold by which an excessive amount of nuisance algae propagates in the River.

In support of this recommendation, Protestant Morris presented the evidence of three expert witnesses: Dr. Lauren Ross, Dr. Ryan King, and Dr. Jan Stevenson, in addition to the testimony of Stephanie Morris. The Bunnell Protestants presented the testimony of David Bunnell.

Dr. King is a Research Professor of Biology, and one of the preeminent authorities in this field.[80] He recommends that the TP effluent limit necessary to

[76] Protestant Morris Initial Brief at 7; Ex. SM-Stevenson-1-R at 4.

[77] Protestant Initial Brief at 7.

[78] Protestant Morris Initial Brief at 7.

[79] Protestant Morris Initial Brief at 11.

[80] Ex. SM-King-9-R at 1, 3-4.

comply with all of the standards in TSWQS is 0.015 mg/L.[81] In arriving at his recommendation, Dr. King personally visited the River on four different occasions, collected water samples and field measurements, took photographs using a drone to record videos of the area, and reviewed other information.[82] He used that information and, in conjunction with other data provided by other expert witnesses in this proceeding, performed his analyses, resulting in his recommendation.

Dr. King stated that streams in Central Texas, or Hill Country, contain low concentrations of phosphorous; thus, laboratories must use equipment capable of detecting levels that naturally occur in such streams.[83] When performing his analyses, he used the Center for Reservoir and Aquatic Systems Research (CRASR) lab at Baylor University, which has equipment capable of detecting lower levels of TP.[84] The CRASR laboratory has generated data used in hundreds of publications in peer-reviewed journals by faculty and graduate students at Baylor University, as well as other educational institutions.[85]

Dr. King testified that the water quality data demonstrates that the water upstream of the outfall has very low phosphorous levels, typical of rivers in the Hill

[81] Ex. SM-King-9-R at 2.

[82] Ex. SM-King-9-R at 4-5 and 8.

[83] Ex. SM-King-9-R at 6.

[84] Ex. SM-King-9-R at 6.

[85] Ex. SM-King-9-R at 7.

Country.[86] However, the phosphorous concentrations below the outfall were elevated, as compared to the water above the outfall.[87] For example:[88]

Date	Above Outfall (mg/L)	At Outfall (mg/L)(LCRA/AWRC)	Downstream of Outfall (mg/L)(LCRA/AWRC)
August 31, 2020	0.008	0.436/0.433	0.406/0.539
April 4, 2022	0.008	0.065/0.076	0.039/0.053

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Dr. King noted that, during his visits to the River, ranging from August 2020 through May 2023, the water approximately 200 meters upstream from outfall has been clear and the limestone riverbed visible.[89] By contrast, downstream of the outfall, he observed heavy growth of filamentous algae and duckweed, and dark, organic sludge covering the riverbed.[90] The worst conditions were in 2020, where the growth of algae was heavy and covered nearly 100% of the surface of the River.[91] In April 2022, when Dr. King visited the River again, a few weeks after Applicant manually removed algae, the outfall area was almost 100% covered again by filamentous algae.[92]

[86] Ex. SM-King-9-R at 9.

[87] Ex. SM-King-9-R at 9.

[88] Ex. SM-King-9-R at 9. The ALJs created this table to summarize a portion of Dr. King's testimony, but it does not constitute the entirety of the data provided by the witness.

[89] Ex. SM-King-9-R at 10.

[90] Ex. SM-King-9-R at 11.

[91] Ex. SM-King-9-R at 11.

[92] Ex. SM-King-9-R at 11.

Dr. King acknowledged that he has sometimes observed improvement in conditions at the outfall.[93] He testified that, according to the City's DMR and data collected by Mr. Buzan, the improvements correspond to a decrease in concentrations of phosphorous from the outfall.[94]

Dr. King noted that the recommended TP limit depends, in part, on the range of naturally occurring TP as a background concentration, which affects factors such as total loading, and the degree to which the phosphorous concentration remains at, or above, a certain level.[95] In the River, the background concentrations of TP are typically under 0.01 mg/L, and diatoms typically begin to undergo biological changes when the TP concentration is between 0.01 and 0.015 mg/L.[96] Once the TP concentration reaches 0.015 mg/L on a consistent basis, the biological conditions for the diatoms significantly change, which has a cascading effect for other organisms.[97]

Dr. King explained that, not only do the TP concentrations affect the conditions for organisms in the River, they also impact recreational uses and aesthetic conditions, primarily by causing excessive filamentous green algae growth.[98] He testified that he expects an excessive amount of filamentous green algae

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[93] Ex. SM-King-9-R at 11.

[94] Ex. SM-King-9-R at 14-15.

[95] Ex. SM-King-9-R at 17.

[96] Ex. SM-King-9-R at 17.

[97] Ex. SM-King-9-R at 17.

[98] Ex. SM-King-9-R at 19.

when TP concentrations are consistently at or above 0.02 mg/L.[99] Moreover, Dr. King pointed out that his analysis aligns with findings in a study performed by Dr. Stevenson, one of the other witnesses for Protestant Morris, who reported a threshold concentration of 0.027 mg/L, above which nuisance filamentous green algal cover increased.[100] For these reasons, he recommended that the TP limit for all phases be set at 0.015 mg/L in order to prevent algal growth that could impair the existing uses of the River.[101]

Dr. Stevenson is a Professor Emeritus of Integrative Biology.[102] He testified that a discharge of less than 0.01 mg/L of TP during low flow periods has a high probability of supporting high levels of aquatic life.[103] Additionally, Dr. Stevenson notes that a discharge of no more than 0.02 mg/L of TP during low flow periods has a high probability of supporting recreational uses by preventing an excessive amount of algal growth.[104] He agrees with Dr. King that algal growth increases if the TP concentration level in the water reaches and consistently stays between 0.01 and 0.015 mg/L.[105]

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[99] Ex. SM-King-9-R at 19.

[100] Ex. SM-King-9-R at 20.

[101] Ex. SM-King-9-R at 1.

[102] Ex. SM-Stevenson-1-R at 1.

[103] Ex. SM-Stevenson-1-R at 12.

[104] Ex. SM-Stevenson-1-R at 12.

[105] Ex. SM-Stevenson-1-R at 12.

Concerning the impact of aesthetic parameters, Dr. Stevenson testified that the amount of algal growth affects public perception such that if the public has a negative perception of the River, it results in a negative impact of recreational use of the River.[106] A research team from the University of Montana and the Montana Department of Environmental Quality conducted study on public perception of filamentous green algae on the bottom of a stream.[107] Nearly 100 percent of individuals prefer a clean bottom stream, with few to little strands of algae.[108] However, when the algal cover increases to 15 to 20 percent, the percentage of people that found those conditions as desirable for recreational use dropped to about 20 percent.[109] Dr. Stevenson opined that the impact of negative public perception of a water body will impair the recreational use of that water body, resulting in decreased property values, among other consequences.[110]

Dr. Ross is an engineer with over 40 years of experience including water resources engineering, water quality protection and engineering design, groundwater transport, wastewater management and disposal, statistical methods, and environmental monitoring.[111] She testified that it is possible that TP effluent concentrations lower than 0.05 mg/L would predict acceptable algal growth levels in

[106] Tr. Vol. 2 at 109.

[107] Exs. SM-Stevenson-1-R at 8; SM-Stevenson-4-R; SM-Stevenson-5-R.

[108] Tr. Vol. 2 at 105.

[109] Tr. Vol. 2 at 105-06.

[110] Tr. Vol. 2 at 108-09.

[111] Exs. SM-Ross-25-R at 1:7; SM-Morris at 5; SM-Morris-1.

the River.[112] At the initial hearing, Dr. Ross testified that the River is an oligotrophic stream naturally low in nutrients, such as phosphorous and nitrogen, as well as aquatic vegetation.[113]

Protestant Morris witness Ms. Morris is a resident, living a quarter-mile downstream from the outfall since 2014.[114] As in the initial hearing, she testified that she and her family would previously go fishing, wading, tubing, kayaking, and swimming in the River.[115] Their primary reason for purchasing their home in this particular location was to be able to provide their children exposure to nature.[116] However, Ms. Morris's family no longer recreates in the River because of the excessive algal growth and the unpleasant odor and appearance.[117] She stated that while kayaking might be possible, she was careful to not touch the water.[118] In her opinion, the River was not safe for swimming, for humans or pets.[119] Ms. Morris has not observed any wildlife return to the River since the growth of algae along the surface has become excessive and consistent.[120]

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[112] Ex. SM-Ross-25-R at 12:17-22.

[113] Ex. SM-Ross 11:28-29 (Initial Hearing).

[114] Exs. SM-Morris-9-R at 2; SM-Morris at 4. *See also* Initial PFD at 43.

[115] Ex. SM-Morris-9-R at 5:26-29.

[116] Ex. SM-Morris-9-R at 3:2-4.

[117] Ex. SM-Morris-9-R at 9:4-11.

[118] Ex. SM-Morris-9-R at 9:10-11.

[119] Ex. SM-Morris-9-R at 9:11-12.

[120] Ex. SM-Morris-9-R at 9:12. *See also* Initial PFD at 71.

Similarly, Bunnell Protestants' witness David Bunnell is a resident on the River. He and his wife purchased their home in 2017, and their home is located 3.83 miles downstream of the outfall.[121] They acquired the home to be close to their three children and seven grandchildren and wanted to share the access their home afforded to the outdoors.[122] Initially, the River was pristine and Mr. Bunnell and his family would swim, tube, and fish on their property.[123] However, around 2018, he began observing "extreme algal blooms" in the River, coinciding with when the Applicant began discharging a higher volume of effluent into the River.[124] Since then, the River has had thick algae mats located in front of his home, almost 3.5 miles downstream of the outfall.[125] Mr. Bunnell stated that he observes the conditions of the River on a daily basis.[126]

Mr. Bunnell noted that consistent rain alleviates algae growth in the River and has observed that the algae blooms are worse in the summer, when temperatures are higher, especially if there has not been any precipitation.[127] He added that the

[121] Ex. 1-11-R_D at 2:23 and 3:9-11.

