

State Office of Administrative Hearings



Cathleen Parsley
Chief Administrative Law Judge

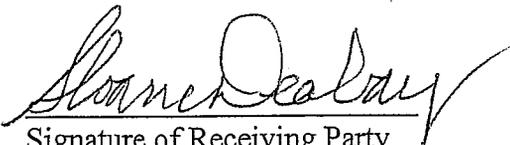
TO: **DOCKET CLERK**
OFFICE OF CHIEF CLERK
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
P.O. BOX 13087
AUSTIN, TX 78711-3087

RE: *SOAH Docket No.582-09-3322 ; TCEQ Docket No. 2009-0398-IWD; Application of Oak Grove Management Company LLC For TPDES Permit No. WQ0001986000*

On _____, the following items were delivered to the Chief Clerk's Office.

Proposal for Decision
Hearing CD - 1
Certified Evidentiary Record

Your signature below acknowledges receipt of the above referenced documents from the State Office of Administrative Hearings.


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State Office of Administrative Hearings



Cathleen Parsley
Chief Administrative Law Judge

June 8, 2010

Les Trobman, General Counsel
Texas Commission on Environmental Quality
P.O. Box 13087
Austin Texas 78711-3087

Re: SOAH Docket No. 582-09-3322; TCEQ Docket No. 2009-0398-IWD In Re
Application of Oak Grove Management Company For TPDES Permit No.
WQ0001986000

2010 JUN - 8 - PM 4: 24
CHIEF CLERK'S OFFICE
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Dear Mr. Trobman:

The above-referenced matter will 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.

Enclosed 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 June 28, 2010. Any replies to exceptions or briefs must be filed in the same manner no later than July 8, 2010.

This matter has been designated **TCEQ Docket No. 2009-0398-IWD; SOAH Docket No. 582-09-3322**. 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://www10.tceq.state.tx.us/epic/efilings/> 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.

Sincerely,

A handwritten signature in black ink that reads "Rebecca S. Smith".

Rebecca S. Smith
Administrative Law Judge

RSS/Ls
Enclosures
cc: Mailing List

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TABLE OF CONTENTS

I. INTRODUCTION	1
II. PROCEDURAL HISTORY, NOTICE, AND JURISDICTION	1
III. OVERVIEW	3
IV. ANTIDegradation REQUIREMENTS	5
A. Primary Discharge Canal	5
B. Classification of Sub-Impoundment A as Having No Significant Aquatic Life Use.....	7
C. Tier 1 and Tier 2 Antidegradation Evaluations.....	9
1. Tier 1 Evaluation.....	9
2. Tier 2 Evaluations	10
V. COOLING WATER INTAKE STRUCTURE	12
A. New or Existing Facility	12
B. Relevant Definitions	13
C. Is OGSES a new source?	14
D. Other Requirements to be a New Facility.....	15
1. Commences Construction after January 17, 2002	15
2. Increase in design capacity.....	18
3. Conclusion	19
E. Analysis of Lake Limestone.....	19
F. Site Characterization and Representative Data.....	20
1. Oak Grove's Evidence	21
2. RCOLOL's Evidence.....	23
3. Parties' Arguments and ALJ's Analysis	25
VI. OTHER ISSUES.....	28
A. Permit Enforceability	28
B. WET Testing at Outfall 002.....	29
C. Transcript Costs	30
VII. Conclusion.....	31

SOAH DOCKET NO. 582-09-3322
TCEQ DOCKET NO. 2009-0398-IWD

2010 JUN -8 PM 4: 24

APPLICATION OF OAK GROVE § BEFORE THE STATE OFFICE
MANAGEMENT COMPANY, LLC FOR § CHIEF CLERKS OFFICE
TPDES PERMIT WQ0001986000 § OF
§ ADMINISTRATIVE HEARINGS

PROPOSAL FOR DECISION

I. INTRODUCTION

Oak Grove Management Company LLC (Oak Grove) filed an application with the Texas Commission on Environmental Quality (TCEQ) to renew and amend its Texas Pollution Discharge Elimination System (TPDES) permit for the Oak Grove Steam Electric Station (OGSES), a lignite-fired steam electric generating station. The TPDES permit addresses the discharge of once-through cooling water, along with lignite storage runoff and small other wastewater streams, into Twin Oak Reservoir, then to Duck Creek, and then into the Navasota River. Two Protestants, Robertson County: Our Land Our Lives and Roy Henrichson (collectively RCOLOL), oppose the application. The Office of Public Interest Council (OPIC) also opposes the application. Based on the evidence presented at the hearing, the Administrative Law Judge (ALJ) recommends that the TCEQ approve the application.

II. PROCEDURAL HISTORY, NOTICE, AND JURISDICTION

The TCEQ has jurisdiction under TEX. WATER CODE ANN. §§ 5.013, 26.011, 26.027, and 26.028. The State Office of Administrative Hearings (SOAH) has jurisdiction over all matters relating to the conduct of a hearing in this proceeding, including the preparation of a proposal for decision (PFD) with findings of fact and conclusions of law under TEX. GOV'T CODE ANN. §§ 2001.058 and 2003.047 and TEX. WATER CODE ANN. § 5.557.

Oak Grove submitted its renewal and amendment application to TCEQ on June 25, 2007. On July 19, 2007, the Executive Director of the Texas Commission on Environmental Quality (ED) determined that the application was administratively complete. The Notice of Receipt of Application and Intent to Obtain a Water Quality Permit was published in the *Hearne Democrat*, *Franklin Advocate*, and *Calvert Tribune* on August 8, 2007. During the technical review, the ED requested additional information, and in response, Oak Grove submitted revisions and supplemental information. On August 12, 2008, the ED notified Oak Grove that the technical review was complete and issued the Statement of Basis/Technical Summary and Executive Director's Preliminary Decision and the draft permit. Notice of Receipt of Application and Preliminary Decision was published in the *Hearne Democrat*, *Franklin Advocate*, and *Calvert Tribune* on August 20, 2008.

After publication of the second notice, TCEQ revised the draft permit and technical summary, in part to respond to comments from the Environmental Protection Agency (EPA).¹ TCEQ issued a revised Notice of Application and Preliminary Decision, revised draft permit, and Statement of Basis/Technical Summary and Executive Director's Preliminary Decision on March 12, 2009. The revised second notice was published in the *Hearne Democrat*, *Franklin Advocate*, and *Calvert Tribune* on March 26, 2009.

Oak Grove requested direct referral of its application to SOAH for a hearing on the merits. A preliminary hearing was held on June 2, 2009. At the preliminary hearing, Oak Grove, the ED, OPIC, Roy Henrichson, and RCOLOL were admitted as parties. The hearing on the merits began February 1, 2010, and concluded February 4, 2010. Oak Grove was represented by attorneys Molly

¹ The parties disagree about whether the document that resulted from this revision should be called a revised draft permit or a proposed permit. The terms "draft permit" and "proposed permit" are set out in the Memorandum of Agreement between EPA and TCEQ's predecessor agency. (Ex. CL-3) A proposed permit is "a TPDES permit prepared after the close of public notice, a public meeting, or a contested case hearing, which will be forwarded for action by the Commission or the Executive Director." (Ex. CL-3 at 24-5). Public notice has closed, but the contested case hearing has not. The ED introduced a good deal of testimony about why he considers the permit under consideration to be a proposed permit and extensively briefed the issue. What to call the permit does not appear to matter for purposes of the hearing or this PFD — the issue appears to involve EPA's timeline to object, which is outside the scope this hearing — so the ALJ will make no recommendation on this point. The phrase "revised draft permit" will be used in this PFD as a matter of convenience. The term is not meant to reflect a proposed finding that the permit in question is technically either a draft or proposed permit.

Cagle and Bryan J. Moore, the ED was represented by staff attorneys Robin Smith and Kathy Humphreys, OPIC was represented by attorney Garrett Arthur, and RCOLOL was represented by attorneys Eric Allmon and David Frederick. The parties filed closing arguments on March 12, 2010, and replies on April 9, 2010, at which time the record closed.

III. OVERVIEW

Oak Grove² currently operates OGSES under TPDES permit WQ0001986000, which was last reissued on January 31, 2005. It received its first National Pollutant Discharge Elimination System permit from the EPA in 1983. However, it only began operation in 2009. OGSES is located in Robertson County, Texas.

OGSES has two pulverized lignite-fired boilers, which are fueled by lignite that is stored on-site. During heavy rains, there may be discharges from the lignite storage area. This runoff is authorized by the current permit.

Water from Twin Oak Reservoir, which was created by damming Duck Creek, is used to cool the steam produced by the boilers. The steam is cooled in condensers: the water washes through the condensers, which allows the steam's heat to transfer to the water. The water from the reservoir, called once-through cooling water, does not come into direct contact with the steam. It is periodically treated with chlorine.

Once-through cooling water is continuously discharged and recirculated from the plant to Twin Oak Reservoir. This water is discharged from Outfall 001 through the Primary Discharge Canal and into Sub-Impoundment A. From there, the water flows into the Final Discharge Canal and then drops over a weir into the Twin Oak Reservoir. Coal pile storm water runoff flows into the lignite retention pond and then can be discharged into Twin Oak Reservoir through Outfall 002.

² The OGSES permit was transferred to Oak Grove from TXU Generation Company LP. This PFD will use "Oak Grove" to refer to both entities during the time each held the permit.

Make-up water, which compensates for the reservoir's evaporation loss, is provided from Lake Limestone, which is located ten or eleven miles away.

The existing permit authorizes OGSES to discharge wastewater, including the once-through cooling water and storm water runoff from the lignite retention pond, to Twin Oak Reservoir, thence to Duck Creek, then to the Navasota River below Lake Limestone in Segment No. 1209 of the Brazos River Basin. The permit also authorizes the discharge of some miscellaneous waste streams that would be small in quantity.³ The permit authorizes discharge of up to 25,000 gallons per day of effluent from a domestic sewage treatment plant, which has yet to be built.⁴

Oak Grove applied to renew its TPDES permit with a few amendments. Specifically, Oak Grove asks that TCEQ renumber and move several outfalls and asks for an increase in the maximum daily discharge volume of once-through cooling water. Currently, Oak Grove is authorized to discharge 1,470 million gallons per day (MGD) from Outfall 001, and it seeks to increase that authorization to 1,610 MGD.

At issue in this direct referral is whether Oak Grove's application complies with all applicable statutory and regulatory requirements.⁵ Oak Grove has the burden of proof.⁶

This PFD will address the contested issues raised at the hearing at in the parties' closing arguments. These issues fall under several categories: issues relating to antidegradation requirements, issues under Clean Water Act § 316(b) relating to the cooling water intake structure, an issue of permit enforceability, and the issue of whether whole effluent toxicity testing at Outfall 002 should be required. Undisputed issues will be addressed in the proposed order.

³ These include flue gas desulfurization wastewater, metal cleaning wastewater, and bottom ash contact water. Discharge from many of these sources would be unusual. (Ex. App-300 at 29).

⁴ Ex. App-200 at 46.

⁵ 30 TEX. ADMIN. CODE § 55.210(b).

⁶ 30 TEX. ADMIN. CODE § 80.17(a).

