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ADMINISTRATIVE HEARINGS  
Giselle Quintero, CLERK

**SOAH Docket No. 582-22-0585**  
**TCEQ Docket No. 2021-1001-MWD**

<b>Application by the City of</b>	<b>§</b>	<b>Before the State Office of</b>
<b>Granbury for new Texas Pollutant</b>	<b>§</b>	
<b>Discharge Elimination System</b>	<b>§</b>	
<b>Permit No. WQ0015821001</b>	<b>§</b>	<b>Administrative Hearings</b>

**Executive Director's Response to Closing Arguments**

**I. Introduction**

This reply provides information needed to complete the administrative record and support the Executive Director (ED) of the Texas Commission on Environmental Quality's (TCEQ's or Commission's) position in this case based on the ED's review of the other parties' closing arguments.<sup>1</sup> For the purposes of this response the ED will limit its response to a few select issues. The ED's recommendation as detailed in its closing argument has not changed, the ED offers the discussion below to address the other parties' arguments.

**II. ED's Response to Selected Issues**

**(A) Referred Issue A—Whether the draft permit adequately addresses nuisance odor in accordance with 30 Tex. Admin. Code § 309.13(e)**

The Protestants argue that the 500-foot buffer zone requirement for lagoons with zones of anaerobic activity from section 309.13(e)(1) apply to the City of Granbury's proposed facility.<sup>2</sup> The evidence in the record shows that there are no lagoons with anaerobic activity proposed by Granbury. The facility will be a membrane bioreactor process in continuous flow mode. None of the units proposed in Granbury's application are designed to have lagoons of anaerobic activity and are therefore subject to the 150 foot buffer zone in Section 309.13 (e).<sup>3</sup>

Granbury indicated it would meet the nuisance odor abatement requirement by ownership of the buffer zone. This is reflected in the buffer zone maps, which show that all wastewater treatment plant units will be located on Granbury's property more than 150 feet from the property boundary.<sup>4</sup>

The draft permit, other Requirement No. 4 states that, in addition to complying with the site location requirements in Section 309.13(a)-(d), "by ownership of the required buffer zone area, the permittee shall comply with the requirements of 30 [Tex. Admin. Code] § 309.13(e)."<sup>5</sup> The buffer zone maps and Granbury's answer in section 3.B are also incorporated into the draft permit through Permit Condition No.

<sup>1</sup> See 30 TEX. ADMIN. CODE § 80.108 (West 2021) (stating the ED's role in a contested case hearing is to complete the administrative record and support the ED's position).

<sup>2</sup> Protestants Closing Arg. at 4.

<sup>3</sup> Ex ED-10 at 26.

<sup>4</sup> Ex ED-1 at 11.

<sup>5</sup> EX ED-7 at 34.

10, which states that the application is part of the permit.<sup>6</sup> Because Granbury will meet the nuisance odor abatement requirement by ownership of the buffer zone, as reflected in the draft permit, no other nuisance odor abatement requirements are needed in the permit. In addition, Granbury has also stated that the main treatment basins will be either covered, oxygenated, mixed, equipped with air scrubbers, or possess a combination of these features to control and marginalize potential odors.<sup>7</sup>

The evidence in the record demonstrates that the draft permit complies with TCEQ rules in Section 309.13 (e) to abate and control nuisance odors.

**(B) Referred Issue B- Whether the draft permit is protective of water quality.**

The Protestants maintain that Granbury has failed to demonstrate that the proposed discharge will not impair presumed high quality aquatic life uses of Rucker Creek and the Rucker Creek cove and the arm of Lake Granbury by lowering dissolved oxygen below the regulatory criteria of 5.0 mg/L required to protect these uses.<sup>8</sup>

Protestants take issue with the dissolved oxygen modeling performed by James Michalk which indicated minimum dissolved oxygen in the Lake Granbury segment of the receiving waters would be 4.81 mg/L as a result of the discharge in the final phase. Protestants argue that the Executive Director contends that any value above 4.80 mg/L is “close enough” to constitute compliance with the applicable standard, which they argue is contrary to TCEQ rules. Protestants then extensively discuss a hazardous waste case in an attempt to support this argument. The hazardous waste case is neither relevant nor in the record and will not be discussed in this response.<sup>9</sup>

In fact, running steady-state critical condition models for evaluation of TPDES permits with a target minimum downstream ‘DO sag’ concentration of daily average criteria values minus up to 0.20 mg/L below the designated criteria is a long-standing practice that dates back decades, including analyses of anything from individual very small municipal or industrial wastewater treatment facilities in stand-alone default models to massive multi-classified-segment Waste Load Evaluation calibrated models containing hundreds of individual permits of varying sizes and wastewater types. Applications for new permits and for proposed flow increase (or other) amendments to existing permits are evaluated using these models and this approach to interpreting model results. These models, as well as the corresponding documentation and recorded results of these modeling analyses, are submitted to EPA for review and approval as part of the quarterly updates to the Water Quality Management Plan (WQMP).