[122] Ex. 1-11-R_D at 3:10-12.

[123] Ex. 1-11-R_D at 3:14-15.

[124] Ex. 1-11-R_D at 3:15-16 and 12:20-21.

[125] Ex. 1-11-R_D at 3:19-20.

[126] Ex. 1-11-R_D at 10:25-28.

[127] Ex. 1-11-R_D at 6:7-14.

limestone bottom of the River is no longer visible, as it is consistently covered in dead or decaying algae.[128]

In sum, Protestants argue that their experts and City witness Mr. Buzan agree that the wastewater discharge from the Facility is the cause or predominant contributor to the elevated levels of TP and resulting algal growth in the River and that there is a direct correlation between the TP concentration in the City's effluent and the severity of the impacts to the River.[129]

(c) OPIC

OPIC recommends a TP effluent limit of 0.02 mg/L in order to prevent the increase of excessive algal growth that could harm the River's current uses.[130] In arriving at this recommendation, OPIC contends that, based on the evidence presented, there is no dispute that the wastewater effluent from the Facility is the predominant cause of the algae growing downstream of the Facility's outfall.[131] OPIC agrees with Protestant Morris's expert witness, Dr. King, that a TP effluent limit of 0.015 mg/L would be protective of the River, but acknowledges the inherent challenge of compliance with detecting that level of TP.[132]

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[128] Ex. 1-11-R_D at 6:16-21.

[129] Protestant Morris Initial Brief at 11-13.

[130] OPIC Initial Brief at 7.

[131] OPIC Initial Brief at 7.

[132] OPIC Initial Brief at 8.

OPIC notes that the TP effluent limit included in the Draft Permit must not only be protective, but also enforceable.[133] Thus OPIC recommends the 0.02 mg/L recommended by ED witness, Mr. Schaefer, as a compromise between a protective, yet enforceable, permit.[134]

B. THE LIMIT SHOULD PREVENT DEGRADATION OF WATER QUALITY

1. Background/Applicable Law

The Commission's antidegradation policy is set out in 30 Texas Administrative Code § 307.5(b). The Tier 1 standard of the antidegradation policy applies to all waters in the state and provides that existing uses and water quality sufficient to protect those uses will be maintained.[135] A Tier 2 review applies to water bodies that have fishable/swimmable waters.[136] Because the River exceeds fishable or swimmable quality, both a Tier 1 and a Tier 2 analysis are applicable. 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 [C]ommission'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

[133] OPIC Initial Brief at 8.

[134] OPIC Initial Brief at 8.

[135] 30 Tex. Admin. Code § 307.5(b)(1).

[136] 30 Tex. Admin. Code § 307.5(b)(2).

> 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.[137]

The term "de minimis" is not defined by the rule or in the Texas Water Code; however, it is construed as "trifling" or "negligible."[138]

In the Initial PFD, the ALJs discussed the errors in the 2013 antidegradation review, as well as the overwhelming evidence that a discharge between 1.36 and 1.466 million gallons per day with TP concentrations between 0.06 and 0.081 mg/L degraded the water quality of the River beyond a *de minimis* amount.[139]

At the TCEQ open meeting on February 8, 2023, wherein the Commissioners voted to remand this matter to SOAH for the parties to present additional evidence to determine the TP effluent limit necessary to comply with the TSWQS, Chairman Niermann provided the following explanation concerning Referred Issue G:

> I agree with the ALJs that the purpose of an antidegradation policy has not been satisfied with this application and that it is not appropriate to rely on the previous antidegradation review given the City's performance under the existing permit.[140]

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[137] 30 Tex. Admin. Code § 307.5(b)(2).

[138] *Robertson Cty: Our Land, Our Lives (RCOLOL) v. Tex. Comm'n on Envmt'l Quality*, Cause No. 03-12-00801-CV, 2014 WL 3562756 at *8 (Tex. App.—Austin July 17, 2014, no pet.) (op. on reh'g) (quoting Black's Law Dictionary 524 (10th ed. 2014)).

[139] *See* Initial PFD at 48-49.

[140] Consideration of Liberty Hill Proposal For Decision, Commissioners Agenda (Feb. 8, 2023) (Commissioners discussion on the dais begins at approximately 20:20) (video available at: https://www.youtube.com/watch?v=ksujgrDb4C0&list=PLwzfZK5z8LrFxR1l3K_P7mrno7mEvxVud&index=4).

2. Supplemental Evidence and Argument on Remand

a) Applicant and ED

Mr. Machin testified on remand that in his experience a TP effluent limit of 0.15 mg/L can be difficult to achieve on a daily basis; and that to his knowledge it is the lowest TP limit the TCEQ has applied to a TPDES permit to date.[141] Mr. Machin noted that the Draft Permit proposes a TP effluent limit of 0.15 mg/L based on two memos from Peter Schaefer in 2013. In 2013, Mr. Schaefer determined that there was a high level of concern in assessing the potential need for a TP limit.[142] Specifically, his April 4, 2013, memo noted the following:

> Nutrients: TP screening indicates that TP limits are needed. The applicant is currently permitted to discharge 1.2 [million gallons per day] MGD with a 0.5 mg/L TP limit. Because algal growth is currently visible beginning at the outfall location and extending downstream for some distance, it is recommended that a 0.15 mg/L TP limit be imposed on the 4 MGD final phase to keep existing TP loading from increasing as a result of the increase in flow.[143]

Mr. Machin agreed that it was reasonable to lower the TP effluent limit to 0.15 mg/L in the Draft Permit; however, he is of the opinion that anything lower would not be reasonably economically achievable by a small municipality.[144]

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[141] Ex. APP-R-2 at 8.

[142] Ex. APP-R-2 at 8-9.

[143] Ex. APP-R-2-02.

[144] Ex. APP-R-2 at 10.

Mr. Laughlin testified on remand that he designed the expansion of the current plant to meet a TP effluent limit of 0.15 mg/L.[145] He explained that any TP effluent limit lower than 0.15 mg/L could not be consistently achieved with the currently designed plant.[146] He stated that the City has looked into options to lower the TP effluent limit by modifying the treatment train before the effluent is discharged at the outfall, and that the results from those tests did achieve a significant improvement to treated effluent quality.[147] Mr. Laughlin stated that he was also evaluating a direct potable reuse system which would include a reverse osmosis (RO) process, as an RO process is the most proven technology for achieving a low TP effluent limit on a regular basis.[148] He estimated that the cost to design and construct an RO filtration system for the City's plant is $12.6 million.[149] Mr. Laughlin stated that the total construction cost for Phase 1 of the wastewater treatment plant was $8.8 million, and the Phase 2 expansion to 2.0 MGD was $11.9 million.[150] Mr. Laughlin testified that the City has applied for funding, including $10 million in loan forgiveness funds, from the Texas Water Development Board as part of a broader direct potable reuse project; however, there are no guarantees.[151]

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[145] Ex. APP-R-4 at 8.

[146] Ex. APP-R-4 at 9.

[147] Ex. APP-R-4 at 9.

[148] Ex. APP-R-4 at 9.

[149] Ex. APP-R-4 at 10.

[150] Ex. APP-R-4 at 8.

[151] Ex. APP-R-4 at 11-12.

Mr. Buzan testified on remand concerning a nutrient study he performed on the River.[152] Mr. Buzan noted that pursuant to an Agreed Order with the TCEQ, he was asked to evaluate how the River responded to the nutrients from the City's effluent. He started the study on June 21, 2022, and it spanned through October 17, 2022. Mr. Buzan explained that a nutrient study is useful to establish a baseline for the condition of the River, and to help understand the effects of nonpoint sources and the City's discharge on the River.[153] The intent of the study was not to establish an effluent limit; however, Mr. Buzan testified that in order to have the natural growth of algae in the River, the City's TP effluent limit would need to be set below the ability of qualified laboratory detection limits.[154]

Dr. Miertschin testified that, in 2013, he conducted nutrient sampling at the discharge location. He described the discharge location as a wide, shallow, unshaded, low flow segment of the River.[155]

Dr. Miertschin testified that a TP effluent limit of 0.15 mg/L is the "most practical target for an achievable effluent limitation at the present time."[156] However, he questioned whether or not an effluent limit of 0.15 mg/L TP is even

[152] Ex. APP-R-3 at 11.

[153] Ex. APP-R-3 at 11.

[154] Ex. APP-R-3 at 11, 18-19.

[155] Ex. APP-R-1 at 13.

[156] Ex. APP-R-1 at 14.

consistently achievable using conventional technology.[157] Dr. Miertschin agreed that advanced technologies, including RO, could be applied to achieve extremely low levels of TP and most other constituents, but opined that they would be costly to implement.[158] Dr. Miertschin opined that TCEQ rules do not require preventing harm to native aquatic life; therefore, any effluent limit set as a goal to prevent such harm is not required.[159]

Dr. Miertschin critiqued the Baylor laboratory utilized by Dr. Ryan King as not certified and accepted by the TCEQ. Dr. Miertschin stated that the City is required to have its samples tested at a TCEQ-certified lab, and the list of certified labs on the TCEQ's website does not include the Baylor lab.[160] He explained that while it is admirable that the Baylor lab has achieved very low detection limits for phosphorus and has excellent quality control and quality assurance procedures, the lab detection limit for TP is 0.02 mg/L for commercial laboratories that are certified by the TCEQ.[161] If a certified laboratory in Texas achieves lower detection limits than the reporting limit, the lab is supposed to report it as "< 0.02 mg/L."[162] Dr. Miertschin noted that upon request by the client, a lab may report values below

[157] Ex. APP-R-1 at 22-23.

[158] Ex. APP-R-1 at 23.

[159] Ex. APP-R-6 at 13.

[160] Ex. APP-R-6 at 12.

[161] Exs. APP-R-1 at 22; APP-R-6 at 12.