IV. ANTIDegradation Requirements

In reviewing Oak Grove’s application, the ED assigned the following uses, characteristics, and dissolved oxygen standards to the relevant water bodies:⁷

Waterbody	Recreation Use	Perennial or Intermittent	Aquatic Life Use	Dissolved Oxygen Criteria
Primary Discharge Canal	Not assigned	Not assigned	Not assigned	n/a
Sub-Impoundment A	Contact recreation use	Intermittent	No Significant Aquatic Life Use	2.0 mg/L
Final Discharge Canal	Contact recreation use	Intermittent	No Significant Aquatic Life Use	2.0 mg/L
Twin Oak Reservoir	Contact recreation use	Perennial	High Aquatic Life Use	5.0 mg/L
Drainage ditch from Outfall 002	Contact recreation use	Intermittent	No Significant Aquatic Life Use	2.0 mg/L

A. Primary Discharge Canal

The ED’s staff determined that the Primary Discharge Canal was not surface water in the state and therefore was not subject to water-quality-based effluent limitations. RCOLOL argues that the Primary Discharge Canal is water in the state. Because of this, RCOLOL argues the ED should have applied water-quality-based effluent limitations to discharges from the Primary Discharge Canal and performed a Tier 2 antidegradation analysis for it. RCOLOL bases this argument on the expansive statutory definition of “water in the state:”

“Water” or “water in the state” means groundwater, percolating or otherwise, lakes, bays, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, wetlands, marshes, inlets, canals, the Gulf of Mexico, inside the territorial limits of the state, and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, navigable or nonnavigable, and including the beds and banks of all watercourses and bodies of surface water, that are wholly or partially inside or bordering the state or inside the jurisdiction of the state.⁸

⁷ Ex. LM-1 at 12-13.

⁸ TEX. WATER CODE ANN. § 26.001(5).

RCOLOL also relies on TCEQ's position in an unrelated lawsuit that a manmade conveyance is water in the state.

Oak Grove and the ED argue that RCOLOL's contentions are essentially beside the point. While RCOLOL addresses the broad definition of "water in the state," at issue in this proceeding are the surface water quality standards, which only apply to "*surface* water in the state."⁹ "Surface water in the state" excludes "waters in treatment systems which are authorized by state or federal law, regulation, or permit, and which are created for the purpose of waste treatment."¹⁰ As the ED points out, the Texas Water Code defines "treatment works" as including "facilities to provide for the collection, control, and disposal of waste heat."¹¹

The ALJ agrees with Oak Grove and the ED that the Primary Discharge Canal is excluded from the definition of surface water in the state because it contains water in treatment systems created for the purpose of waste treatment. Oak Grove's witness Dr. Lial Tischler testified that the Primary Discharge Canal is a ditch created to transfer the once-through cooling water to Sub-Impoundment A¹² — in other words, it was created to convey waste heat. Another Oak Grove witness, Jack Thibodeau, testified that Sub-Impoundment A was part of the industrial cooling impoundment that was built specifically to remove heat from steam.¹³ Dr. Tischler also testified that the Primary Discharge Canal is part of the treatment system that was authorized by the permit.¹⁴ RCOLOL presented no evidence to contradict these points. Based on the evidence, the Primary Discharge Canal is not surface water in the state and therefore is not subject to the Texas Surface Water Quality Standards. Accordingly, the Primary Discharge Canal is not subject to water-quality-based effluent limitations or to a Tier 2 antidegradation review.

⁹ 30 TEX. ADMIN. CODE § 307.2(b).

¹⁰ 30 TEX. ADMIN. CODE § 307.3(57).

¹¹ TEX. WATER CODE ANN. § 26.001(24).

¹² Tr. at 59.

¹³ *Id.* at 104.

¹⁴ Ex. App-300 at 53.

B. Classification of Sub-Impoundment A as Having No Significant Aquatic Life Use

RCOLOL also contends that the ED improperly classified Sub-Impoundment A, where the water flows after leaving the Primary Discharge Canal and before entering the Final Discharge Canal, as having no significant aquatic life use. RCOLOL contends that the evidence shows that Sub-Impoundment A is a perennial waterbody and not an intermittent one as Oak Grove and the ED claim. RCOLOL argues that high aquatic life use is presumed for perennial waterbodies and that presumption should apply here. RCOLOL does not argue that there actually is significant aquatic life in Sub-Impoundment A.

An intermittent stream is defined as one that has a period of zero flow for at least one week during most of the year. In support for its position that Sub-Impoundment A is not intermittent, RCOLOL points to testimony by Oak Grove's witnesses Jack Thibodeau and Dr. Tischler, both of whom testified that they had never seen Sub-Impoundment A dry.¹⁵ RCOLOL also cites to several photographs in evidence showing water in Sub-Impoundment A before OGSES began operating. RCOLOL argued that the determination of ED's witness Lili Murphy that Sub-Impoundment A was intermittent was flawed because she based her determination on (a) aerial photographs showing water and (b) maps that showed the upstream tributary to be intermittent.¹⁶

Oak Grove and the ED argue that the classification was appropriate. Ms. Murphy testified that she determined Sub-Impoundment A's classification based on two things. First, she testified that Sub-impoundment A was an intermittent stream, Herds Branch, before it was dammed, and its nature did not change because it was dammed.¹⁷ The ED's witness Melinda Luxemburg also testified that under the Implementation Procedures, a dammed area can be assessed according to the stream that is dammed.¹⁸ Therefore, because Herds Branch is intermittent and has no significant

¹⁵ Tr. at 68, 154.

¹⁶ RCOLOL also argues that Ms. Murphy's original water quality standards memorandum, in which she assigned a High Aquatic Life Use to Sub-Impoundment A contradicts her final memorandum, in which she assigned it as having No Significant Aquatic Life Use. The ALJ assigns no significance to Ms. Murphy changing her mind.

¹⁷ Ex. LM-1 at 18.

¹⁸ Tr. at 694.

aquatic life use, Sub-Impoundment A is also intermittent and has no significant aquatic life use. Additionally, the drop weir at the end of the Final Discharge Canal prevents water from Twin Oak Reservoir from entering the Final Discharge Canal (thereby preventing it from entering Sub-Impoundment A, as well). This means that there is no method of introducing aquatic life from the reservoir into Sub-Impoundment A. Therefore, Sub-Impoundment A will have the same aquatic life use as Herds Branch. Ms. Murphy's second basis for the classification is that it is typical to assign no significant aquatic life use to an effluent-dominated stream within the impact zone, such as Sub-Impoundment A.¹⁹

Addressing the intermittent characterization, Oak Grove argues that because Mr. Thibodeau only visited the OGSES site once,²⁰ it is misleading for RCOLOL to rely on his statement that he had never seen Sub-Impoundment A dry. Oak Grove also argues that its expert Dr. Tischler testified that he has seen pictures of Sub-Impoundment A when it was predominantly dry.²¹ Moreover, Dr. Tischler testified that Sub-Impoundment A has a small watershed, so small that even during heavy storms, it would not produce water sufficient to cause overflow the final discharge canal and enter Twin Oak Reservoir.²² Other than that, the drainage to Sub-Impoundment A is from intermittent streams. According to Dr. Tischler, when those intermittent streams go dry, they cannot produce a measurable amount of aquatic species.²³ Therefore, Sub-Impoundment A cannot have a high aquatic life use. He also testified that Sub-Impoundment A is cut off from the Twin Oak Reservoir.²⁴

The ALJ agrees that the evidence supports the classification of Sub-Impoundment A as having no significant aquatic life use. No evidence suggests that Herds Branch was anything other than an intermittent stream with no significant aquatic life use. That status should continue once it has been dammed, particularly since new species will not be added. Additionally, it makes sense to

¹⁹ *Id.*

²⁰ *Id.* at 96.

²¹ *Id.* at 822, 823.

²² *Id.* at 822.

²³ *Id.* at 823.

²⁴ *Id.* at 153, 224-25.

consider effluent-dominated stream within the impact zone to have no significant aquatic life. The determination that Sub-Impoundment A should be classified as having no significant aquatic life appears correct.

C. Tier 1 and Tier 2 Antidegradation Evaluations

1. Tier 1 Evaluation

RCOLOL makes several arguments regarding Tier 1 and Tier 2 antidegradation evaluations. A Tier 1 antidegradation evaluation applies to all water bodies and ensures that existing uses will be maintained.

RCOLOL's first Tier 1 argument is that Sub-Impoundment A, the Primary Discharge Canal, and the Final Discharge Canal should have more stringent dissolved oxygen limits because they should have been designated as having a contact recreation use. However, the designation of contact recreation use would not affect the dissolved oxygen limit.²⁵ The dissolved oxygen criteria in the receiving water is based on the aquatic life use of the receiving body.²⁶ The contact-use designation affects the bacteria limits.²⁷ A contact recreation use would not provide the basis for a more stringent dissolved oxygen limit.

Additionally, RCOLOL argues that no dissolved oxygen modeling was performed for Outfall 001, despite the fact that the thermal load could impact dissolved oxygen levels. RCOLOL provides no support for this position. The only evidence at hearing on this point came from Oak Grove's expert Dr. Tischler, who testified that the thermal discharge from Outfall 001 would not significantly reduce the existing dissolved oxygen concentrations in Sub-Impoundment A, the Final Discharge

²⁵ Also, all three waterbodies were, in fact, designated as having contact recreation use. (Ex. LM-1 at 12-13).

²⁶ 30 TEX. ADMIN. CODE §307.7(b)(3)(A)(i) (Table 4).

²⁷ Tr. at 669-69; Ex. App-300 at 42.

Canal, or Twin Oak Reservoir.²⁸ Furthermore, the ED's witness Mark Rudolph also testified that he primarily focused his dissolved oxygen evaluation on outfall 002 (the coal pile runoff) and internal outfall 301 (treated domestic wastewater) because those two outfalls were the ones expected to have elevated concentrations of oxygen-demanding substances with the potential to negatively affect dissolved oxygen in the receiving waters.²⁹ From the record, the lack of dissolved oxygen modeling for Outfall 001 does not present a problem.

2. Tier 2 Evaluations

A Tier 2 anti-degradation evaluation applies to waterbodies that exceed fishable/swimmable criteria. Tier 2 evaluation ensures that there will not be more than a *de minimis* decrease in water quality.³⁰ It applies to water bodies with intermediate, high, or exceptional aquatic life uses.³¹

RCOLOL argues that Tier 2 evaluations should have been performed on the Primary Discharge Canal, Sub-Impoundment A, and the Final Discharge Canal because all three should have been designated with contact recreation and high aquatic life uses, making them subject to a Tier 2 evaluation. Because, as discussed above, the ALJ finds that Sub-Impoundment A was appropriately classified as having no aquatic life use and that the Primary Discharge Canal is not surface water in the state, a Tier 2 evaluation of them was not required. RCOLOL has not explained why it thinks the Final Discharge Canal was improperly classified, and the ALJ does not see any basis to reclassify it. Therefore, a Tier 2 analysis also would not apply to the Final Discharge Canal.

RCOLOL also argues that it was inappropriate for the ED to exempt the Twin Oak Reservoir from a full Tier 2 analysis based on a conclusion that the discharge would have a *de minimis* impact.

²⁸ Ex. App-300 at 65.

²⁹ Ex. MR-1 at 2-3.

³⁰ Ex. LM-1 at 5.

³¹ Ex. LM-1 at 6.

It contends that there is insufficient support for this conclusion because there was no numeric modeling or mass balance to show the discharge's impact.