This practice is not a “flexible” or “close enough” interpretation of TCEQ rules. In fact, it is quite non-flexible -- 4.80 mg/L is considered adequate to demonstrate that a 5.0 mg/L criterion will be met... and 4.79 mg/L is not. The modeling analyses incorporate a conservative approach to evaluating potential DO impacts. Permits are

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<sup>6</sup> Ex. ED-7 at 12.

<sup>7</sup> Granbury Closing Arg. at 15.

<sup>8</sup> Protestants Closing Arg. at 10.

<sup>9</sup> Protestants Closing Arg. at 12.

included in the models at their full-permitted flows and their full-permitted effluent limits, and are modeled under critical hot and dry low-flow summertime conditions (or at 90<sup>th</sup> percentile monthly temperatures in cases where seasonal modeling may be applicable), when modeling results are expected to be most pessimistic and impacts to instream DO levels are expected to be most severe. These paired conditions of fully-permitted flow and effluent limits with critical hot and dry weather and streamflow conditions are extremely unlikely to occur simultaneously for any substantial period of time.

In order to evaluate whether this practice of allowing a 0.20 mg/L departure from the DO criterion Standard was in fact protective, TCEQ Water Quality Assessment Team staff conducted a study in 2008 to examine how model results using actual discharge flows and effluent quality differed from modeling results using full-permitted values, all still modeled under critical hot and dry low-flow summertime conditions. This study, entitled *Margin of Safety in TCEQ Default QUAL-TX Modeling Analyses*, was included as ED Exhibit 24 in the City of Granbury hearing.<sup>10</sup> The study used ten percent of the active permitted dischargers in the state at the time of the study (213 dischargers included in the study), with a variety of different permitted flow sizes and permitted effluent sets, using four years (January 2003 through December 2006) of self-reported data from EPA's PCS database. Staff derived the medians of the fractions of actual-to-permitted flows, BOD<sub>5</sub> or CBOD<sub>5</sub> concentrations, ammonia-nitrogen-concentrations, and minimum effluent DO concentrations for different sets of typical effluent limit combinations (for different types of treatment facilities). The 90<sup>th</sup> percentiles of the flow, BOD<sub>5</sub> or CBOD<sub>5</sub>, and ammonia-nitrogen fractions were calculated, as was the 10<sup>th</sup> percentile of the effluent DO fractions. These results were then used to model effluent concentrations that are closer to realistic discharge conditions. Simplified QUAL-TX modeling was performed for various common effluent sets and stream headwater flows to estimate the difference in predicted DO concentrations between permitted flows and concentrations and discharge conditions representing these upper percentiles of actual performance. Fourteen different effluent quality combinations, three different headwater flows (baseflows) (0.0 cfs, 0.1 cfs, and 0.4 cfs), and eighteen different effluent flows were evaluated, targeting a range of different potential DO criteria corresponding to the different baseflows (2 mg/L to 5 mg/L at 0.0 cfs; 3 mg/L to 6 mg/L at 0.1 cfs; and 5 mg/L to 6 mg/L at 0.4 cfs). A total of 378 model runs were included in the study -- 189 using permitted flows and effluent limits and 189 using the adjusted flows and effluent concentrations, comparing the lowest DO concentrations at the bottom of the downstream 'DO sags' between corresponding permitted and adjusted model runs. For permits with flows and effluent sets comparable to those of the proposed City of Granbury permit modeled at the baseflow used for Rucker Creek in the Granbury modeling (0.1 cfs), actual minimum predicted DO concentrations in the study modeling results ranged from 0.39 mg/L to 0.57 mg/L higher than minimum predicted DO concentrations using permitted flows and effluent limits. The study concluded that based on this analysis, the margin of safety implicit in the procedures used to model most types of domestic permits using a default QUAL-TX approach is adequate to continue to allow up to a 0.20 mg/L allowance when assessing model predictions for compliance with DO criteria, though further study of permits with BOD<sub>5</sub> or CBOD<sub>5</sub> concentration limits of 30 mg/L (oxidation pond systems) was recommended.

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<sup>10</sup> Ex. ED-24.