[162] Ex. APP-R-6 at 13.

the approved reporting limit, but the values will be labeled as "J values" or estimates.[163]

Both Dr. Miertschin and Mr. Buzan noted that some facilities discharge through constructed wetlands as a mitigation feature to further treat the effluent. They explained that constructed wetlands utilize aquatic and semi-aquatic plants to take up nutrients in the water.[164] Mr. Buzan opined that the area where the City's outfall is located appears to be adequate to support a constructed wetland; and, in both his and Dr. Miertschin's opinions, it would be useful because it would remove more of the TP and nitrogen from the effluent before it enters the River.[165]

Mr. Schafer reviewed the 2013 permit application, but he did not review the pending Application—this Application was reviewed by Jenna Lueg.[166] Mr. Schaefer testified that an antidegradation review was not performed for the Application because there is no change in the final phase effluent flow amount, and no relaxation of permit limits requested.[167] In his opinion, an antidegradation review is "not

[163] Ex. APP-R-6 at 13.

[164] Exs. APP-R-3 at 21; APP-R-1 at 26.

[165] Exs. APP-R-3 at 22; APP-R-1 at 26.

[166] Ex. ED-PS-1-R at 4.

[167] Ex. ED-PS-1-R at 9.

necessary for this permit renewal application."[168] Instead, Mr. Schaefer testified about the general process he uses when he does review a permit application.[169]

Mr. Schaefer explained that Staff bases permit limits on what is necessary to maintain instream water quality and meet TSWQS; not solely on what is technologically achievable.[170] He stated that the 0.15 mg/L TP limit in the Draft Permit is "intended to prevent the excess accumulation of algae in the receiving waters by reducing the nutrient load in the water body."[171] He stated that the issuance of the Draft Permit, with a TP limit of 0.15 mg/L, is not foreseen to result in any degradation of water quality.[172] Mr. Schaefer further testified that his viewpoint is based on the antidegradation review he conducted in 2013.[173] However, upon being presented with photographs depicting the current state of the River (upstream, at the outfall, and downstream) during the periods when the Facility's wastewater discharge remained well below 0.15 mg/L TP, Mr. Schaefer acknowledged that the images seem to indicate more than a trivial amount of lowering of water quality.[174]

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[168] Ex. ED-PS-1-R at 9.

[169] Ex. ED-PS-1-R at 5-6.

[170] Ex. ED-PS-1-R at 12.

[171] Ex. ED-PS-1-R at 11.

[172] Tr. Vol. 2 at 127.

[173] Tr. Vol. 2 at 127.

[174] Tr. Vol. 3 at 42-47; reviewing Ex. SM-Morris-13-R at 21-22, 28-30.

b) Protestants

On remand, Dr. King collected additional water sampling data that paralleled data he collected prior to the initial hearing.[175] The data confirms that the River's clear conditions above the City's outfall are consistent with very low TP concentrations.[176]

Dr. King testified that the TP effluent limit necessary to comply with the TSWQS and prevent the degradation of water quality by more than a *de minimis* amount is 0.015 mg/L.[177] He further testified that shifts in the behavior of sensitive diatoms initiate at concentrations ranging from 0.01 mg/L to 0.015 mg/L of TP, but when concentrations consistently reach 0.015 mg/L, substantial alterations in biological conditions occur, and therefore, *de minimis* lowering of water quality is expected between 0.01 mg/L and 0.015 mg/L TP.[178]

Dr. Ross discussed a modeling effort undertaken by the City of Austin and the United States Environmental Protection Agency for the South Fork San Gabirel River. The Waster Quality Analysis Simulation Program (WASP) model focused on benthic algae growth in response to nutrients in Applicant's effluent discharge.[179] The WASP model used data collected by the Brazos River Authority from 2006 to

[175] Ex. SM-King-9-R at 3-6, 10.

[176] Ex. SM-King-9-R at 10.

[177] Ex. SM-King-9-R at 2, 22.

[178] Ex. SM-King-9-R at 22-23.

[179] Ex. SM-Ross-25-R at 4.

2008, as well as samples from five locations in the River and from the Facility between 2006 and 2009.[180] She noted that the WASP modeling predictions reasonably matched field observations of excessive benthic algae in the River downstream of the City's outfall. The WASP model predicted these benthic algae conditions for an effluent discharge of 0.3 mg/L TP at a rate of 1.2 MGD. Dr. Ross stated that at the final phase discharge rate of 4.0 MGD, an average TP effluent limit of 0.09 mg/L would maintain the load modeled by the WASP model, which resulted in nuisance algal conditions in the River.[181]

Dr. Stevenson described the process she used to determine what TP effluent limit is necessary to prevent the degradation of water quality in the River by more than a *de minimis* amount as follows: (1) determine what the minimally-disturbed condition of the River is; (2) determine the effect of nutrients on the River's attributes as related to the designated uses.[182] He explained that the minimally-disturbed conditions of the River may be determined from a section of the River that shows little evidence of human activity, or by conditions in similar streams with little evidence of human activity.[183] In this case, Dr. Stevenson used the assumption that the minimally -disturbed conditions of the River is 0.01 mg/L TP or less.[184] With regard to the effects of nutrients on the River, Dr. Stevenson explained

[180] Ex. SM-Ross-25-R at 4.

[181] Ex. SM-Ross-25-R at 5.

[182] Ex. SM-Stevenson-1-R at 4.

[183] Ex. SM-Stevenson-1-R at 4.

[184] Ex. SM-Stevenson-1-R at 6.

that he focused his review on changes that can be related to the designated uses for the River—notably, high aquatic life use and primary contact recreation.[185]

Dr. Stevenson noted that the IPs describe high aquatic life use as a water body having highly diverse habitat characteristics, a species assemblage that is the usual association of regionally-expected species, the presence of some sensitive species, high species diversity and richness, and a balanced to slightly imbalanced trophic structure.[186] As to impairment of recreational uses, Dr. Stevenson explained that whether algae is "excessive" can be determined by measuring the public perception of recreational desirability in relation to the percentage of filamentous green algal cover of stream bottoms.[187] As discussed above in section III.A.2.b. of this PFD, recreational desirability decreases greatly with increases in benthal algal mass—from over 90 percent approval, when algal mass is on the order of 100 mg/m^2 to less than 30 percent, when algal mass is on the order of 200 mg/m^2.[188] Dr. Stevenson calculated that this 100 to 200 mg/m^2 threshold equals approximately 6 to 17% cover of the stream bottom by filamentous green algae.[189] In other words, once filamentous green algae growth reaches and exceeds 17 percent cover, recreational uses are impaired.

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[185] Ex. SM-Stevenson-1-R at 7.

[186] Ex. SM-Stevenson-1-R at 7.

[187] Ex. SM-Stevenson-1-R at 7.

[188] Exs. SM-Stevenson-1-R at 7; SM-Stevenson-5-R.

[189] Ex. SM-Stevenson-1-R at 7.

Protestant Morris argues that the evidence shows that a TP effluent concentration *below* 0.02 mg/L is necessary to prevent sustained filamentous green algae growth that would eventually cover more than 17 percent of the River in the area downstream of the outfall.[190] Protestant Morris cites to Dr. King's research that once concentrations approach 0.02 mg/L of phosphorus, he would expect excessive growth of filamentous green algae to be prevalent and persistent; and that the Draft Permit would need to contain an effluent limit of no more than 0.015 mg/L TP in order to prevent algae growth that covers such a degree of the River that it will impair existing uses.[191]

c) OPIC

OPIC stressed that the fundamental purpose of the Tier 2 antidegradation policy is to ensure that there is no degradation beyond a *de minimis* amount. Having reviewed the evidence, OPIC agreed with Protestants that a TP effluent limit of 0.15 mg/L, as proposed in the Draft Permit, will not prevent the lowering of water quality by more than a *de minimis* amount; and that it is crucial to safeguard the River from further degradation.[192] Based on the weight of the evidence, and to strike a balance between a protective and an enforceable permit, OPIC recommends the TP

[190] Protestant Morris Initial Brief at 28.

[191] Ex. SM-King-9-R at 19; *see also* Ex. SM-King-16-R (chart summarizing studies which estimate threshold TP concentrations that resulted in a significant increase in algae in streams with background concentrations similar to the River).

[192] OPIC Closing at 9-10.

effluent limit be set at 0.02 mg/L to prevent the lowering of water quality by more than a *de minimis* amount.[193]

C. ALJs' Analysis

The commissioners remanded this matter back to SOAH for the parties to present additional evidence to determine the TP effluent limit necessary to comply with the TSWQS. The TSWQS provide that the nutrients from discharges must not cause excessive growth of aquatic vegetation that impairs an existing use and that surface waters must be maintained in an aesthetically attractive condition. The commissioners also specified in their order remanding this matter that the TP effluent limit should prevent excessive algal growth that impairs an existing use of the receiving water and should prevent the degradation of water quality by more than a *de minimis* amount.

(i) Prevent Excessive Algal Growth

Protestants provided a useful framework for the analysis: what is the minimally disturbed condition of the River and what effects do nutrient levels have on the designated uses of the River, which includes the considerations of what constitutes "excessive" and what amount of algal cover is aesthetically attractive, among other considerations dictated by the TSWQS.

[193] OPIC Closing at 10.

There is no dispute that, in its natural state, the River has clear water, with the limestone riverbed clearly visible, the conditions for which still presently occurs above the outfall. Dr. King described his observations of the River above the outfall as "clear water and a limestone-based riverbed," with "a thin layer of chalky-white sediment on the riverbed, low flow, but with some small pools and vegetation in the riverbed" that grew in cracks in the limestone.[194]

Moreover, all parties agree that the presence of nutrients can cause algal growth in the River. Dr. King described TP effluent limits between 0.015 and 0.02 mg/L as a "tipping point," or a threshold at which, once the levels of TP reaches that range and is sustained for a certain period of time, an excessive amount of algal growth will occur.[195] In describing the effects, Dr. King emphasizes the importance of diatoms, describing them as a key element of the function and structure of the River.[196] At the threshold level, diatom populations decline, serving as an early warning indicator of biological degradation, because they make way for nuisance filamentous green algae.[197] Dr. Stevenson proposed an even lower threshold, at 0.01 mg/L TP, stating that this amount has a high probability of supporting high levels of aquatic life in the River, but he ultimately agreed with Dr. King's recommendation.[198] Even ED witness, Mr. Schaefer, provided a similar

[194] Ex. SM-King-9-R at 10.