Under the ED's implementation procedures, a Tier 2 evaluation involves a review to "ensure that permitted effluent limits will maintain instream criteria for dissolved oxygen and other parameters such as bacteria, phosphorus, nitrogen, turbidity, dissolved solids, temperature, and toxic pollutants."³² According to the evidence, the increased maximum allowed discharge in the permit amendment reflects increased recycling of water through the power plant.³³ Because this is just an increase in the recirculation of the water that already goes through the CWIS, Oak Grove's expert Dr. Tischler testified that he expects the increase to have a minimal effect on Twin Oak Reservoir's water quality.³⁴

Evidence from the ED's witnesses also showed work related to this analysis. Lili Murphy concluded in her Tier 1 and Tier 2 analysis that existing water quality uses will not be impaired, and that there would be no greater than *de minimis* decrease in water quality.³⁵ Moreover, although Ms. Murphy disagreed with Dr. Tischler's definition of *de minimis*, she generally agreed with his analysis.³⁶ Michael Pfeil testified that he conducted a toxic pollutant evaluation.³⁷ As discussed above, Mr. Rudolph evaluated the impact of dissolved oxygen.³⁸ Industrial cooling impoundments such as Sub-Impoundment A and Twin Oak Reservoir are exempt from the temperature differential requirements, so temperature was not relevant.³⁹ Thus, Oak Grove's experts and members of the ED's staff conducted a review, even if not a mass balance, and concluded that the discharge would not have more than a *de minimis* effect.

³² Ex. ML-8.

³³ Ex. App.-300 at 62.

³⁴ *Id.*

³⁵ Ex. LM-7.

³⁶ Ex. LM-1 at 18-19.

³⁷ Ex. MO-1 at 3.

³⁸ Ex. MR-1 at 2-4; Ex. MR-4.

³⁹ Ex. LM-1 at 16.

RCOLOL did not introduce any evidence to contradict the evidence about the analysis or to suggest that a mass balance was necessary. Its only evidence is an 2009 EPA Report indicating that pollutants in once-through cooling water may be present in low concentrations, but that the overall pollutant mass discharge may be significant.⁴⁰ But as RCOLOL admits that there is no regulatory requirement that a mass balance be performed, the ALJ does not think this one study requires a mass balance in this case. The ALJ concludes that there is sufficient evidence to meet Oak Grove's burden concerning the antidegradation requirements.⁴¹

V. COOLING WATER INTAKE STRUCTURE

RCOLOL also raises several issues relating to the Cooling Water Intake Structure (CWIS) at OGSES. First, it argues that OGSES should not be considered an existing facility for purposes of § 316(b) of the Clean Water Act.⁴² The designation of a facility as new or existing affects which regulations apply to it. Second, it argues that the Lake Limestone well, screen, intake pipe, and pumps should be considered part of OGSES's CWIS. Finally, both RCOLOL and OPIC argue that Oak Grove failed to perform a sufficient site characterization because its use of representative data, as opposed to site-specific data, was insufficient to meet § 316(b) requirements.

A. New or Existing Facility

Section 316(b) requires that "the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact." EPA's rules under this section were implemented in three phases. In December 2001, EPA issued Phase I rules, which address CWISs at new facilities. In July 2004, EPA issued Phase II rules, which

⁴⁰ Ex. P-13 at 3-19, ¶ 2. RCOLOL also cites a paragraph about plants using the large discharge of cooling water to meet their effluent limits for other process wastewaters. The study states that bioaccumulation of arsenic, selenium, and mercury from these other process wastewaters could be a problem. Ex. P-13 at 3-20, ¶ 2. No evidence suggests that Oak Grove is using its cooling water discharge in this way.

⁴¹ RCOLOL also briefly raises the issue of the lack of a mass balance as part of the Tier 1 arguments. The same analysis applies to the Tier 1 evaluation.

⁴² 33 U.S.C. § 1326(b).

address CWISs at existing facilities. Most of the Phase II rules were remanded and suspended following a court challenge.⁴³ Under the remaining rules, for existing facilities determinations of best technology available (BTA) to minimize adverse environmental impact are made on a case-by-case basis using best professional judgment.⁴⁴

Therefore, whether a facility is a new or existing facility determines which rules apply. Phase I rules apply to new facilities, but for existing facilities, the determination is made on a case-by-case basis using best professional judgment.

B. Relevant Definitions

Federal regulations list several elements that must exist for a facility to meet the definition of a new facility:

New facility means any building, structure, facility, or installation that meets the definition of a "new source" or "new discharger" in 40 CFR [§§] 122.2 and 122.29(b)(1), (2), and (4) and is a greenfield or stand-alone facility; commences construction after January 17, 2002; and uses either a newly constructed cooling water intake structure, or an existing cooling water intake structure whose design capacity is increased to accommodate the intake of additional cooling water. . . .⁴⁵

Under this rule, to be a new facility, a facility must first meet either the definition of a new source or a new discharger.⁴⁶ A new source is:

⁴³ *Riverkeeper, Inc. v. EPA*, 475 F.3d 83, 130-31 (2d Cir. 2007).

⁴⁴ 40 C.F.R. § 125.90(b).

⁴⁵ 40 C.F.R. § 125.83.

⁴⁶ No party argues that OGSES is a new discharger, which is defined as:
any building, structure, facility, or installation:

- (a) From which there is or may be a "discharge of pollutants;"
- (b) That did not commence the "discharge of pollutants" at a particular "site" prior to August 13, 1979;
- (c) Which is not a "new source;" and
- (d) Which has never received a finally effective NDPES permit for discharges at that "site."

any building, structure, facility, or installation from which there is or may be a “discharge of pollutants,” the construction of which commenced:

- (a) After promulgation of standards of performance under section 306 of [Clean Water Act] which are applicable to such source, or
- (b) After proposal of standards of performance in accordance with section 306 of [Clean Water Act] which are applicable to such source, but only if the standards are promulgated in accordance with section 306 within 120 days of their proposal.⁴⁷

C. Is OGSES a new source?

The first step in determining whether OGSES is a new facility is determining whether it meets the definition of new source.

RCOLOL argues that OGSES meets the definition of “new source” because its construction commenced “after promulgation of standards of performance under section 306 of [Clean Water Act] which are applicable to such source.” According to RCOLOL, those standards were promulgated in 1974. To support this position, it cites *Appalachian Power Co. v. Train*, 545 F.2d 1351, 1355 (4th Cir. 1976), which states that regulations were issued in 1974. RCOLOL contends OGSES is a new source because construction on OGSES began in 1978 or 1979.

Oak Grove and the ED disagree with RCOLOL about when the relevant standards were promulgated. Both the ED’s witness Melinda Luxemburg and Oak Grove’s expert Dr. Tischler testified that the performance standards that are applicable to OGSES were promulgated in November 1982.⁴⁸ Dr. Tischler testified that the earlier standards (those mentioned in *Train*) had been withdrawn.⁴⁹ The ALJ agrees, that 40 C.F.R. Part 423 indicates that the relevant regulations

40 C.F.R. § 122.2. Because Oak Grove previously received a permit, it cannot be a new discharger.

⁴⁷ 40 C.F.R. § 122.2.

⁴⁸ Ex. ML-1 at 21; Ex. App-300 at 38-39.

⁴⁹ Ex. App-300 at 39.

were first published on November 19, 1982.⁵⁰ Therefore, November 1982, not 1974, is the relevant date for determining whether construction commenced after the promulgation of performance standards. Because of this date, OGSES would not be a new source, and therefore it cannot be a new facility. In the interest of completeness, however, this PFD will analyze the remaining issues RCOLOL raises relating to the designation of new or existing facility.

D. Other Requirements to be a New Facility

1. Commences Construction after January 17, 2002

To be a new facility, construction must have commenced after January 17, 2002. RCOLOL argues that although some construction work at OGSES was done before January 17, 2002, that work did not mark the commencement of construction because it was not part of a continuous on-site construction program.

RCOLOL relies on 40 C.F.R. § 122.29(b)(4) for the continuous on-site construction requirement.⁵¹ Under 40 C.F.R. § 122.29(b)(4), there are two methods of showing commencement of construction of a new source. Construction commences when the owner or operator has either:

- (i) Begun, or caused to begin as part of a continuous on-site construction program:
 - (A) Any placement, assembly, or installation of facilities or equipment; or
 - (B) Significant site preparation work including clearing, excavation or removal of existing buildings, structures, or facilities which is necessary for the placement, assembly, or installation of new source facilities or equipment; or
- (ii) Entered into a binding contractual obligation for the purchase of facilities or equipment which are intended to be used in its operation with a reasonable time. Options to purchase or contracts which can be terminated or modified without substantial loss, and contracts for feasibility engineering, and design studies do

⁵⁰ Ex. App-313.

⁵¹ Initially, the ALJ notes that 40 C.F.R. § 122.29(b)(4) specifically defines the commencement of “construction of a new source” and does not address new facilities. By its terms, 40 C.F.R. § 122.29(b)(4) does not state when construction of a new facility begins. RCOLOL relies on Federal Register preamble language indicating that commencement of construction of a new facility is defined in this section. The ALJ is not certain that preamble language in the Federal Register can expand the regulation’s definition. Nevertheless, Oak Grove agrees that this definition applies, so the ALJ will consider it applicable.

not constitute a contractual obligation under the paragraph.⁵²

a. *Part of a Continuous On-Site Construction Program*

Beginning with the first method of determining the commencement of construction — when work is begun as part of a continuous on-site construction program — RCOLOL argues that there was no on-going construction program in 2002. It points to testimony that in 2004, Oak Grove only had the site, a Brazos River Authority water agreement, the water permit, the original boiler equipment that was purchased in the 1970s and kept on site in good condition, the turbine generators, and the balance of plant equipment.⁵³ According to the testimony, Oak Grove took care of the reservoir and the equipment.⁵⁴ RCOLOL also cites testimony that, as of 2004, there were no construction contracts in place,⁵⁵ and it emphasizes that because OGSES did not have an air permit until 2007, construction of the plant before that date would have been illegal. RCOLOL argues that maintaining equipment for 20 years is not sufficient work to be a continuous construction program.

Oak Grove and the ED disagree. In arguing that construction commenced before January 2002, Oak Grove relies on the same evidence as RCOLOL: physical construction began in 1978 and the constructed elements, the boilers, and the equipment were all continuously maintained and are now in use. Oak Grove also cites to evidence that between 1979 and 1987, the plant site was cleared and graded, and a portion of the superstructure, intake structure, discharge weir, switch yard, and miscellaneous small buildings were constructed.⁵⁶ Oak Grove also argues that construction of the reservoir dam was completed in 1982 and construction of the CWIS was completed in 1984-85.⁵⁷ Oak Grove contends that, although construction did not continue day in and day out, maintenance and other activities did, which is sufficient to show that the construction began as part of a

⁵² 40 C.F.R. § 122.29(b)(4).

⁵³ Tr. at 20.

⁵⁴ *Id.*

⁵⁵ *Id.* at 24-25.

⁵⁶ Ex. App-224 at 2.

⁵⁷ Ex. App-210 at 2.

continuous on-site construction program. The ED emphasizes that the rules do not define “a continuous on-site construction program,” that the air permit is irrelevant, and that the site was never abandoned after construction began.

The ALJ believes that there was an on-site construction program. The word “continuous” raises some concerns, however. Construction activities were not occurring regularly for a long time after physical construction began. While the ALJ finds it relevant that the site was never abandoned and that the equipment and other items were maintained, it is difficult to conclude that the construction program at OGSES was continuous. Nevertheless, there is another method of showing construction began before January 2002.

b. Entered Into a Binding Contractual Obligation

The other method of establishing the commencement of construction is showing that the owner or operator entered into a binding contractual obligation for the purchase of facilities or equipment which were intended to be used in its operation within a reasonable time. RCOLOL downplays this method and argues that there is no evidence of binding 2001-era contractual obligations with substantial termination penalties for facilities or equipment to be used in a reasonable time. Oak Grove contends, however, that the testimony establishes that before January 2002, it had entered into binding contractual obligations for the purchase of facilities and equipment and that these purchased items were intended to be used within a reasonable time.