**(C) Referred Issue H- Whether the ED’s antidegradation review was accurate**

The Clean Water Act requires states to adopt a continuing planning process that includes, among other things, a plan for implementing the state’s water quality standards.<sup>11</sup> EPA incorporated this requirement into its rules at 40 C.F.R. § 130.5, which repeats the need for states to adopt a process for “assuring adequate implementation of new or revised water quality standards.”<sup>12</sup> At TCEQ, that process resulted in the IPs, which must receive Commission and EPA approval before it can be implemented.<sup>13</sup> As the entity that has been entrusted with implementing the Clean Water Act in the State of Texas, as well as chapter 26 of the Texas Water Code, TCEQ uses the IPs as guidance to take a consistent approach when reviewing applications and to implement the Standards in a manner that has been approved by the Commission and EPA. This includes making site-specific assessments based on the available information. The IPs also allow for case-by-case determinations; the term “case-by-case” actually appears twenty-four times in the document. However, implementing a procedure when reviewing a permit application that falls outside the IPs would be subject to strict scrutiny and possible rejection, as it would not be part of the document that tells the public how TCEQ will be implementing the Standards, and it has not been approved by the Commission or EPA. After all, the IPs have been designed to ensure the Standards, and thereby the Clean Water Act, are being implemented adequately.

Protestants argue that Granbury has not demonstrated that bacterial indicators of recreational suitability (E.coli) will be lowered by less than a de minimis extent. Specifically the Protestants state that without a determination of the extent of lowering of water quality from a baseline it cannot be said that Granbury’s proposed discharge will result in less than a de minimis lowering of water quality with respect to E. Coli.<sup>14</sup> Mr. Jeff Paull performed a Tier 2 review and determined that no significant degradation of water quality is expected in Rucker Creek and Lake Granbury as long as The City of Granbury complies with the recommendations in his memo and the requirements in the draft permit. His Tier 1 and 2 reviews are summarized in the Standards Implementation Memo. The IP’s provide example of where degradation is unlikely to occur on page 65: “Increased loading of recreational indicator bacteria-if the applicable instream criteria are maintained in the effluent at the “end of the pipe.”<sup>15</sup>

Protestants further state that the ED staff erred in conducting the nutrient screening analysis, that staff used the volume of Lake Granbury to predict nutrient loading in Rucker Creek Cove.<sup>16</sup>

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<sup>11</sup> 33 U.S.C. § 1313(e)(1), (3)(F) (2020).

<sup>12</sup> 40 C.F.R. § 130.5(b)(6) (2021).

<sup>13</sup> 30 TEX. ADMIN. CODE § 307.2(e) (West 2021) (stating the IPs are amended and approved by the Commission and EPA); Ex. ED-5, at 12 (stating the IPs were approved by the Commission and reviewed and approved by EPA).

<sup>14</sup> Protestants Closing Arg. at 21.

<sup>15</sup> Ex. ED-3 at 65.

<sup>16</sup> Protestants Closing Arg. at 25.

This is not correct. ED Staff did not predict nutrient loading in Rucker Creek cove. Rather the ED performed a narrative screen that assess TP sensitivity of the receiving waters, with a focus on Rucker Creek, to determine if phosphorus limits are warranted. The IPs then guide what limit to place in the permit when it's determined that a limit is needed.

Protestants also express concerns that there is no limit for nitrogen in the draft permit.<sup>17</sup> As discussed in the IPs, TCEQ usually focuses on total phosphorus when it comes to nutrients because total nitrogen data in Texas is fairly limited, total phosphorus is the primary nutrient in Texas, blue-green algae is able to obtain nitrogen from the atmosphere, and wastewater treatment technologies are better at limiting phosphorus as opposed to nitrogen when it comes to controlling algal growth.<sup>18</sup> While the IPs do provide for situations where limiting total nitrogen may be appropriate,<sup>19</sup> ED staff did not think those situations existed here. Given the lack of information and challenges with limiting total nitrogen to control nuisance vegetation growth, total nitrogen did not need to factor into the antidegradation review for Granbury's application.

For his Tier II review, Mr. Paull drew on his years of experience reviewing these types of applications, applied the Commission- and EPA-approved Standards and IPs to the application, and concluded that, with all the protections proposed by himself and the other ED staff incorporated into the draft permit, the proposed discharges should not lower water quality to the extent that degradation will occur.

### **III. Conclusion**

For the Commission to issue a permit based on an application it has referred to the State Office of Administrative Hearings, the referred issues must be resolved in favor of granting the application. Through its closing argument and this response, the ED has demonstrated that all the referred issues should be resolved in favor of granting Granbury's application. The Applicant sufficiently complied with the application, notice, and need requirements. Furthermore, the draft permit contains the appropriate monitoring, reporting, and operational requirements; facility siting requirements that will prevent nuisance odors and protect human health; and effluent limits that will ensure the effluent is sufficiently treated to protect the receiving waters' uses and quality. Therefore, the ED continues to recommend granting Granbury's application and issuing the draft permit.

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<sup>17</sup> Protestants Closing Arg. at 2.

<sup>18</sup> Ex. ED-3, at 29-30.

<sup>19</sup> *Id.* at 30.

Respectfully submitted,

TEXAS COMMISSION ON ENVIRONMENTAL  
QUALITY

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