[195] Tr. Vol. 2, 38-39.

[196] Ex. SM-King-9-R at 17:9-10.

[197] Ex. SM-King-9-R a 17:11-15.

[198] Ex. SM-Stevenson-1-R at 12:3.

recommendation; testifying that, in his professional opinion, a limit of 0.02 mg/L TP is more protective of the River than Applicant's recommended range.[199]

Additionally, the naturally occurring conditions in the River must be taken into account when considering the TP effluent imposed by the Draft Permit. There is a certain amount of naturally occurring phosphorous in the River, typically under 0.01 mg/L, and any additional influx of phosphorous in the River increases the total amount.

Thus, ALJs find that a TP effluent limit of 0.015 mg/L should prevent excessive algal growth. If the amount of TP in the effluent stays below this amount, it does not reach the "tipping point," as described by Dr. King, and should prevent excessive algal growth in the River.

(ii) Impairs an Existing Use

The designated uses for Segment 1250 are primary contact recreation one, high aquatic life use, public water supply, and aquifer protection.[200] Thus, the evidence must demonstrate that the TP effluent limit in the Draft Permit will not cause or contribute to excessive growth of aquatic vegetation that impairs any of these existing or designated uses.

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[199] *See* Applicant Initial Brief at 12 and ED Initial Brief at 3, where Applicant and ED frame Mr. Schaefer's statements as "personal opinions and feelings". However, Mr. Schaefer is a trained aquatic biologist with relevant experience, and thus able to give evidentiary support on the issue of what the effluent limit of TP should be imposed in the Draft Permit.

[200] 30 Tex. Admin. Code § 307.10(1), Appendix A.

Here, the excessive algal growth caused by the current levels of TP clearly impairs the existing and designated uses of the receiving water. Protestants have established that the TP effluent limit must be decreased from the limit Applicant proposes. Protestant witnesses Morris and Bunnell, residents that live along the River testified in the initial hearing and this remand proceeding regarding the effects of the excessive amount of algae growth and its negative effects on their respective uses of the River. Both persuasively testified that they purchased their homes in part to be able to have easy access to nature and that are unable to resume their prior use of their River due to the continued excessive algal growth. This aligns with the results in the study referenced by Dr. Stevenson, describing that negative perceptions negatively impact recreational use.

As in the initial hearing, Applicant failed to demonstrate that a TP effluent limit of 0.15 mg/L will not result in a violation of the TSWQS due to the excessive growth of algae. The residents living along the River established, here and at the initial hearing, that they previously recreated in and around the River by swimming, wading, fishing, kayaking, tubing, and hosting family and friends. Now, they are no longer able to do so. As discussed in the Initial PFD, and as presented via the DMR reports in this remand proceeding, even while the City is consistently operating well below 0.15 mg/L TP,[201] the excessive algal growth has remained and continues to impair the existing and designated uses of the River.

[201] Exs. APP-R-5 at 3-4; APP-R-5-01 Between December 2022 and April 2023 the City discharged on average between 0.05 and 0.08 mg/L TP.

Protestants presented compelling evidence that a TP effluent limit of 0.015 mg/L would prevent the excessive algal growth that impairs the existing uses the River. Therefore, the ALJs find that a TP effluent limit of 0.015 mg/L is necessary for the Draft Permit to comply with the TSWQS and should prevent excessive algal growth that impairs existing and designated uses of the receiving water.

(iii) Prevent the Degradation of Water Quality

The Commissioners' discussion at the February 8, 2023 open meeting wherein Chairman Niermann stated that the purpose of the antidegradation policy has not been satisfied with this Application and that it is not appropriate to rely on the previous antidegradation review. Ignoring this discussion, both Applicant and the ED repeated the same position they held at the first hearing on the merits and relied on the antidegradation review performed in 2013 by Mr. Schaefer. Although the record is replete with evidence that degradation of water quality will occur at the TP effluent limit proposed in the Draft Permit, the ED and Applicant failed to address the detrimental impact the Facility has had on the River since the 2013 antidegradation review was performed and "stand by the effluent limits recommended in the draft permit."[202]

[202] ED Closing at 5.

To determine the TP effluent limit necessary to prevent the degradation of the water quality of the receiving water by more than a *de minimis* amount, the effect of the proposed discharge must be compared to the baseline water quality conditions.[203]

As discussed in the Initial PFD and above, the River is an oligotrophic stream, characteristic of the Texas Hill Country.[204] It is naturally low in nutrients, such as nitrogen and phosphorus, and because of this, has limited aquatic vegetation.[205] In its natural state, it has clear water flowing over a white limestone bottom.[206] There is a thin layer of chalky-white sediment on the riverbed, composed of calcium carbonate precipitates that are common in low nutrient Hill Country streams.[207] There are also "golden-brown diatoms and other native, microscopic algae and microbes that form a thin layer on the stream bottom."[208]

As has been explained previously at length, a TP effluent concentration greater than 0.02 mg/L would impair primary contact recreational uses and harm

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[203] Ex. ED-JL-3 (IPs) at 63.

[204] Ex. SM-Ross at 11-12 (An oligotrophic stream has high quality, clear water, high dissolved oxygen, and excellent aquatic animal habitat.).

[205] Ex. SM-King at 29; Initial HOM Tr. Vol. 2 at 511 (Mr. Machin testifying that the Lower San Gabriel appears to "be very low in nutrients and aquatic vegetation growth").

[206] Ex. SM-King at 29.

[207] Ex. SM-King at 25.

[208] Ex. SM-King at 29.

the aesthetic condition of the River in the area below the outfall.[209] A discharge greater than 0.015 mg/L would impair high aquatic life uses.[210] No party genuinely disputed that if existing or designated uses are impaired, then the degradation has gone beyond a *de minimis*—or negligible—lowering of water quality.

Dr. King opined that a TP limit of 0.015 mg/L would prevent lowering of water quality by more than a *de minimis* amount, because biological changes to sensitive diatoms will begin at concentration between 0.01 and 0.015 mg/L of TP. Therefore, a permit limit at 0.015 mg/L would keep concentrations in the River below the threshold.[211]

Based on the preponderant evidence, in order to prevent the lowering of water quality in the River by more than a *de minimis* amount, the TP effluent limit must be set no greater than 0.015 mg/L.

(iv) Addressing Applicant's Arguments

Applicant ultimately provides little to no new evidentiary support for its recommended TP limit, 0.15 mg/L. Instead, Applicant presents testimony from its expert witnesses opining on what TP level is reasonably achievable using

[209] Ex. SM-Stevenson-1-R at 13.

[210] Ex. SM-King-9-R at 17, 22-23.

[211] Ex. SM-King-9-R at 22-23.

conventional methods,[212] but this emphasis ignores the requirements of TSWQS. Moreover, it disregards the Commissioners' extended discussion at the Agenda Meeting, emphasizing that the analysis begins with considering what is protective of the waters, not with what is reasonably achievable.

Additionally, Applicant's recommendation is based on information previously rejected by the ALJs in the Initial PFD.[213] The data relied upon by Applicant is from an antidegradation study released in 2013, over a decade ago. There is ample evidence demonstrating that the limits for nutrients set by the permit approved back then resulted in current conditions, which, the ALJs have found, is an excessive growth of algae.[214]

Applicant also argues that Protestants' proposed TP effluent limit is unreliable because it is based on faulty data, since Dr. King's data was analyzed in a laboratory that was not certified by NELAP.[215] Applicant contends that TCEQ may only consider data that has been generated by a NELAP-certified laboratory.[216] The ALJs reject Applicant's argument that an expert witness's reliance on analytical data

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[212] *See* Exs. APP-R-4 at 9-10 (Mr. Laughlin testifying that the plant would have to be updated to meet a lower TP effluent limit than 0.15 mg/L); APP-R-2 at 10 (Mr. Machin stating that 0.15 mg/L is the "lowest reasonable economically achievable TP limit for municipal wastewater treatment"); APP-R-2 at 14 (Dr. Miertschin opining that Applicant's proposed effluent limit of 0.15 mg/L is the most practical target for achievable effluent limitation).

[213] Initial PFD at 15 and Findings of Fact 95-97.

[214] Initial PFD Findings of Fact 86-89.

[215] Applicant Initial Brief at 30.

[216] Applicant Initial Brief at 30. 30 Tex. Admin. Code § 25.4(a)(1) provides that an environmental testing laboratory must be accredited according to this chapter if the laboratory provides analytical data used by the commission in a decision concerning a permit.

produced by a non-NELAP laboratory to make a recommendation is unreliable. Applicant conflates the requirements for information considered in a permit application and the reliability of expert witness testimony in a contested case hearing at SOAH.[217] The ALJs find Protestants' expert witness testimony credible and persuasive and afford it the appropriate weight.

Applicant next argues that the TP effluent limit should not be set below the detection limit of what NELAP-certified laboratories can detect.[218] The ALJs reject this argument, as it does not address the central issue: what TP effluent limit is necessary to prevent excessive algal growth that impairs an existing use of the River.

Finally, Applicant argues that are other sources of phosphorous in the River, including what it describes as "legacy phosphorous," which justifies, at least in part, a higher TP level than what is recommended by Protestants.[219] However, that argument only lends itself to the conclusion that the limit should be *lower* than what Applicant recommends. Given that there is a threshold by which, if surpassed, there is an excessive amount of algae growth, the amount of TP contributed by the Facility into the River must take into the account the average amount of naturally occurring phosphorous in the River.

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[217] *See In the Matter of the Application of Port of Corpus Christi Authority of Nueces County for TPDES Permit No. WQ0005253000*, SOAH Docket No. 582-20-1895, TCEQ Docket No. 2019-1156-IWD.

[218] Applicant Initial Brief at 31.

[219] Applicant Initial Brief at 23.

Given the preceding discussion, the ALJs recommend a TP effluent limit of 0.015 mg/L, based on the evidence presented by Protestants demonstrating that limit should prevent excessive algal growth that impairs existing or designated uses of the River.