The ALJ disagrees with RCOLOL’s suggestion that this second method requires a showing of a binding *construction* contract. The language refers to a binding contractual obligation for the purchase of facilities or equipment. The evidence is clear that Oak Grove actually purchased facilities and equipment before January 2002. It did not merely have options to purchase them. The ALJ also finds that the evidence is sufficient that these items were intended to be used within a reasonable time, regardless of whether they were actually used within a reasonable period of time. Therefore, whether or not Oak Grove began construction work under a continuous on-site construction program, under the second prong, Oak Grove commenced construction before January

2002 and is not a new source.⁵⁸

2. *Increase in design capacity*

Finally, to be a new facility, the facility must also “use[] either a newly constructed cooling water intake structure, or an existing cooling water intake structure whose design capacity is increased to accommodate the intake of additional cooling water.” The regulations do not define increase in design capacity. RCOLOL argues that because Oak Grove asks for an increase to allow it to discharge 1.61 billion gallons per day from Outfall 001, up from 1.47 billion gallons per day, there must be an increase in the design capacity of the CWIS.

The evidence showed that no design change is planned to OGSES, even with the amendment’s increase in the discharge. Dr. Englert testified that there was no increase in the capacity of the intake structure.⁵⁹ Despite this evidence, RCOLOL argues that “it is clear the design capacity of the pumps will have to be increased, presumably, by adding more or bigger pumps.” RCOLOL’s argument contradicts the evidence. Although Oak Grove is requesting approval to discharge more water, nothing suggests that there are any design capacity changes to the pumps. Oak Grove argues that the additional amount is for breathing room: that it accounts for the possibility that the actual capacity of the intake pumps as they are designed exceeds their rated capacity.⁶⁰ A finding that OGSES’s amendment reflects an increase in design capacity would be contrary to the evidence. The ALJ concludes that there will be no increase in design capacity.

⁵⁸ Although RCOLOL’s arguments about continuous construction program would seem to apply to its arguments about commencement of construction before standards were promulgated, RCOLOL did not actually connect the two arguments. Nevertheless, the testimony is that the boiler equipment and the site were purchased (in other words, there were binding contracts) before 1982.

⁵⁹ Tr. at 262-64. See also the testimony of ED witness Melinda Luxemburg. (Tr. at 647).

⁶⁰ Oak Grove also argues the increase is to account for the increased discharge from Outfall 001 related to the rerouted internal outfalls. There is no evidence to support this argument, however.

3. *Conclusion*

For several reasons, OGSES is an existing facility, not a new one. It began construction before standards were implemented (and also before January 17, 2002), and it has not increased its design capacity. Therefore, OGSES is not subject to Phase I rules, but is instead subject to a case-by-case analysis using best professional judgment to determine if its CWIS is BTA to minimize adverse environmental impact.

E. Analysis of Lake Limestone

RCOLOL argues that Oak Grove has not met its burden because it did not provide a BTA analysis for the intake structure associated with water withdrawal from Lake Limestone, which supplies make-up water for the Twin Oak Reservoir. According to RCOLOL, the definition of CWIS includes the Lake Limestone structure. A CWIS is "the total physical structure and any associated constructed waterways used to withdraw cooling water from waters of the U.S. The cooling water intake structure extends from the point at which water is withdrawn from the surface water source up to, and including, the intake pumps."⁶¹

Both Oak Grove and the ED assert that the Lake Limestone structure is not part of the OGSES CWIS. Oak Grove emphasizes that the existing permit does not refer or apply to the Lake Limestone pump station structure. It also argues that because EPA found that its system was not a closed-cycle system, EPA determined that the Lake Limestone structure was not part of its CWIS. The ED argues that the definition of CWIS cannot extend to Lake Limestone, 11 miles away, because it is not associated with Oak Grove, nor is it owned or operated by Oak Grove. According to testimony, the Brazos River Authority constructed Lake Limestone in the 1970s, and funding for the construction was provided by several utilities that wanted a water supply for their plants.⁶²

⁶¹ 40 C.F.R. § 125.83.

⁶² Ex. App.-300 at 25.

While the definition of CWIS is expansive, the ALJ does not believe it extends to the source of makeup water. At the point water is pumped from Lake Limestone, it is not yet cooling water. To find otherwise would lead to an overly broad result that would extend to items the Applicant does not control. This does not appear supported by the definition.

F. Site Characterization and Representative Data

The adverse environmental impact that § 316(b) of the Clean Water Act seeks to minimize is “the adverse impact on fish and other aquatic organisms that may result from the withdrawal of water from rivers, lakes, reservoirs, and other waterbodies for use in industrial cooling operations.”⁶³ Adverse environmental impacts are generally measured in terms of impingement mortality, and depending on the type of source water, entrainment mortality. Impingement occurs when fish or other organisms are squashed against the CWIS’s screens. Entrainment occurs when smaller organisms pass through the screens and are circulated with the water through the facility.⁶⁴

Oak Grove must establish that its CWIS technology is the best technology available (BTA) to minimize adverse environmental impact, specifically the adverse impact on fish and other aquatic organisms. After comparing the technology to other options, Oak Grove’s experts concluded that the current technology at OGSES met this standard.

Both RCOLOL and OPIC take issue with Oak Grove’s analysis. Specifically, they both object to Oak Grove’s use of data from other power plants, rather than data from Twin Oak Reservoir, to analyze BTA. RCOLOL expresses concern about the use of representative data in general, and both express concern with the specifics of the data Oak Grove used in this case.

⁶³ Ex. App-400 at 5.

⁶⁴ No entrainment study was performed, but no party objects to the lack of an entrainment study. Testimony indicated that entrainment is a concern for river species whose eggs travel, not for species that would live in a reservoir. (Tr. at 366-67). Testimony indicated that the Phase II rules in effect when Oak Grove began the renewal and amendment process did not require an entrainment analysis for reservoirs. (Tr. at 365-66).

1. *Oak Grove's Evidence*

In its application and at hearing, Oak Grove did not present current information about the biology at the Twin Oak Reservoir or any impingement data from Twin Oak Reservoir. Instead, Oak Grove and its experts relied on data from year-long impingement studies at the reservoirs of three other power plants. These three plants are the Comanche Peak Nuclear Power Plant, the Big Brown Steam Electric Station, and the Monticello Steam Electric Station.

Oak Grove's expert Dr. Bruce Lippincott described the studies at the three plants. He testified that the data from the other plants are representative because they were obtained from base-load power producing facilities that use the same traveling screen CWIS technology as OGSES. The calculated screen approach velocity at the three facilities is also comparable to OGSES's.⁶⁵ Dr. Lippincott also testified that based on the geographic settings, the Comanche Peak facility "would be expected to yield data that is more representative of projected impingement mortality at the OGSES than the data obtained from the other two facilities."⁶⁶ Although the Big Brown facility is in the same ecoregion as OGSES, the Comanche Peak facility is in the same major river system as the Twin Oak Reservoir. In Dr. Lippincott's opinion, the shared river system should be more of a driver for fish species than the shared ecoregion.⁶⁷ The Monticello facility is in neither the same ecoregion nor the same major river system as OGSES.⁶⁸ Dr. Lippincott also testified that assuming Big Brown to be the most representative would not change his conclusion because the annual impingement composition — in other words, which fish are impinged — for Big Brown is comparable to that at Comanche Peak.⁶⁹ At both Big Brown and Comanche Peak, impingement composition was dominated by threadfin shad.⁷⁰ The largest difference in composition between the two was that at Comanche Peak, the second most dominant species in terms of impingement was bluegill sunfish,

⁶⁵ Ex. App-500 at 18.

⁶⁶ *Id.*

⁶⁷ *Id.* at 19.

⁶⁸ *Id.*

⁶⁹ *Id.* at 22.

⁷⁰ *Id.* at 21-23.

but redear sunfish was second at Big Brown.⁷¹ According to Dr. Lippincott, this difference does not matter because both have the same impingement survival traits.⁷² Both, like threadfin shad, spawn large numbers of offspring sufficient to replace impingement losses.⁷³

Dr. Lippincott testified that he expected the species of fish impinged at Comanche Peak to be representative of those at OGSES, but that he would expect the total impingement to be higher at Comanche Peak because of differences in the cooling water design intake flow between the two facilities.⁷⁴

Dr. Lippincott also explained why he used representative data, as opposed to data from Twin Oak Reservoir. Twin Oak Reservoir's fishery is developing and has not yet reached its carrying capacity (the maximum number of fish and other aquatic organisms that the reservoir can support and sustain indefinitely). Before 2007, the reservoir was at approximately 1/3 of its capacity. The dam was closed in early 2007, and the reservoir reached full capacity for a short while. It was then lowered approximately four feet for additional construction and filled again in the first quarter of 2009. According to Dr. Lippincott, the reservoir has not yet reached a state of dynamic equilibrium characteristic of older, mature reservoirs.⁷⁵ He anticipates that the reservoir will reach this state within five to ten years after the beginning of thermal discharges from OGSES to the reservoir.⁷⁶ Until this time, the Twin Oak Reservoir will be in a state of flux. The testimony of Oak Grove's other expert, Dr. Thomas Englert, was essentially the same. Dr. Englert also testified that surveying the reservoir at one-third capacity would not provide information that would be useful in evaluating the reservoir at full capacity.⁷⁷

⁷¹ *Id.* at 23.

⁷² *Id.* at 25.

⁷³ *Id.* Bluegill sunfish were the most abundantly impinged species at Monticello. (Ex. P-19; Tr. at 369).

⁷⁴ Ex. App-500 at 20.

⁷⁵ *Id.* at 10.

⁷⁶ *Id.*

⁷⁷ Tr. at 317.

Dr. Lippincott testified that he would expect to see species of fish in Twin Oak Reservoir that have been documented in other cooling water reservoirs in Texas, in particular threadfin shad, catfish, largemouth bass, bluegill sunfish, spotted gar, smallmouth buffalo, white bass, and possibly gizzard shad, redear sunfish, longear sunfish, and inland silverside.⁷⁸ A number of these species are found in Lake Limestone, which may contribute species as it supplies make-up water to Twin Oak Reservoir. Threadfin shad, in particular, are present in Lake Limestone in large number.⁷⁹

Dr. Englert testified that OGSES's existing CWIS traveling screen technology is BTA for minimizing adverse environmental impact. In his testimony, he particularly emphasized the fish escape openings in front of the traveling screens.⁸⁰ These openings are located between the individual intake bays and at each end of the intake structure and are designed to allow fish to escape before they reach the traveling screens.⁸¹ Dr. Englert also described his review of five alternative CWIS technologies,⁸² which he evaluated in terms of their site-specific engineering feasibility, biological efficacy, and cost.⁸³ He and Dr. Lippincott each concluded that the economic value of threadfin shad and bluegill or redear sunfish is low, and the value of the fish that might escape impingement would not justify the cost of technology to increase impingement survival.⁸⁴ He concluded that none of the alternatives are BTA.⁸⁵

2. *RCOLOL's Evidence*

RCOLOL's expert, Ralph Huddleston, disagreed with Oak Grove's experts on many points.

⁷⁸ Ex. App-500 at 11.

⁷⁹ Tr. at 437-441.

⁸⁰ Ex. App-400 at 12.

⁸¹ *Id.* at 11.

⁸² These five were large fixed panel screens, coarse mesh Ristroph-type screens, wide-slot (9.5 mm) wedge-wire screens, modular inclined screens, and barrier nets. He also evaluated wet and dry cooling towers. (Ex. App-400 at 13).