IV. TRANSCRIPT COSTS

Applicant does not present an argument regarding allocation transcript costs; it only responds that all costs have been paid by Applicant in accordance with Order No. 11.[220] Protestant Morris requests for any reporting and transcript costs assessed in this proceeding be borne by Applicant.

Under 30 Texas Administrative Code section 80.23(d)(1)(A)-(G), the following criteria may be used to determine allocation of transcription and reporting 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 relevant to a just and reasonable assessment of costs.

[220] Applicant Initial Brief at 14.

Additionally, the rules provide that costs will not be assessed against the ED or OPIC.[221]

Protestant Morris argues that she is an individual member of the public, represented by a not-for-profit legal aid organization that provides free legal services to low-income Texans.[222] She is not in the same financial position as Applicant.[223] Moreover, Applicant requested the transcript without consulting with Protestant Morris, so she was not afforded the opportunity to mitigate the costs of the proceeding.[224]

The ALJs find the Commission's remand of this matter to be another relevant factor under subsection (G). The Commissioners remanded the matter to take additional evidence on matters that arguably could have been included in the record in the initial proceeding, had Applicant and the ED performed their due diligence. Yet even on remand and with the opportunity to develop an adequate evidentiary record, Applicant still relied on data from an antidegradation study released in 2013. Given these factors, the ALJs recommend that the transcript and recording costs be allocated entirely to Applicant.

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[221] 30 Tex. Admin. Code § 80.23(d)(2).

[222] Protestant Morris Initial Brief at 38.

[223] Protestant Morris Initial Brief at 38.

[224] Protestant Morris Initial Brief at 38.

V. CONCLUSION

The preponderance of the evidence demonstrates that the TP effluent limit necessary to prevent excessive algal growth that impairs high aquatic life use is 0.015 mg/L; the TP effluent necessary to prevent excessive algal growth that impairs primary contact recreation use is 0.015 mg/L; the TP effluent limit necessary to prevent the lowering of water quality by more than a *de minimis* amount is 0.015 mg/L; and therefore, the TP effluent limit necessary to comply with the TSWQS is 0.015 mg/L.

Signed November 10, 2023

Meitra Farhadi,
Administrative Law Judge

Rachelle Nicolette Robles,
Administrative Law Judge

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

AN ORDER
GRANTING THE APPLICATION BY
CITY OF LIBERTY HILL
FOR RENEWAL OF TPDES PERMIT NO. WQ0014477001
IN WILLIAMSON COUNTY, TEXAS;
SOAH DOCKET NO. 582-22-1222;
TCEQ DOCKET NO. 2021-0999-MWD

On _____, the Texas Commission on Environmental Quality (TCEQ or Commission) considered the application of the City of Liberty Hill (Applicant or City), for a renewal of Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0014477001 in Williamson County, Texas. A Supplemental Proposal for Decision (PFD) on Remand was presented by Administrative Law Judges (ALJ) Meitra Farhadi and Rachelle Nicolette Robles with the State Office of Administrative Hearings (SOAH), who conducted an evidentiary hearing on remand on July 26-28, 2023, in Austin, Texas via Zoom videoconferencing.

After considering the PFD, the Commission makes the following findings of fact and conclusions of law.

VI. FINDINGS OF FACT

Application

1. Applicant filed its application (Application) to renew its TPDES permit with the Commission on September 5, 2018.

2. The Application requested continued authorization to discharge treated domestic wastewater from a municipal wastewater treatment plant, the Liberty Hill Regional Wastewater Treatment Facility (Facility), SIC Code 4952, located approximately 8,800 feet southeast of the intersection of U.S. Highway 29 and U.S. Highway 183 in Williamson County, Texas, 78641, into the South Fork San Gabriel River (River) in Segment No. 1250 of the Brazos River Basin.

3. The Application requested continued authorization to treat domestic wastewater and discharge that treated wastewater from the proposed Facility at a daily average flow not to exceed 2.0 million gallons per day (MGD) in the interim phase, and a daily average flow not to exceed 4.0 MGD in the final phase.

4. The Executive Director (ED) of the Commission declared the Application administratively complete on November 9, 2018.

5. The ED completed the technical review of the Application, prepared a draft permit (Draft Permit) and made it available for public review and comment.

Background

6. In 2003, the Lower Colorado River Authority and the Brazos River Authority submitted the original wastewater permit application to authorize the Facility to treat, pipe, and discharge effluent directly to River.

7. The original permit authorized the discharge of proposed effluent in an Interim I phase at 0.4 MGD, Interim II phase at 0.8 MGD, and Final phase at 1.2 MGD, and with an effluent limit in all phases of 0.5 mg/L of Total Phosphorus (TP) and an effluent reporting requirement for Total Nitrogen (TN).

8. The original permit also included language in the "Other Requirements" section of the permit requiring the permit holder to conduct nutrient input and response monitoring. This study was to evaluate the effectiveness of the discharge limitations and could result in, if warranted, the assignment of more stringent permit controls in future permit actions.

9. The permit was transferred to the City in 2012 and was subsequently amended such that the phases were an Interim I phase at 0.4 MGD, Interim II phase at 1.2 MGD, and Final phase at 4.0 MGD, with an effluent limit in the interim phases of 0.5 mg/L of TP and in the Final phase at 0.15 mg/L of TP.

10. The Draft Permit would constitute a renewal with minor amendment, in that it would authorize the continued discharge of treated wastewater effluent from the Facility directly to the River, in an Interim phase at 2.0 MGD and Final phase at 4.0 MGD, and with an effluent limit in all phases of 0.15 mg/L of TP.

Draft Permit

11. The Facility is a membrane bioreactor (MBR) facility. Treatment units in the Interim phase include an 0.8 MGD MBR facility which consists of a package headworks unit with screening, grit, and grease removal, an anaerobic tank, an anoxic tank, a pre-aeration tank, and two MBR units. The MBR plant uses the same alum feed system, ultraviolet light (UV) disinfection system, and step aeration treatment units as the previously operated sequencing batch reactor (SBR) facility. The Facility also has a sludge storage tank and a belt press sludge processing unit. A 1.2 MGD MBR facility identical to the 0.8 MGD MBR facility has been built to reach the Interim phase capacity of 2.0 MGD design flow rate. It will consist of two anaerobic tanks, two anoxic tanks, two pre-aeration tanks, and five MBR units. For the Final phase, an additional 2.0 MGD facility, identical to the Interim phase facility, will be built to bring the total plant capacity up to 4.0 MGD. In addition, the 0.4 MGD SBR facility will be decommissioned.

12. The effluent limitations in the Draft Permit are as follows for all phases or as noted:

Parameter	30-Day Average in mg/L	30-Day Average in lb/day (interim phase)	30-Day Average in lb/day (final phase)	7-Day Average mg/L	Daily Maximum mg/L
CBOD5	5	83	167	10	20
TSS	5	83	167	10	20
NH3-N	2	33	67	5	10
NO3-N	16.6	277	554	N/A	35.2
TN	Report	Report	Report	N/A	Report
TP	0.15	2.5	5	0.3	0.6
DO (minimum)	5	N/A	N/A	N/A	N/A
E. coli, CPU or MPN per 100 ml	126	N/A	N/A	N/A	399

13. In the Interim phase, the average discharge during any two-hour period (2-hour peak) shall not exceed 4,514 gallons per minute (gpm). In the final phase, the average discharge during any two-hour period (2-hour peak) shall not exceed 9,028 gpm.

14. The permittee shall utilize an UV system for disinfection purposes. An equivalent method of disinfection may be substituted only with prior approval of the ED.

Notice and Jurisdiction

15. The Notice of Receipt of Application and Intent to Obtain Water Quality Permit was published on December 2, 2018, in the *Williamson County Sun*.

16. The Application was determined technically complete on March 12, 2020.

17. The Combined Notice of Application and Preliminary Decision and Notice of Public Meeting was published on July 15, 2020 in the *Williamson County Sun.*

18. A public meeting was held on August 17, 2020, via videoconference.

19. The public comment period ended at the close of the public meeting on August 17, 2020.

20. Sharon Cassady, Terry Ira Cassady, Stephanie Morris, Daniel Morris, and Jeff Wiles, among others, timely filed formal Public Comments and Requests for a Contested Case Hearing.

21. The ED filed its Response to Comments with the Chief Clerk on June 15, 2021.

22. On October 6, 2021, the Commission considered during its open meeting the requests for hearing and requests for reconsideration. After evaluation of all relevant filings, the Commission determined that Sharon Cassady, Terry Ira Cassady, Stephanie Morris, Daniel Morris, and Jeff Wiles were affected persons and were entitled to a contested hearing.

23. At its October 6, 2021 open meeting, the Commission determined to refer the hearing requests filed by Jon and Carolyn Ahrens, David and Louise Bunnell, Gerald and Susan Harkins, Carrol Holley, Jessica Jensen, LaWann Tull, and Mark Tummons to SOAH for a determination on whether they qualified as affected persons.

24. At its October 6, 2021 open meeting, the Commission considered the issues to be referred to SOAH.

25. On October 19, 2021, the Commission issued an Interim Order granting certain hearing requests, referring certain hearing requests to SOAH, denying certain hearing requests, and referring the Application to SOAH for a contested hearing on the following ten issues (Referred Issues):

    A) Whether the draft permit is protective of water quality, groundwater, and uses of the receiving waters of the South Fork San Gabriel River in accordance with the Texas Surface Water Quality Standards, including recreational use and with consideration of the maximum volume of the proposed discharge;

B) Whether the draft permit includes adequate provisions to protect the health of the requesters and their families and aquatic and terrestrial wildlife;

C) Whether the draft permit adequately addresses nuisance conditions, including odor, in accordance with 30 Texas Administrative Code § 309.13(e);

D) Whether the draft permit includes appropriate provisions to protect against excessive growth of algae and comply with the aesthetic parameters and requirements of 30 Texas Administrative Code § 307.4, including aquatic nutrient limitations;

E) Whether the draft permit should be denied or altered based on Applicant's compliance history;

F) Whether the draft permit should be denied or altered in consideration of the need for the facility in accordance with Texas Water Code § 26.0282, Consideration of Need and Regional Treatment Options;

G) Whether the draft permit complies with applicable antidegradation requirements;

H) Whether the draft permit requires adequate licensing requirements for the operator of the facility and adequate requirements regarding operator supervision;

I) Whether the draft permit includes adequate provisions to protect the requesters' use and enjoyment of their property; and

J) Whether the draft permit includes sufficient monitoring and reporting requirements, including necessary operational requirements.