⁸³ *Id.* at 13-17.

⁸⁴ *Id.* at 14; Ex. App-500 at 27.

⁸⁵ Ex. App-400 at 13.

He emphasized that an evaluation has to be performed on the actual site. He testified that the relevant analysis first requires the identification of the spatial and temporal distribution of organisms within the CWIS area.⁸⁶ To make that identification, it is necessary to examine the organisms that are actually in Twin Oak Reservoir.⁸⁷ He also testified that it is impossible to evaluate the biological efficacy of CWIS technologies without site-specific data.

Mr. Huddleston also testified about differences between Twin Oak Reservoir and the other reservoirs used for sampling. He emphasized that Twin Oak is in a different ecoregion from the other reservoirs and receives different amounts of precipitation, experiences different evaporation rates, and has different water surface elevations from them. Yet on cross examination, he admitted that the Twin Oak Reservoir and the reservoir at Comanche Peak are in the same major river system and watershed.⁸⁸

Nevertheless, he maintained his original position that the representative data was not enough. Mr. Huddleston testified that, contrary to Dr. Lippincott's testimony, he would not expect the shared river system to be the primary driver of fish species. Instead, he testified that the principal driver would be the original stock of fish species in Duck Creek.⁸⁹ He cited studies of species found in Duck Creek in the 1970s before it was dammed to create Twin Oak Reservoir, although he conceded on cross examination that many of the species would not survive in a reservoir environment.⁹⁰ Also on cross-examination, he agreed that the make-up water from Lake Limestone has the potential to introduce new species to the reservoir and that threadfin shad, the dominant species in the reservoir at Comanche Peak, has been found in Lake Limestone.⁹¹

⁸⁶ Ex. P-1 at 6.

⁸⁷ *Id.* at 7.

⁸⁸ Ex. P-1 at 9-10; Tr. at 404, 405, 407.

⁸⁹ Ex. P-1 at 12-13.

⁹⁰ Tr. at 414-418.

⁹¹ *Id.* at 434, 439.

Mr. Huddleston also agreed that Twin Oak Reservoir is still developing, that it has not reached a dynamic state of equilibrium, and that impingement data from Twin Oaks could not have been obtained before OGSES began full operation.⁹² He further agreed that the reservoir is in a state of flux and that thermal loading that occurs after discharge begins can change a reservoir's fishery. But he also testified, contrary to Dr. Englert, that a survey or evaluation of the environment present when the reservoir was 30% full could have created a baseline and produced useful information.⁹³ Mr. Huddleston also testified that the reopener clause should be removed and a comprehensive study of the Twin Oak Reservoir conducted during the permitting process.⁹⁴

Mr. Huddleston conceded that if threadfin shad are the dominant species impinged at Twin Oak Reservoir (as they are at Comanche Peak and Big Brown), the alternative technologies examined by Dr. Englert will have low biological efficacy in reducing impingement mortality.⁹⁵

3. *Parties' Arguments and ALJ's Analysis*

RCOLOL raises two related issues. The first is whether the use of representative data is ever sufficient in analyzing BTA to minimize adverse environmental impact. If the use of representative data can suffice, the second issue is whether the data relied on by Oak Grove are adequately representative for this analysis.

Relying on Mr. Huddleston's testimony, RCOLOL argues that a BTA analysis can never be based solely on representative data. The ED points out a problem with RCOLOL's theory: an impingement study could not be done until OGSES was operating at full capacity,⁹⁶ so under RCOLOL's reasoning, no permit could ever be obtained before discharge. But entities cannot

⁹² *Id.* at 443, 471.

⁹³ *Id.* at 481.

⁹⁴ Ex. P-1 at 19.

⁹⁵ Tr. at 460-61.

⁹⁶ Tr. at 471.

discharge without a permit. This creates an impossible situation for an applicant; it cannot discharge without a permit but cannot do the studies necessary to obtain a permit without discharging.

RCOLOL's argument can be read more broadly — that the analysis cannot be based *wholly* on data from other locations. It is unclear what kind and amount of data RCOLOL would require, and RCOLOL cited no regulation in support of the idea that some amount of site-specific data is required. Also, Mr. Huddleston's testimony is vague about how the baseline would necessarily be helpful.

RCOLOL and OPIC also argue that the EPA expressed concern about Oak Grove's use of representative data. They cite a September 25, 2008 draft letter, in which an EPA employee offers comments about a draft fact sheet for the permit. The relevant part of the letter reads:

The permit fact sheet discusses the general long-term performance (over 30+ years) of three similar facilities to demonstrate that “the fishery will not be subjected to AEI from operation of the CWIS.[”] EPA [Region 6] believes that additional justification is needed and that this approach may be better supported by the results of an impingement and/or entrainment sampling study.⁹⁷

Although RCOLOL and OPIC contend that this letter indicates that the EPA objects to representative data, Oak Grove argues that it does not have the meaning RCOLOL and OPIC give to it. The ALJ agrees with Oak Grove that the EPA memo is not objecting to representative data, but rather to broad statements about long term performance that are not supported by studies. Again, all the witnesses agree that a true impingement study could not be performed at Twin Oak Reservoir until after OGSES began operating. In light of that, it does not make sense for EPA to be requiring an impingement study specifically of Twin Oak Reservoir before then. More important, from its language, the letter appears to be more of a statement that citing “general long-term performance” is not enough and that an impingement/entrainment study of the representative facilities is required. And, in fact, that is what was later conducted.

⁹⁷ Ex. P-1J.

Additionally, both RCOLOL and OPIC argue that physical differences between Twin Oak reservoir and the allegedly representative reservoirs prevent those other reservoirs from providing useful information. In its closing, RCOLOL's argument is limited to the idea that two of the representative reservoirs are physically different from each other so that they cannot both be representative of Twin Oak.⁹⁸ OPIC makes a similar argument. OPIC also points out differences in elevation and precipitation between the reservoir at Comanche Peak and Twin Oak, in addition to Mr. Huddleston's testimony about the 100-mile difference in location and in subwatersheds and ecoregions.

The ALJ does not accept Mr. Huddleston's testimony that the differences he points out will make such a difference in impingement to make the data unrepresentative. As Oak Grove pointed out, the approximately 100-mile difference between Comanche Peak, Monticello, and Big Brown, and the difference in their elevation and precipitation did not stop threadfin shad from being present in all three.⁹⁹ Bluegill sunfish were also present in all three reservoirs, along with Lake Limestone and the survey of Duck Creek from the 1970s.¹⁰⁰ If bluegill sunfish dominate impingement, the undisputed testimony is that this would not change the results of the BTA analysis.

With the representative data, Oak Grove appears to have met its burden to show that its CWIS is the BTA to minimize adverse environmental impact. The ALJ is also reassured by the presence of the reopener clause found in the permit's Other Requirements No. 18, which requires Oak Grove to submit an Impingement Mortality and Entrainment Characterization Study within six months of the permit's issuance.

⁹⁸ RCOLOL also argues that impingement data was not collected at Monticello during a die-off episode. It is not clear how this affects the representativeness of the data. If the argument is that the data are incomplete because of this absence, the ALJ concludes that the data are otherwise sufficiently complete. Collecting impingement data during the die-off episode would have been impossible because of the numbers of fish. (Tr. at 339) Also, the impingement would not be the cause of the death; the fish were dead when they arrived at the screens. (Tr. at 337-38). There was also testimony that die-offs can occur in the summer months. (Tr. at 336). No party has argued that the risk of a die-off is a basis for denying Oak Grove's application.

⁹⁹ Exs. P-18, P-19, P-20.

¹⁰⁰ Tr. at 369; Exs. P-18, P-19, P-20.

VI. OTHER ISSUES

A. Permit Enforceability

RCOLOL also challenges the revised draft permit as having unenforceably vague provisions. In particular, RCOLOL objected to Other Requirement 18, which states:

[t]he permittee shall continue to operate and maintain the cooling water intake structure (CWIS) configuration consistent with the documents, titled *Supplemental Information for 316(b) Determination* and a *Cooling Water Intake Technology Evaluation for Oak Grove Steam Electric Station*, submitted as part of the application received on June 25, 2007, in which is included a description of how the facility meets Best Technology Available (BTA) for minimizing Adverse Environmental Impact (AEI).¹⁰¹

RCOLOL contends that this provision is unenforceably vague because it merely incorporates the documents without stating which parts are actual permit conditions. As support, RCOLOL cites the permit writer's difficulty in specifying which descriptions in the two referenced documents were actually permit conditions.¹⁰² Both Oak Grove and the ED cite another section of the same witness' testimony in which she specifies that the fish escape; trash racks; installation, operation, and maintenance of traveling screens; approach velocities; and number of bays, pumps, and pump capacities — all of which are contained in the two incorporated documents — are permit conditions.¹⁰³

The ALJ believes that the better practice may well be to specify the individual requirements for operating OGSES's CWIS — such as, for example, spelling out the requirement that traveling screens be used. That said, incorporation of other documents in permits is allowed, and those

¹⁰¹ Ex. App-223 at 22.

¹⁰² Tr. at 657-58.

¹⁰³ *Id.* at 646.

documents set out how Oak Grove must operate its CWIS. Therefore, the ALJ does not conclude that the revised draft permit is unenforceable.¹⁰⁴

B. WET Testing at Outfall 002

Under the revised draft permit, biomonitoring, or Whole Effluent Toxicity testing (WET testing) is required at Outfall 001. RCOLOL argues that WET testing should also be required at Outfall 002. RCOLOL contends that had ED witness Kenda Smith evaluated Outfall 002 as discharging more than 10 MGD, it would be subject to the same WET testing as Outfall 001. According to RCOLOL, Ms. Smith testified that Outfall 002 could, in fact, discharge over 10 MGD.

RCOLOL's argument does not perfectly reflect Ms. Smith's testimony. She testified that the permit authorized discharge from Outfall 002 on an intermittent basis, but that there is no flow limit on discharge from that outfall.¹⁰⁵ Although she testified that it would not be a permit violation to discharge over 10 MGD, she did not testify that there would, or physically could, be that amount of discharge.¹⁰⁶

More important, ED witness Michael Pfeil testified that WET testing did not usually apply to intermittent outfalls. Mr. Pfeil testified that the tests are not designed to assess intermittent stormwater discharges, such as the discharge from Outfall 002.¹⁰⁷ Nevertheless, he also testified that the Implementation Procedures allow for 24-hour acute testing if enough concern exists.¹⁰⁸

¹⁰⁴ At hearing, there was some concern and testimony about comments EPA made on this topic. RCOLOL did not raise the EPA's concerns in its closing arguments, and the ALJ believes that any comments are not relevant to the issue of whether the application complies with the statutory and regulatory requirements.

¹⁰⁵ Tr. at 490.

¹⁰⁶ *Id.* at 490-91.

¹⁰⁷ *Id.* at 722.

¹⁰⁸ *Id.* at 730.

After reviewing the record, the ALJ does not find sufficient basis for concern to justify requiring WET testing at Outfall 002. RCOLOL's only cited basis — Mr. Pfeil's testimony that "I guess [WET testing at Outfall 002] could be helpful"¹⁰⁹ — does not show this concern.

C. Transcript Costs

Oak Grove incurred \$11,073.46 in transcript costs. Oak Grove argues that the transcript costs should be split equally between it and RCOLOL. RCOLOL argues that an even split is not reasonable because Oak Grove requested expedited transcripts, which unnecessarily increased the cost. According to RCOLOL, without the rush, the total would be \$4,759.75. RCOLOL also argued that an even split would not be fair in light of the difference in the parties' financial resources. Instead, RCOLOL requests it be apportioned 33% of the regular delivery costs, or \$1,586.58.

The relevant factors to consider in dividing transcript costs are:

- (A) the party who requested the transcript;
- (B) the financial ability of the party to pay the costs;
- (C) the extent to which the party participated in the hearing;
- (D) the relative benefits to the various parties of having a transcript;
- (E) the budgetary constraints of a state or federal administrative agency participating in the proceeding;
- (F) in rate proceedings, the extent to which the expense of the rate proceeding is included in the utility's allowable expenses; and
- (G) any other factor which is relevant to a just and reasonable assessment of costs.¹¹⁰

In this case, both Oak Grove and RCOLOL extensively participated in the hearing, although neither unnecessarily dragged it out. There is evidence that Oak Grove is in a significantly better position than RCOLOL to pay costs. Oak Grove is a subsidiary of Energy Future Holdings, which has several large subsidiaries, including Luminant, whose subsidiaries own or operate twelve lignite

¹⁰⁹ *Id.* at 729.

¹¹⁰ 30 TEX. ADMIN. CODE § 80.23(d).

coal-fueled electricity generating units.¹¹¹ Additionally, Oak Grove could afford to maintain equipment that was not in use for many years at OGSES. Oak Grove's significant financial interest in obtaining the permit suggests that it can more easily pay the costs.

The ALJ agrees with RCOLOL that it should not have to bear any cost for the expedited transcription fees. The decision to order expedited transcripts was Oak Grove's, and those costs belong to it. The ALJ also agrees with RCOLOL that an even split of the regular, not expedited, fees would be unfair in light of the differences in the parties' ability to pay. The ALJ recommends accepting RCOLOL's suggestion that the Protestants pay 33% of the regular fees, which comes to \$1,586.58. Oak Grove should be responsible for the remaining transcript fees.

VII. CONCLUSION

The ALJ recommends finding that Oak Grove has established that its application complies with all statutory and regulatory requirements and recommends that its permit be issued. The ALJ also recommends that \$1,586.58 of the transcript costs be assessed to the two Protestants (RCOLOL and Mr. Henrichson) with Oak Grove responsible for the balance.

SIGNED June 8, 2010.



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

¹¹¹ Ex. App-100 at 5-6.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



**AN ORDER
GRANTING THE APPLICATION OF OAK GROVE MANAGEMENT COMPANY, LLC
FOR TPDES PERMIT NO. WQ0001986000
SOAH DOCKET NO. 582-09-3322
TCEQ DOCKET NO. 2009-0398-IWD**

On _____, the Texas Commission on Environmental Quality (TCEQ or Commission) considered the application of Oak Grove Management Company, LLC (Oak Grove or Applicant) for an amendment and renewal of Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0001986000 for the Oak Grove Steam Electric Station (OGSES). A Proposal for Decision (PFD) was presented by Rebecca S. Smith, Administrative Law Judge (ALJ) with the State Office of Administrative Hearings (SOAH), who conducted a contested case hearing in this case from February 1-4, 2010, in Austin, Texas.

After considering the PFD, the Commission adopts the following Findings of Fact and Conclusions of Law:

I. FINDINGS OF FACT

Introduction and Background

1. Oak Grove applied for a renewal and amendment of TPDES Permit No. WQ0001986000 to operate the OGSES.

2. The OGSES is an existing two-unit lignite-fired steam electric generating facility located on the west shore of Twin Oak Reservoir, approximately 8.5 miles south of Texas Highway 7, off Farm-to-Market Road 979, and approximately 12 miles north of the City of Franklin, Robertson County, Texas.
3. Oak Grove's compliance history is Average based on a rating of 1.5.
4. The OGSES's compliance history is High based on a site rating of 0.00.
5. In 1983, the U.S. Environmental Protection Agency (EPA) issued Oak Grove's first discharge permit under the National Pollutant Discharge Elimination System (NPDES).
6. The OGSES currently operates under TPDES Permit No. WQ0001986000, which was most recently reissued on January 31, 2005, with an expiration date of May 1, 2009.
7. The OGSES generates electricity using heat from the combustion of lignite to produce steam that drives a turbine that powers the electric generator. The steam is condensed with cooling water from the Twin Oak Reservoir and recycled back to the boilers to generate more steam. The cooling water does not come into direct contact with the steam, but instead washes through the condensers where heat from the steam is transferred to the water. This water is known as once-through cooling water.
8. TPDES Permit No. WQ0001986000 currently authorizes Oak Grove to discharge water to Twin Oak Reservoir, thence to Duck Creek; thence to the Navasota River below Lake Limestone in Segment 1209 of the Brazos River Basin.
9. Pursuant to a water supply agreement, make-up water may be pumped intrabasin from Lake Limestone to Twin Oak Reservoir to make up for evaporative water losses and downstream discharges from the facility's industrial cooling impoundment.

10. Permit to Appropriate State Water No. 2958, issued in 1974, and Certificate of Adjudication No. 12-5298, issued in 1988, authorized impoundment of Duck Creek to create Twin Oak Reservoir. A levee was constructed on Herds Branch, an intermittent stream, to create Sub-Impoundment A. Oliver Branch was rerouted to Sub-Impoundment A. The final discharge canal was constructed to allow water from Sub-Impoundment A to flow into Twin Oak Reservoir.
11. Supporting facilities for the OGSES units include a lignite unloading station, limestone and lignite storage piles, a crusher and pulverizer to provide the boiler fuel, a demineralizer system and reverse osmosis to produce boiler water, and several air pollution control systems.
12. Applicant proposes two changes to the existing permit, one administrative and one technical. Administratively, Oak Grove asks that TCEQ renumber and relocate several outfalls. Technically, the only major change to operations sought in the amendment application is a proposed increase (less than 10%) in the maximum daily discharge volume at Outfall 001. Under the revised draft permit, Outfall 001 is authorized to discharge once-through cooling water, auxiliary cooling water, and previously monitored effluents (PMEs) from Internal Outfalls 101, 201, 301, and 401. Pursuant to the amendment request, Internal Outfalls 101, 201, 301, and 401 discharges may include low volume waste, metal cleaning waste, flue gas desulfurization (FGD) system wastewater, bottom ash contact water, storm water runoff, and domestic wastewater.

13. Except for rerouting of the internal ditches, canals, and pipelines, no physical modifications to the OGSES have been made or are proposed to accommodate the change in discharge limits or flow.

Procedural History

14. On June 25, 2007, Oak Grove timely filed an application for major amendment with renewal of its TPDES permit. A check in the amount of \$2,050 to cover the application fee was submitted to TCEQ on June 21, 2007.
15. On July 5, 2007, TCEQ authorized the transfer of the existing permit from TXU Generation Company LP to Oak Grove.
16. The TCEQ Executive Director determined the application to be administratively complete on July 19, 2007.
17. Oak Grove published Notice of Receipt of Application and Intent to Obtain a Water Quality Permit in the *Hearne Democrat*, *Franklin Advocate*, and *Calvert Tribune* on August 1, 2007.
18. The TCEQ Chief Clerk also mailed a copy of the notice to federal and state agencies, other interested persons, the Application landowner list, and elected officials.
19. While conducting its technical review, the Executive Director requested additional information regarding the application. In response, Oak Grove submitted revisions and supplemental information on July 12, 2007; November 9, 2007; January 15, 2008; and June 11, 2008.

20. On August 12, 2008, the Executive Director notified Oak Grove that the technical review was complete and issued the Statement of Basis/Technical Summary and Executive Director's Preliminary Decision (Technical Summary) and the draft permit.
21. Oak Grove published Notice of Receipt of Application and Preliminary Decision in the *Hearne Democrat*, *Franklin Advocate*, and *Calvert Tribune* on August 20, 2008.
22. The TCEQ Chief Clerk mailed a copy of the Notice of Receipt of Application and Preliminary Decision to federal and state agencies, other interested persons, the application landowner list, and elected officials. TCEQ also sent a copy of the draft permit and application file to EPA Region 6.
23. On September 25, 2008, EPA submitted draft comments on the draft permit's and Technical Summary's Clean Water Act § 316(b) provisions. EPA subsequently issued a Conditional No Objection letter on November 19, 2008, providing additional comments regarding compliance with § 316(b).
24. In response to comments from EPA, on December 15, 2008, Oak Grove submitted to TCEQ a report from HDR, Inc. entitled "Cooling Water Intake Technology Evaluation for Oak Grove Steam Electric Station."
25. The TCEQ Executive Director issued the Revised Notice of Application and Preliminary Decision, revised draft permit, and Technical Summary on March 12, 2009.
26. Oak Grove published the Revised Notice of Application and Preliminary Decision in the *Hearne Democrat*, *Franklin Advocate*, and *Calvert Tribune* on March 18, 2009.

27. The TCEQ Chief Clerk also mailed a copy of the Revised Notice of Application and Preliminary Decision to federal and state agencies, other interested persons, the application landowner list, and elected officials.
28. A complete copy of the application and any revisions were available for review and copying at a public place, the County Clerk's Office of the Robertson County Courthouse, during the entire public notice period. The revised draft permit remained at the Robertson County Courthouse until the application was referred to SOAH for hearing.
29. On March 19, 2009, Oak Grove requested direct referral of its application to SOAH under TEX. WATER CODE § 5.557 for a hearing on whether its application complies with all applicable statutory and regulatory requirements.
30. After proper mailing and publication of public notice, on March 30, 2009, and April 8, 2009, respectively, a preliminary hearing was held before SOAH in Franklin, Texas, on June 2, 2009. The following parties were admitted: Applicant Oak Grove, the TCEQ Executive Director, the TCEQ Office of Public Interest Counsel (OPIC), and aligned Protestants Roy Henrichson and Robertson County: Our Land Our Lives (RCOLOL) (collectively, Protestants).
31. TCEQ sent a copy of the revised draft permit to EPA Region 6 on July 17, 2009.
32. The Executive Director's Response to Public Comment was issued on November 4, 2009.
33. The hearing on the merits, held at the SOAH offices at the William Clements Building, 300 West 15th Street, Fourth Floor, Austin, Texas 78701, commenced February 1, 2010, and concluded February 4, 2010.

Completeness of The Application

34. Oak Grove's application was prepared, submitted, and processed in accordance with TCEQ's rules and guidance, including the September 2006 Completing the Industrial Wastewater Permit Application – TCEQ Form-10411/10055 Instructions.
35. Oak Grove's application includes the completed Administrative Report for Industrial Wastewater Permits, the Supplemental Permit Information Form (SPIF), the Technical Report for Industrial Wastewater Permits, attachments containing supporting information, and revisions, and supplemental information provided in response to TCEQ requests for information.
36. Oak Grove's application was prepared by qualified persons, competent and experienced in the field of wastewater discharges from steam electric generating stations, and familiar with the design and operation of the OGSES and wastewater discharge permitting.
37. The Administrative Report includes basic information about Applicant and the OGSES, completed application forms, signed and notarized as appropriate, payment of fees, verification of the legal status of Applicant, an accurate list and map of adjacent landowners, and other information reasonably requested by the Executive Director and required to allow TCEQ to evaluate the permit application.
38. The application was signed by Applicant's designated authorized representative, attesting that the information in the permit application was true, accurate, and complete to the best of his knowledge and belief.
39. Oak Grove's Technical Report included, among other information, a general description of the power generation; pollution control, materials management, and wastewater

management systems at the OGSES; facility maps; a flow schematic and water balance diagram; a summary of chemical additives used at the facility; once-through cooling water material safety data sheets; and a summary of the major amendment requests.