26. At its October 6, 2021, open meeting, the Commission also denied all requests for reconsideration and set the maximum duration of the hearing at 180 days from the date of the preliminary hearing until the date the PFD is issued by SOAH.

27. On February 16, 2022, notice of the preliminary hearing was published in the *Williamson County Sun*. On February 23, 2022, an amended notice of the preliminary hearing was published in the *Williamson County Sun*. Known parties received mailed notice. The notice included the time, date, and place of the hearing, as well as the matters asserted, in accordance with the applicable statutes and rules.

Proceedings at SOAH

28. On March 28, 2022, a preliminary hearing was convened in this case via videoconference by SOAH ALJ Meitra Farhadi. The following parties, represented by counsel, appeared and were admitted as parties: Applicant; the ED; Office of Public Interest Council (OPIC); and Stephanie Morris. Self-represented individuals admitted as parties were: Daniel Morris, Jeff Wiles, Jon and Carolyn Ahrens, David and Louise Bunnell, Gerald and Susan Harkins, Frank and LaWann Tull, Andrew and Elizabeth Engelke, Pamela Sylvest, Joanne and John Swanson, Tom and Valerie Erikson, Carolyn and Donnie Dixon, and Sharon, Terry Ira, and Jackson Cassady. Subsequently, all of the self-represented individuals except for Daniel Morris and Jeff Wiles hired counsel and were represented collectively as the "Bunnell Protestants." Daniel Morris withdrew as a party in advance of the hearing on the merits, and Jeff Wiles did not participate in the hearing on the merits.

29. The Administrative Record was admitted into the record as Applicant's Exhibits AR-1, AR-2, AR-3, AR-4, AR-5, AR-6, and AR-7, and the ALJ determined that jurisdiction was established. By agreement, the 180-day deadline for the PFD was extended to October 24, 2022, to accommodate the parties' desired procedural schedule.

30. On May 20, 2022, Protestant Stephanie Morris filed a motion to certify to the Commissioners a question, pursuant to 30 Texas Administrative Code § 80.131, as to whether an antidegradation analysis under 30 Texas Administrative Code § 307.5 was required for Applicant's permit renewal that is the subject of this docket. After briefing by all interested parties, the ALJ denied the motion by order dated June 15, 2022.

31. SOAH ALJs Meitra Farhadi and Rachelle Nicolette Robles convened a prehearing conference via videoconference on July 13, 2022. All parties

appeared through their respective representatives and the ALJs addressed pending motions and matters of hearing organization.

32. The ALJs convened a hearing on the merits via Zoom videoconference on July 20, 2022, and concluded on July 22, 2022. The record ultimately closed on August 23, 2022, the date on which the last post-hearing written arguments were filed.

33. On October 24, 2022, the ALJs issued a Proposal for Decision (Initial PFD) recommending that the Application be approved with modifications to the Draft Permit.

34. On February 8, 2023, the Commission considered the ALJs' Initial PFD during an open meeting and voted to remand the matter to SOAH for additional proceedings.

35. The Commission issued an Interim Order on February 13, 2023, remanding the case to SOAH "for the parties to present additional evidence to determine the Total Phosphorus effluent limit necessary to comply with the Texas Surface Water Quality Standards. Under the Standards, the total phosphorus effluent limit should prevent excessive algal growth that impairs an existing use of the receiving water and should prevent the degradation of water quality by more than a *de minimis* amount."

36. ALJs Meitra Farhadi and Rachelle Nicolette Robles convened a prehearing conference on remand via Zoom videoconference on March 29, 2023.

37. On March 30, 2023, the ALJs issued Order No. 11, memorializing the preliminary hearing on remand, granting motion to compel, and adopting the parties' agreed procedural schedule on remand for this case.

38. ALJs Meitra Farhadi and Rachelle Nicolette Robles convened the hearing on the merits on remand (Remand Hearing) via Zoom videoconference on July 26-28, 2023.

39. On August 2, 2023, the ALJs issued Order No. 13, granting Applicant's motion to withdraw party status of Jeffrey Wiles for not participating in the proceedings.

40. On August 17, 2023, the ALJs issued Order No. 15, denying Applicant's motions for conference and reconsideration of the ALJs' decision to strike portions of Applicant's prefiled testimony.

41. The record closed on September 14, 2023, the date on which the last post-hearing written arguments were filed.

Referred Issues Related to Regulatory Water Quality Standards

Issue A: Whether the Draft Permit is protective of water quality, groundwater, and uses of the receiving waters of the South Fork San Gabriel River in accordance with the Texas Surface Water Quality Standards, including recreational use and with consideration of the maximum volume of the proposed discharge.

Issue D: Whether the Draft Permit includes appropriate provisions to protect against excessive growth of algae and comply with the aesthetic parameters and requirements of 30 Texas Administrative Code § 307.4, including aquatic nutrient limitations.

Issue G: Whether the Draft Permit complies with applicable antidegradation requirements.

42. The Texas Surface Water Quality Standards (TSWQS) are intended to maintain the quality of water in the state in order to be protective of public health and enjoyment, and terrestrial and aquatic life, and to consider other environmental and economic resources.

43. The TSWQS designate uses for the state's surface waters and establish narrative and numerical water quality standards to protect those uses.

44. The TCEQ has adopted standard procedures to implement the TSWQS, which are set forth in "Procedures to Implement the Texas Surface Water Quality Standards (RG 194)" (IPs).

45. The TSWQS and IPs are used to set permit limits for wastewater discharges.

46. The TSWQS do not contain numerical criteria for nutrients, including phosphorus and nitrogen.

47. Under the TSWQS, surface waters must be maintained in an aesthetically attractive condition.

48. Under the TSWQS, nutrients from permitted discharges must not cause excessive growth of aquatic vegetation that impairs an existing, designated, presumed, or attainable use.

49. An existing use is one that is currently being supported by a specific water body or that was attained on or after November 28, 1975.

50. A designated use is one assigned to specific water bodies in Appendix A, D, or G of 30 Texas Administrative Code § 307.10.

51. A presumed use is one that is assigned to generic categories of water bodies, but these are superseded by designated uses.

52. An attainable use is one that can be reasonably achieved by a water body in accordance with its physical, biological, and chemical characteristics, whether it is currently meeting that use or not.

53. Under the TSWQS, surface water must be essentially free of floating debris and suspended solids that are conducive to producing adverse responses in aquatic organisms or putrescible sludge deposits or sediment layers that adversely affect benthic biota or any lawful uses.

54. Under the TSWQS, waste discharges must not cause substantial and persistent changes from ambient conditions of turbidity or color.

55. The TCEQ's Antidegradation Policy provides that for Tier 1 review, existing uses and water quality sufficient to protect those existing uses must be maintained. For 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 TCEQ's satisfaction that the lowering of water quality is necessary for important economic or social development.

56. A permit may not cause or contribute to a violation of applicable water quality standards, including state narrative criteria.

57. The River is Segment 1250 in the Brazos River Basin. The designated uses for Segment 1250 are primary contact recreation one, high aquatic life use, public water supply, and aquifer protection.

58. Primary contact recreation one consists of activities that are presumed to involve a significant risk of ingestion of water, such as wading by children, swimming, water skiing, tubing, surfing, handfishing, kayaking, canoeing, and rafting.

59. A high aquatic life use has the following attributes: 1) highly diverse habitat; 2) usual association of regionally expected species; 3) the presence of sensitive species; 4) high diversity; 5) high species richness; and 6) a balanced to slightly imbalanced trophic structure.

60. Under the TSWQS, Segment 1250 is subject to numerical criteria for dissolved oxygen (DO). The 24-hour average criterion for DO is 5.0 mg/L and the 24-hour minimum is 3.0 mg/L. These criteria become 5.5 mg/L and 4.5 mg/L, respectively, during the spawning season.

61. Under the TSWQS, Segment 1250 is subject to numerical maximum criteria for dissolved minerals such as total dissolved solids, chloride, and sulfate that must be maintained such that existing, designated, presumed, and attainable uses are not impaired. The criteria for Segment 1250 are as follows: 350 mg/L for total dissolved solids, 50 mg/L for chloride, and 50 mg/L for sulfate.

62. TCEQ screening determined that the discharge would exceed the instream standards. Because of this, the Draft Permit requires the City to conduct a study to determine the sources of TDS in the influent to see if it can be reduced that way, as opposed to imposing a limit on TDS in the Draft Permit.

63. The River in the area of the outfall is a predominantly wide, shallow, limestone riverbed, with low harmonic mean flow and low background levels of nutrients in the water, such as phosphorus and nitrogen, making the water sensitive to nutrient enrichment and particularly susceptible to overgrowth of algae.

64. Upstream of the outfall, the water in the River is clear, the limestone riverbed with a thin layer of chalky-white sediment composed of calcium carbonate precipitates is visible, and the river contains very little filamentous algae. There are also golden-brown diatoms and other native, microscopic algae and microbes that form a thin layer on the stream bottom.

65. Conditions upstream of the outfall, where the river is unaffected by the effluent, are typical of naturally occurring conditions in low-nutrient Hill Country streams and what would be expected of naturally occurring conditions in the River.

66. Background levels of phosphorus in the South Fork San Gabriel River upstream of the outfall, where the river is unaffected by the effluent, are at or below 0.01 mg/L.

67. The existing uses of the South Fork San Gabriel River include fishing, swimming, wading, tubing, and paddling.

68. Algae is a type of aquatic vegetation. Significant algae grows at the outfall and persists at least 3.83 miles downstream of the outfall.

69. The City's effluent discharge from the Facility is the predominant cause of the algae found at and downstream of the outfall.

70. Phosphorus, nitrate-nitrogen, and ammonia nitrogen all contribute to the growth of algae in the river.

71. The quantity of the algae growth is excessive, such that it impairs wading, swimming, fishing, paddling, and other recreational uses.

72. The quantity and geographical extent of the algae growth causes the river to be aesthetically unattractive for several miles.

73. The algal bloom downstream of the outfall is related to the outfall and not the other potential sources.

74. The presence of algae can cause levels of DO in a water body to rise during the day due to photosynthesis by the vegetation, which produces oxygen, and to drop at night.

75. For a continuous four-month period between December 2021 and March 2022, Applicant discharged effluent that averaged between 1.36 and 1.463 MGD with concentrations of phosphorus between 0.06 and 0.081 mg/L.

76. In April and May 2022, the City spent weeks cleaning the algae from the area immediately around and downstream of the outfall; however, this algae grew back within days and weeks.

77. Staff performed DO modeling based on the Draft Permit limits for carbonaceous biochemical oxygen demand, ammonia nitrogen, and DO using QUAL-TX.

78. Indirect impacts, such as from algae or TP, are not taken into account under the QUAL-TX model.

79. Nutrients, such as TP and the resultant effect of algae, do affect the DO in a stream.

80. Neither Staff nor Applicant performed any nutrient modeling for the Draft Permit.

81. The QUAL-TX model did not take swings in DO levels over a 24-hour period of time into account.

82. The QUAL-TX model is intended to evaluate the 24-hour average DO criteria.

83. The QUAL-TX model is not used for modeling nutrients or evaluating the potential impacts of nutrients on a water body.

84. The QUAL-TX model does not provide any information as to whether the DO minimum standard will be met.

85. For the DO criteria to be met, sufficiently protective nutrient limits, like TP, must also be included in the permit.

86. Neither Applicant nor the ED has demonstrated that the Draft Permit will achieve the DO criteria for the River.

87. Water Quality Analysis Simulation Program (WASP) is a water quality model that has been developed by the United States Environmental Protection Agency. It is specifically designed to predict, among other things, algae responses to nutrient loads.

88. The City of Austin implemented a calibrated WASP model for the River specifically to characterize the predicted occurrence of algae in response to Applicant's effluent discharge.

89. Based on a maximum effluent discharge of 1.2 MGD at 0.1 mg/L TP, the WASP model concluded that the River will be eutrophic below the outfall, and that nuisance benthic algae levels are predicted to occur most of the time.

90. The IPs provide that when screening indicates that a reduction of effluent TP is needed, an effluent limit is recommended based on reasonably achievable technology based limits, with consideration of the sensitivity of the site. Higher or lower limits may be recommended based on site-specific mitigating factors.

91. The IPs state that considerations for nutrient impacts should focus on TP rather than nitrogen for a number of reasons, including that less data on TN has been collected in Texas reservoirs, streams, and rivers; and available waste treatment technologies make reducing phosphorus more effective than reducing nitrogen as a means of limiting algal production.

92. The IPs state that permit renewals may be evaluated for potentially significant concentrations of TP (and if appropriate, TN) on a case-by-case basis.

93. Under Applicant's current permit, at the Interim phase of 1.2 MGD and 0.5 mg/L total phosphorus, the phosphorus loading amounts to 5 pounds per day.

94. Under the Draft Permit, total loading of phosphorus will increase from the Interim phase at 2.0 MGD and 2.5 pounds per day of phosphorus, to 5 pounds per day in the Final phase at 4.0 MGD.

95. Effluent discharge pursuant to the limitations of the Draft Permit will cause algae to continue to grow in similar quantities and to persist for a similar distance downstream as is present today and under Applicant's current permit.

96. The algae that will grow under the Draft Permit will be excessive and will impair existing, designated, and attainable uses, including recreational uses and high aquatic life use, in the River for multiple miles.

97. The algae that will grow under the Draft Permit will cause the River to be aesthetically unattractive at and downstream of the outfall, for multiple miles.

98. The effluent limit of 0.15 mg/L TP in the Draft Permit will not prevent the excessive growth and accumulation of aquatic vegetation in the River, nor will it maintain the aesthetic parameters of the South Fork San Gabriel River.

99. Protestants failed to rebut the prima facie demonstration that the effluent limits in the Draft Permit are protective of groundwater.

100. An antidegradation review was completed in 2013 for the current permit.

101. The 2013 antidegradation review involved a mathematical error. The 7Q2 flow used was 0.15 cubic feet per second (cfs) instead of 0.1 cfs, and the harmonic mean flow used was 0.4 cfs instead of 0.2 cfs.

102. The effect of the effluent on the stream was therefore underestimated in the 2013 antidegradation review.

103. The 2013 antidegradation review has also been shown to be inadequate, based upon the widespread degradation of the South Fork San Gabriel River at and downstream of the City's effluent discharge point since the permit analyzed in the 2013 review became effective.

104. The Commission has the discretion to conduct an antidegradation review for permit renewal applications that do not seek an increase in pollutants.

105. No antidegradation review was performed for this Application.

106. Applicant did not seek permission from the Commission to degrade the water quality of the River as necessary for important economic or social development.

On Remand

107. No antidegradation review was performed on remand.

108. For a continuous period between December 2022 and April 2023, Applicant discharged effluent that averaged concentrations of phosphorus between 0.05 and 0.08 mg/L.

109. The relevant and reliable body of scientific literature demonstrates that, in freshwater streams like the South Fork San Gabriel River, a "tipping point" exists at or about a TP concentration of 0.02 mg/L, at which algal growth occurs at an exponential rate.

110. Biological changes to sensitive diatoms will begin at concentrations between 0.01 and 0.015 mg/L of TP.

111. Diatoms are a key element of the structure and function of the South Fork San Gabriel River. As the diatom population declines, conditions become ideal for their replacement by pollution-tolerant, weedy species such as nuisance filamentous green algae.

112. The TP effluent limit necessary to prevent excessive algal growth that impairs high aquatic life use is 0.015 mg/L.

113. The TP effluent necessary to prevent excessive algal growth that impairs primary contact recreation use is 0.15 mg/L.

114. The TP effluent limit necessary to prevent the lowering of water quality by more than a *de minimis* amount is 0.015 mg/L.

115. Therefore, the TP effluent limit necessary to comply with the TSWQS is 0.015 mg/L

Referred Issues Related to Wildlife and Health Protection

Issue B: Whether the draft permit includes adequate provisions to protect the health of the requesters and their families and aquatic and terrestrial wildlife

116. One of the purposes of the TSWQS is to maintain the quality of water in the state consistent with public health and enjoyment.

117. The proposed discharge will not adversely impact the health of the requesters, their families, and aquatic and terrestrial wildlife.

Referred Issues Related to Nuisance Issues

Issue C: Whether the draft permit adequately addresses nuisance conditions, including odor, in accordance with 30 TAC§ 309.13(e)

Issue I: Whether the draft permit includes adequate provisions to protect the requesters' use and enjoyment of their property

118. The Facility's wastewater treatment plant units are located at least 150 feet from the nearest property line.

119. The Facility does not contain lagoons with zones of anaerobic activity.

120. Applicant will own the buffer zone, the area between the Facility and the nearest property line.

121. The Texas Water Code requires a permit applicant to comply with one of three options for abating nuisance odors: a 500-foot buffer zone to the nearest property line for lagoons with zones of anaerobic activity or a 150 foot buffer zone to the nearest property line for all other wastewater treatment plant units; the implementation of an approved nuisance odor prevention plan; or an enforceable restriction against constructing residential structures within any part of a buffer zone not owned by the plant.

122. The algae growth in the River, which is caused by the effluent, impairs the ability of requesters to enjoy their property by impairing their ability to enjoy the river in an aesthetically attractive condition, the smells of decaying algae in the river impair the ability of requesters to enjoy spending time outdoors on their property, the algae growth impairs the ability of requesters to go swimming, wading, and fishing in the river from their property, and the algae impairs the ability of requesters to observe wildlife from their property.

123. Considering Applicant's compliance history, revisions to the Draft Permit are warranted to address odors from the Facility and nuisance odor conditions in the effluent itself, and to control the growth of algae so that it does not present a nuisance to properties downstream.

Referred Issues on Effects on Permit of Compliance History and Regionalization Policy

Issue E: Whether the draft permit should be denied or altered based on the Applicant's compliance history.

Issue F: Whether the draft permit should be denied or altered in consideration of the need for the facility in accordance with Texas Water Code § 26.0282, Consideration of Need and Regional Treatment Options.

124. The Facility and Applicant each had a "satisfactory" compliance rating, as determined by the standards of 30 Texas Administrative Code chapter 60.

125. The TCEQ has the authority to alter the terms of Applicant's Draft Permit.

126. The City has agreed, since August 21, 2018, to three administrative orders entered by TCEQ.

127. The 2018 administrative order covered allegations of eight different violations of permit limits in a 10-month period beginning in December 2015, and three of the eight involved phosphorus.

128. The 2020 administrative order alleged eight permit violations in a 19-month period beginning in November 2016. One of those violations included 50 separate exceedances of permit limits, 11 of which involved phosphorus.

129. The 2022 administrative order dealt with nine alleged exceedances of permit limits in an 11-month period beginning in September 2019. Six of the exceedances involved phosphorus.

130. Videos, photographs, and eye-witness testimonies in the record establish that the operation of the City's wastewater plant has badly degraded the River for at least several miles downstream of the plant's outfall.

131. The total flow in the Final phase should remain at 4.0 MGD.

132. The policy of the Texas Water Code is to encourage and promote the development and use of regional and areawide waste collection, treatment, and disposal systems.

133. The Texas Water Code gives TCEQ permissive authority to deny or alter the terms and conditions of the proposed permit terms on consideration of need, including expected volume and quality of the influent and the availability of existing or proposed areawide or regional waste collection, treatment, and disposal systems.

134. An increase in population growth in the area served by the Facility results in an increased demand for wastewater collection, treatment, and disposal.

135. Applicant needs the requested levels of 4.0 MGD in order to effectively provide its services.

Referred Issues Related to Permit Terms Referring to Facility Management and Monitoring

Issue H: Whether the draft permit requires adequate licensing requirements for the operator of the facility and adequate requirements regarding operator supervision.