40. The OGSES is located above the 100-year frequency flood level.
41. Stormwater runoff from the site will be permitted under TPDES Permit No. WQ0001986000. Stormwater from other areas of the property besides the lignite storage area is also permitted under TCEQ's Multi-Sector General Permit No. TXR05U102.
42. There is no surface water intake for domestic water supply located within five miles downstream from the OGSES discharge point.
43. Oak Grove does not request authorization for the OGSES to discharge into tidally influenced waters and the revised draft permit does not authorize such a discharge.
44. TCEQ staff reviewed Oak Grove's application to determine whether it complied with all applicable rules and policies and documented the conclusions of that review in the Technical Summary.
45. Oak Grove's application contained all required information in sufficient detail to allow evaluation of the facility's operation and the water and environmental quality considerations involved, including information regarding the cooling water intake structure, and to prepare an appropriate revised draft permit.

Wastewater Streams and Potential Discharges

46. Wastewater streams generated and potentially discharged at the OGSES include once-through cooling water, Flue Gas Desulfurization (FGD) system wet scrubber blowdown,

metal cleaning wastewaters, bottom ash contact water, domestic wastewater treatment plant effluent, low volume wastewaters, and storm water runoff.

- A. Once-through cooling water is effectively a discharge of Twin Oak Reservoir water, treated periodically upstream of the condensers with small amounts of chlorine and a dispersant/scale inhibitor, and then heated via contact with the power plant condensers.
 - B. Low volume waste streams are defined in Other Requirement 9 of the revised draft permit as FGD wet scrubber air pollution control system water, ion exchange water treatment system regeneration wastes, laboratory and sampling streams, cooling tower basin cleaning wastes, and blowdown from recirculating power house service water systems.
 - C. Other Requirement 7 of the revised draft permit defines metal cleaning wastewater as “any wastewater resulting from cleaning (with or without chemical compounds) any metal process equipment including, but not limited to, boiler tube cleaning, boiler fireside cleaning, and air preheater cleaning.”
 - D. Other Requirement 6 of the revised draft permit defines bottom ash contact water as “water used in the transport of bottom ash.” The bottom ash contact water is not sluice water and it is not a continuous stream generated by the operations at the OGSES.
47. Wastewater generated from various areas or activities at the OGSES will be treated as appropriate prior to discharge using a system of sumps, treatment units, and impoundments.

48. There are two kinds of wastewater impoundments at the OGSES: FGD Ponds and a Lignite Retention Pond. All OGSES wastewater impoundments are designated as treatment and containment impoundments and are lined with compacted clay liners.
- A. FGD Pond A receives FGD wet scrubber blowdown, metal cleaning waste, low volume wastewater, bottom ash contact water, and storm water runoff.
1. FGD Pond A will be used primarily to manage FGD system wet scrubber blowdown, a slurry of calcium sulfate (gypsum) solids. The resulting clarified water is recycled to the submerged chain conveyor, the FGD reclaim tank, or for ash wetting at the on-site landfill to prevent dust formation.
 2. Waters from the demineralizers will be transported off-site for neutralization. If, however, Oak Grove installs an on-site neutralization system in the future, the neutralized wastewater will be treated and discharged to FGD Pond A.
 3. Water from the reverse osmosis system filter backwash, the boiler area sump, including the submerged chain conveyor and polisher backwash, and water from Powdex regeneration will also be sent to FGD Pond A.
 4. Low volume waste and metal cleaning wastes generated in the Power Block are captured in sumps and transferred to FGD Pond A.
 5. Wastewater generated in the turbine building is treated in an oil-water separator and transferred to the turbine area holding basin and then pumped to the FGD Pond A.

- B. FGD Ponds B and C provide back-up capacity to FGD Pond A, but generally only receive storm water runoff from the site.
 - C. The Lignite Retention Pond collects storm water that comes into contact with the stored lignite. This pond is designed to hold the storm flows calculated to run off from approximately 86-87 acres (including the lignite and limestone storage areas) that would result from a 10-year, 24-hour storm event (an approximately 7-inch rainfall event) including a volume required for solids settling plus two feet of freeboard.
49. The revised draft permit authorizes Oak Grove to discharge through two external outfalls, Outfalls 001 and 002, and four internal outfalls, Internal Outfalls 101, 201, 301, and 401.
- A. Outfall 001
 - 1. Once-through cooling water is authorized to be continuously discharged from Outfall 001 through the Primary Discharge Canal, into Sub-impoundment A, through the final discharge canal, and then into Twin Oak Reservoir.
 - 2. Pursuant to the amendment application, Oak Grove requests authorization to increase the maximum daily discharge from Outfall 001 from 1,470 to 1,610 million gallons per day (MGD).
 - B. Internal Outfall 101 is the discharge from FGD Pond A to the Primary Discharge Canal. As most of the water in FGD Pond A is recycled, discharges from Internal Outfall 101 are expected to be intermittent and only likely to occur when storm water runoff exceeds recycle requirements.

- C. Outfall 002 and Internal Outfall 201
1. Pursuant to the amendment application, Oak Grove seeks a new outfall, Outfall 201, discharging in the Primary Discharge Canal from the Lignite Retention Pond in lieu of or in addition to using Outfall 002.
 2. Outfall 002 and Internal Outfall 201 are each authorized to discharge coal pile runoff, low volume waste, and runoff from the lignite and limestone storage area.
 3. Discharges from Outfall 002 and Internal Outfall 201 will be intermittent.
 4. There is no flow limit on discharges through Outfall 002.
- D. Outfall 301 is authorized to discharge treated domestic wastewater. The sewage treatment plant is proposed but not yet, and may never be, constructed. If constructed, the revised draft permit authorizes a continuous discharge of up to 25,000 gallons per day from the revised draft small domestic sewage plant. At present, the facility uses authorized evapo-transpiration beds to manage domestic wastewaters at the Oak Grove site.
- E. Outfall 401 is authorized to discharge low volume waste, metal cleaning waste, FGD system wastewater, bottom ash contact water, and storm water runoff from FGD Ponds B and C. Discharges from Internal Outfall 401 are expected to be intermittent and only likely to occur when storm water runoff exceeds recycle requirements.
50. Oliver's Branch previously flowed into Sub-Impoundment B (adjacent to Sub-Impoundment A), but no longer does. A levee completely surrounds Sub-Impoundment

B and, under the amendment application, no outfalls will discharge into Sub-Impoundment B in the future.

51. The post-use treatments that will be applied at the OGSES are generally consistent with the types of treatments applied at other permitted solid fuel-fired steam electric generating stations and have been proved to be capable of meeting the technology based effluent limits applied to steam electric generating stations.

TPDES Permit Effluent Limits

52. Outfalls 001 and 002 and Internal Outfalls 101, 201, 301, and 401 are subject to specific effluent limits and monitoring requirements set forth in the revised draft permit.
53. The appropriate technology-based standards for the OGSES are the federal effluent limitations guidelines and standards for steam electric power generation facilities set forth at 40 C.F.R. Part 423.
54. The use of the most stringent technology-based standards, the New Source Performance Standards (NSPS), in the Oak Grove revised draft permit is appropriate and correct.
55. Compliance with technology-based limits must be achieved without the benefit of any dilution. For this reason, the revised draft permit includes internal outfalls to provide monitoring locations before the discharge mixes with other waters.
56. The applicable water quality-based standards are the Texas Surface Water Quality Standards (TSWQS) in Chapter 307 of TCEQ's rules. The TSWQS apply to surface water in the state and are set by the Commission at levels designed to be protective of public health, aquatic resources, terrestrial life, and other environmental and economic resources.

57. The TSWQS consist of general standards, narrative standards, surface water segment-specific numeric standards (Appendix A), numeric standards for toxic substances, and antidegradation review.
58. TCEQ's rules also contain limits on concentrations of various metals.
59. Compliance with surface water quality standards is evaluated at the external outfalls where discharges contact receiving waters (surface waters in the state), outside of whatever mixing zone may apply. The use of dilution to comply with water quality-based effluent limits at final outfalls is allowable.
60. The first classified segment downstream of Twin Oak Reservoir is the Navasota River below Lake Limestone, which is classified as Segment 1209. Pursuant to Appendix A of Chapter 307, the designated uses of this segment are contact recreation, high aquatic life use, and public water supply.
61. Duck Creek, the stream segment downstream that receives Twin Oak Reservoir overflows (unclassified Segment 1209H) is assigned the same uses as Segment 1209 on a presumptive basis as provided for in TCEQ's Implementation Procedures. Duck Creek currently may not meet the TSWQS bacteria standard. More data and information need to be collected before TCEQ can issue a determination of whether Duck Creek is an impaired water. The source of bacteria in small streams like Duck Creek is typically nonpoint sources (for example livestock, domestic pets, wild animals, and birds). The operation of the OGSES and Twin Oak Reservoir will not cause or contribute to any bacteria problem on Duck Creek or downstream because of the nature of the sources and characteristics of the wastewaters authorized for discharge from the OGSES.

62. Because neither Twin Oak Reservoir nor Duck Creek are classified segments, the presumptively applicable criteria are those of Segment 1209 of the Brazos River Basin, the Navasota River below Lake Limestone, which include both the general criteria and criteria for classified segments.
63. The general criteria are set forth at 30 TEX. ADMIN. CODE § 307.4, and consist of both numeric and narrative criteria pertaining to the following parameters: (1) aesthetic parameters, (2) radiological substances, (3) toxic substances, (4) nutrients, (5) temperature, (6) salinity, (7) aquatic life uses and dissolved oxygen, (8) aquatic life uses and habitat, (9) aquatic recreation, and (10) antidegradation.
64. Segment 1209 is subject to the following numeric criteria:

Chlorides	140 mg/L maximum
Sulfates	100 mg/L maximum
Total dissolved solids	600 mg/L maximum
Dissolved Oxygen (DO)	5.0 mg/L minimum
pH	6.5-9.0 Standard Units ("SU")
Indicator bacteria (E. coli)	126 colonies /100 mL
Temperature	93 °F

65. The toxic pollutant criteria for fresh water in Table 1 and 3 of 30 TEX. ADMIN. CODE § 307.6 also apply to the OGSES discharge.
66. The Executive Director conducted a Reasonable Potential Analysis to determine if the OGSES effluent discharge may cause or contribute to an exceedance of any applicable

water quality standard. Based on that Analysis, the revised draft permit, as currently drafted, does not contain any water quality-based effluent limits.

67. The Executive Director used the TexTox program to calculate surface water quality-based effluent limits appropriate to maintain compliance with water quality standards and compared the calculated values to surrogate data for the proposed discharge. Because actual data could not be provided in the application, TCEQ required sampling after the plant began discharging and submission of the data to verify compliance with the TexTox calculated numbers. Where actual effluent numbers approach the calculated limits, TCEQ will reopen the permit to impose monitoring or effluent limits, as appropriate.
68. Pursuant to Other Requirement 15 of the existing and proposed permits, once operation of the OGSES began, Oak Grove submitted effluent analyses for Outfalls 001 and 002 to TCEQ for comparison with the calculated water quality-based effluent limits.
69. The Executive Director screened the submitted Outfall 001 effluent data against the calculated surface water quality-based effluent limits in Appendix A of the existing permit's Technical Summary and Appendix B of the proposed permit's Technical Summary. No pollutant exceeded 70% of the calculated daily average water quality-based effluent limits; therefore, there is no reasonable potential to expect violation of any water quality-based effluent limit and the addition of a water quality-based effluent limit for Outfall 001 is not warranted.
70. Although Oak Grove had no actual data for discharges from Outfall 002 at the time of submitting the amendment application, later testing on samples collected pursuant to Other Requirement 15 of the existing permit for Outfall 002 confirm that the discharges

from Outfall 002 also should comply with the numeric water quality standards. No pollutant is expected to exceed 70% of the calculated daily average water quality-based effluent limits; therefore, there is no reasonable potential to expect violation of any water quality-based effluent limit and the addition of a water quality-based effluent limit for Outfall 002 is not warranted.