Issue J: Whether the draft permit includes sufficient monitoring and reporting requirements, including necessary operational requirements.

136. The TCEQ has the authority to require permit conditions or provisions to address any concerns with an applicant's compliance history, as it had with

the addition of requiring Applicant to enter into a contract with a third-party operator.

137. Applicant's system is currently classified as a Category B system and must have a chief operator with an operator license of a Class B or higher.

138. The ED may increase the treatment facility classification, and as a result, the required chief operator license, for facilities which include unusually complex processes or present unusual operation or maintenance conditions.

139. The Draft Permit requires Applicant be supervised by a third-party to ensure it is complying with the terms of its permit.

140. Considering Applicant's complex treatment system, low phosphorus limit, compliance history, and the unusual condition that Applicant needs to be supervised by a third party to ensure compliance, a revision to the Draft Permit is warranted, requiring the Facility be classified as a Category A system and to require a chief operator with an operator license of Class A or higher, and to require that the third-party operator must meet this same Class A classification.

141. Considering Applicant's compliance history, a revision to the Draft Permit is warranted, requiring the third-party operator to conduct effluent monitoring at least twice per month and that this effluent data be included in calculating daily averages.

142. Considering Applicant's compliance history, history of algae growth at and below the outfall, and the ecologically sensitive nature of the River, particularly to nutrient enrichment, a revision to Item No. 9 in the "Other Requirements" section in the Draft Permit is warranted, modifying the language to require Applicant to include parameters from the initial permit issued in 2003.

143. Considering Applicant's compliance history, a revision to the Draft Permit is warranted requiring that certain information that is collected and reported to TCEQ also be made publicly available, including notification to the public, within 24 hours of instances of noncompliance that the Draft Permit requires be reported to TCEQ within 24 hours.

Transcription Costs

144. Reporting and transcription of the hearing on the merits was warranted because the hearing lasted for three days.

145. Each of the non-agency parties, Applicant, Protestant Morris, and the Bunnell Protestants, were represented by outside legal counsel.

146. Both Applicant and Protestant Morris hired expert witnesses for the hearing.

147. Applicant is a municipality.

148. Protestant Morris is represented by a non-profit legal aid organization that provides free legal services to low-income Texans.

149. The Bunnell Protestants consist of a small group of neighbors.

150. The total cost paid by Applicant for recording and transcribing the initial hearing on the merits, two copies of the transcript prepared on a 5 day turnaround, and rough draft dailies of the transcript each day, was $9,797.25.

151. Applicant ordered same-day rough drafts and for the transcript to be expedited on a five-day turnaround schedule, without conferring with other parties.

152. Protestant Morris ordered a copy of the transcript from the initial hearing at a cost of $2,243.90.

153. Transcript costs cannot be assessed against the ED or OPIC because they are statutory parties who are precluded from appealing the decision of the Commission.

154. The City's poor compliance history and the extensive degradation of the River as a result of the City's discharge, led to Protestants opposing this permit renewal application.

155. The failure of the City to meet its burden in the initial hearing led to the Remand Hearing.

156. Applicant should pay the full cost of the reporting and transcription costs for both the initial and the remand hearing on the merits and reimburse Protestant Morris for transcript costs incurred.

VII. CONCLUSIONS OF LAW

1. TCEQ has jurisdiction over this matter. Tex. Water Code chs. 5, 26.

2. SOAH has jurisdiction to conduct a hearing and to prepare a PFD in contested cases referred by the Commission under Texas Government Code § 2003.047.

3. Notice was provided in accordance with Texas Water Code §§ 5.114 and 26.028; Texas Government Code §§ 2001.051 and .052; and 30 Texas Administrative Code chapter 39.

4. The Application is subject to the requirements in Senate Bill 709, effective September 1, 2015. Tex. Gov't Code § 2003.047(i-1) through (i-3).

5. Applicant's filing of the Administrative Record established 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. Tex. Gov't Code § 2003.047(i-1); 30 Tex. Admin. Code §§ 80.17(c)(1), .117(c)(1), .127(h).

6. To rebut the prima facie demonstration established by the Administrative Record, a party must present evidence that (1) relates to one of the Referred Issues; and (2) demonstrates that one or more provisions in the Draft Permit violates a specifically applicable state or federal requirement. See Tex. Gov't Code § 2003.047(i-2); 30 Tex. Admin. Code §§ 80.17(c)(2), .117(c)(3).

7. Protestants rebutted the prima facie demonstration by presenting evidence demonstrating that one or more provisions in the Draft Permit violate a specifically applicable state or federal requirement that relates to a matter referred by the TCEQ. 30 Tex. Admin. Code § 80.17(c)(2).

8. If a party rebuts the prima facie demonstration, Applicant and the ED may present additional evidence to support the Draft Permit. Tex. Gov't Code § 2003.047(i-3); 30 Tex. Admin. Code §§ 80.17(c)(3), .117(c)(3).

9. Applicant retains the burden of proof on the issues regarding the sufficiency of the Application and compliance with the necessary statutory and regulatory requirements. 30 Tex. Admin. Code § 80.17(a).

10. The standard of proof is by a preponderance of the evidence. *Granek v. Texas St. Bd. of Med. Examn'rs*, 172 S.W.3d 761, 777 (Tex. App.—Austin 2005, no pet.); *Southwestern Pub. Servs. Co. v. Pub. Util. Comm'n of Tex.*, 962 S.W.2d 207, 213-14 (Tex. App.—Austin 1998, pet. denied).

11. The Remand Hearing was to allow the parties to present additional evidence on specified issues. The process of rebutting a prima facie case has previously occurred. Applicant was not entitled to another presumption.

12. The Draft Permit is protective of groundwater.

13. 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 the River, leading to reduced DO, algae blooms, and an impairment of the designated uses.

14. The Draft Permit does not include appropriate provisions to protect against excessive growth of algae and comply with the aesthetic parameters and requirements of 30 Texas Administrative Code § 307.4, including aquatic nutrient limitations.

15. The Draft Permit does not comply with the TCEQ's antidegradation requirements. 30 Tex. Admin. Code § 307.5.

16. The Draft Permit adequately addresses nuisance odor in accordance with 30 Texas Administrative Code § 309.13(e).

17. Applicant did not establish by a preponderance of the evidence that the Draft Permit includes adequate provisions to protect the requesters use and enjoyment of their properties.

18. Applicant established by a preponderance of the evidence that the Draft Permit includes adequate provisions to protect the health of the requesters and their families and aquatic and terrestrial wildlife.

19. The TCEQ has the authority to amend the Draft Permit in light of compliance concerns, even if the facility or person has a satisfactory compliance rating.

20. The compliance history of the City at this facility, notwithstanding the "satisfactory" compliance ratings of the City and the facility, raises compliance concerns and presents circumstances that dictate it is appropriate to alter the terms of the draft permit.

21. Applicant has shown the need to be able to discharge a maximum amount of 4.0 MGD.

22. Applicant did not establish by a preponderance of the credible evidence that the Draft Permit includes sufficient operational, monitoring, and reporting requirements.

23. Because the Draft Permit does not require the plant operator be a "Class A" operator and the supervising third party need only be qualified to operate a "Class B" facility, the Draft Permit does not require adequate licensing requirements for the operator of the facility or adequate requirements regarding operator supervision.

24. No transcript costs may be assessed against the ED or OPIC because the TCEQ's rules prohibit the assessment of any cost to a statutory party who is precluded by law from appealing any ruling, decision, or other act of the Commission. 30 Tex. Admin. Code § 80.23(d)(2).

25. Factors to be considered in assessing transcript costs include: the party who requested the transcript; the financial ability of the party to pay the costs; the extent to which the party participated in the hearing; the relative benefits to the various parties of having a transcript; and any other factor which is

relevant to a just and reasonable assessment of the costs. 30 Tex. Admin. Code § 80.23(d)(1).

26. Considering the factors in 30 Texas Administrative Code § 80.23(d)(1), no reporting or transcription costs should be assessed or allocated against the Protestants, but rather Applicant should bear all reporting and transcription costs from both the initial and remand proceedings, including those already paid for by Protestant Morris.

27. Protestants produced sufficient evidence that demonstrates a Total Phosphorus effluent limit of 0.015 mg/L or lower is necessary in all phases in order for the Liberty Hill Draft Permit to meet all Texas Surface Water Quality Standards and comply with the State Antidegradation Policy. 30 Tex. Admin. Code §§ 307 *et seq*.

NOW, THEREFORE, BE IT ORDERED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY, IN ACCORDANCE WITH THESE FINDINGS OF FACT AND CONCLUSIONS OF LAW, THAT:

1. The Application by the City of Liberty Hill for Texas Pollutant Discharge Elimination System Permit No. WQ0014477001 is approved and the attached permit is issued with the following modifications:

   - a TP effluent limit of 0.015 mg/L for all phases;
   - both the operator and third-party operator must have a Class A license; and
   - public posting and notification of Monitoring and Reporting Requirements Nos. 1 and 7a on a public website dedicated to providing information about the wastewater treatment plant and discharge.

2. The City shall pay all of the transcription costs for both the Initial and Remand proceedings and shall reimburse Protestant Morris $2,243.90.

3. The Commission adopts the ED's Response to Public Comment in accordance with 30 Texas Administrative Code § 50.117. If there is any conflict between the Commission's Order and the Executive Director's Responses to Public Comments, the Commission's Order prevails.

4. All other motions, requests for entry of specific Findings of Fact or Conclusions of Law, and any other requests for general or specific relief, if not expressly granted herein, are hereby denied.

5. The effective date of this Order is the date the Order is final, as provided by Texas Government Code § 2001.144 and 30 Texas Administrative Code § 80.273.

6. TCEQ's Chief Clerk shall forward a copy of this Order to all parties.

7. If any provision, sentence, clause, or phrase of this Order is for any reason held to be invalid, the invalidity of any provision shall not affect the validity of the remaining portions of this Order.

ISSUED:

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

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Jon Niermann, Chairman, For the Commission