71. The OGSES discharge at Outfalls 001 and 002 in accordance with the proposed permit will comply with the Texas Surface Water Quality Standards, including both the criteria for Segment 1209 of the Brazos River Basin set forth at 30 TEX. ADMIN. CODE § 307.10, Appendix A, and the general criteria set forth at 30 TEX. ADMIN. CODE § 307.4.

Antidegradation Review and Surface Water Quality Standards

72. All TPDES permits must be reviewed for compliance with the TSQWS antidegradation policy.
73. Tier 1 of an antidegradation review confirms that the effluent quality is consistent with the designated uses of the receiving stream segment and that no in-stream surface water quality standards (either numeric or narrative) will be exceeded.
74. A Tier 2 review is only conducted on waterbodies with intermediate, high, or exceptional aquatic life uses to ensure that the water quality will not be diminished.
75. Tier 3 antidegradation policy does not apply to Oak Grove's discharge because there are no outstanding natural resource waters that will be affected by the OGSES and Twin Oak Reservoir discharges.

76. The uses for fresh surface water bodies in Texas are categories of aquatic life uses (exceptional, high, intermediate, limited, and no significant), public water supply, and recreation (contact or non-contact).
77. Unless exempt by rule, all waters in the state are presumed to have contact recreational use. Compliance with the recreational use standard is evaluated solely through application of the bacteria standard (*E. coli* and the fecal coliform bacteria group, currently being phased out). Temperature is not used to evaluate contact recreation in an industrial cooling impoundment.
78. The Primary Discharge Canal, Sub-Impoundment A, the final discharge canal, and Twin Oak Reservoir together comprise the industrial cooling impoundment at the OGSES.
79. The Primary Discharge Canal is not surface water in the state because it is water in a man-made system created for the purpose of waste treatment.
80. Twin Oak Reservoir, Sub-impoundment A, the final discharge canal (receiving waters for Outfall 001), and the drainage ditch (receiving water for Outfall 002) are unclassified surface waters in the state and all were assigned a bacteria standard for *E. coli* of 126 colonies per 100 mL based on contact recreation use. The discharges from the OGSES will not compromise or interfere with compliance with the contact recreation standard.
81. Twin Oak Reservoir was created by the construction of a dam on Duck Creek, a perennial stream, in the 1970s. As a perennial waterbody, Twin Oak Reservoir has a presumed high aquatic life use. The DO standard for Twin Oak Reservoir is 5.0 mg/L.
82. Sub-Impoundment A is part of the industrial cooling impoundment at the Oak Grove site, but it is not part of Twin Oak Reservoir. In the late 1970's, Oak Grove built a levee on

Herds Branch to form Sub-Impoundment A and constructed the Primary Discharge Canal and the final discharge canal to provide a series of cooling impoundments and manage the flow of water to Twin Oak Reservoir to facilitate cooling of the once-through cooling water.

83. Herds Branch was and, regardless of the levee, still is an intermittent stream. The presumptive aquatic life use for an unclassified intermittent stream like Herds Branch is no significant aquatic life use. Conditions upstream of the area affected by the discharge should be the primary consideration in making aquatic life use designations. Thus, Sub-Impoundment A and the final discharge canal were determined to be intermittent with no significant aquatic life use and an assigned DO standard of 2.0 mg/L. No aquatic life use was the appropriate designation for Sub-Impoundment A and the final discharge canal.
84. The Outfall 002 drainage ditch is intermittent with no significant aquatic life use and corresponding DO standard of 2.0 mg/L.
85. For surface waters such as Twin Oak Reservoir, where existing water quality is better than required to meet general and numeric TSWQS, the antidegradation policy applies to any new or increased discharges of pollutants. Accordingly, the increased discharge at Outfall 001 (and consolidation of internal outfalls at that same external outfall) is subject to Tier 1 and Tier 2 antidegradation review, while Sub-Impoundment A, the final discharge canal, and the Outfall 002 drainage ditch only trigger Tier 1 antidegradation review.

86. The antidegradation policy does not apply to the temperature of water in industrial cooling impoundments because the temperature standard for these water bodies is based on non-interference with reasonable uses.
87. Sub-Impoundment A is not part of Twin Oak Reservoir, but water does cool as it flows through Sub-Impoundment A. Twin Oak Reservoir and Sub-Impoundment A are separated by a barrier – only when the water elevation in Sub-Impoundment A is sufficiently high (for example, when the OGSES is operating) can water from Sub-Impoundment A flow into the man-made final discharge canal and over the drop weir structure into Twin Oak Reservoir.
88. The drop weir structure, the levee between Sub-Impoundment A and Twin Oak Reservoir, and the elevation of the spillway between Twin Oak Reservoir and Duck Creek prevent water from flowing from Twin Oak Reservoir into Sub-Impoundment A.
89. The existing use, *i.e.*, the reasonable use, of the industrial cooling impoundments will be maintained under the proposed permit terms. Because of the volume of the once-through cooling water discharge, the concentrations of pollutants from Oak Grove discharges under the revised draft permit will be the same in Sub-Impoundment A as they are for Twin Oak Reservoir.
90. The proposed and new discharges through Outfall 001 would not cause more than a *de minimis* degradation of water quality, and thus the discharges would satisfy the state's antidegradation policy, even considering intermittent chlorination of the cooling water.

91. The TCEQ Executive Director did not conduct a Tier 2 evaluation for Sub-Impoundment A because, under the TCEQ's Implementation Procedures, a Tier 2 review is only conducted on water bodies with intermediate, high, or exceptional aquatic life uses.
92. The OGSES discharge in accordance with the revised draft permit will not interfere with existing or attainable uses and will maintain water quality sufficient to protect those existing uses. The impact of the authorized increased discharge of once-through cooling water under the revised draft permit is minimal. The revised draft permit complies with the state's antidegradation policy under both a Tier 1 and Tier 2 review.

Cooling Water Intake Structure

93. Oak Grove commenced construction of the OGSES before November 1982, the date EPA adopted applicable standards of performance.
94. Construction of the OGSES commenced before January 17, 2002.
95. Oak Grove has not proposed to and has not increased the design capacity of its CWIS.
96. The OGSES withdraws cooling water from Twin Oak Reservoir through a cooling water intake structure (CWIS) located at the southern end of Twin Oak Reservoir.
97. Twin Oak Reservoir is not open to the public and is enclosed by a fence to prevent unauthorized access. No recreational or commercial fishing is allowed in Twin Oak Reservoir.
98. Construction of the CWIS at the OGSES was completed in the 1980s.
99. Until 2007, the Twin Oak Reservoir dam remained opened and the reservoir did not exceed one-third of its capacity. Shortly after the dam was closed in 2007, the reservoir

was lowered again for approximately a year and a half to allow further construction of the reservoir. The reservoir was filled to full capacity in the first quarter of 2009.

100. The CWIS has six intake bays, three for each unit. Each of the six intake bays is currently equipped with one vertical circulating water pump, located downstream of the traveling water screens.
101. Each of the six circulating water pumps has a rated capacity of 387.7 cubic feet per second (170,000 gallons per minute or 250 MGD). There is a bar rack with 4-inch openings in front of each intake which prevents large debris from reaching the traveling screens.
102. The six conventional traveling screens are located upstream of the circulating cooling water pumps and downstream of the bar racks. Each screen is approximately 14-feet wide and the panels are composed of square-meshed wire that has 3/8-inch openings. The portion of the screen that filters the CWIS flow is about 14-feet wide and 32-feet high.
103. The screens are washed by pressure water nozzles with the debris being washed into a concrete trough that empties to a trash basket located on the southwest end of the structure.
104. In front of the traveling screens are fish escape openings between the individual bays and at each end of the intake structure designed to allow fish to escape before they reach the traveling screens. Fish escape openings are designed specifically to reduce impingement by allowing fish to escape from the intake bay upstream of the traveling screens before possible impingement.

105. The CWIS is equipped with a fish trough, but it is not operable. Improvements to the fish trough would require at least \$2 million and its operation would not improve biological efficacy.
106. Because Applicant only recently commenced operation of the OGSES (and full scale operation of both units has still not commenced), Applicant could not conduct an impingement study at the OGSES site. Applicant evaluated available impingement mortality characterization studies conducted at CWISs for three other Luminant power generating facilities (Big Brown, Comanche Peak, and Monticello Steam Electric Stations). These impingement studies were conducted using scientifically sound methodologies and procedures and produced valid and representative data.
107. Surveying Twin Oak Reservoir when it was at one-third of its capacity, *i.e.*, at the time the application was submitted to TCEQ, would not have provided information useful to evaluating the reservoir at full capacity.
108. Based on the impingement data from either Comanche Peak or Big Brown, environmental impacts to the Twin Oak Reservoir from impingement mortality roughly equivalent to those for Comanche Peak and Big Brown would be minimal, if any.
109. Applicant evaluated alternative CWIS technologies for implementation at the OGSES including large fixed panel screens, coarse mesh Ristroph-type screens, wide-slot (9.5 mm) wedge-wire screens, modular inclined screens, barrier nets, and wet and dry cooling towers. None of the evaluated alternative technologies are best technology available (BTA), principally because the cost of each technology is wholly disproportionate to the benefits of the technology and are not feasible given the design of the OGSES and low

biological efficacy due to the fragility of the fish expected to comprise the bulk of impingement mortality.

110. Applicant reviewed the Texas Parks and Wildlife Department's list of rare species for Robertson County, Texas, which includes both federal and state-listed threatened or endangered species as well as species that are not listed but are considered rare species or species of concern for becoming threatened.
111. None of the species listed by the Texas Parks and Wildlife Department for Robertson County are found in or around Twin Oak Reservoir.
112. The CWIS at Oak Grove reflects BTA to minimize adverse environmental impacts as determined on a case-by-case, best professional judgment basis.

Terms and Conditions of the Revised Draft Permit

113. The revised draft permit contains the following effluent limits:

<u>Outfall</u>	<u>Parameter</u>	<u>Daily Average, mg/L</u>	<u>Daily Maximum, mg/L</u>
001	Flow (MGD)	(Report)	(1,610 MGD)
	Temperature (°F)	110 °F	115 °F
	Free Available Chlorine (FAC)	0.2 mg/l (223 lbs/day)	0.5 (559 lbs/day)
	Total Residual Chlorine (TRC)	N/A	0.2 (447 lbs/day)
002	Flow (MGD)	(Report)	(Report)
	Total Suspended Solids (TSS)	N/A	50
	Oil and Grease	N/A	20
	pH, standard units (SU)	(6.0 SU minimum)	(9.0 SU maximum)
101	Flow (MGD)	(Report)	(Report)
	TSS	30	100
	Oil and Grease	15	20
	Iron, Total	N/A	1.0
	Copper, Total	0.5	1.0
	pH	(6.0 SU minimum)	(9.0 SU maximum)
201	Flow (MGD)	(Report)	(Report)
	TSS	N/A	50
	Oil and Grease	N/A	20

<u>Outfall</u>	<u>Parameter</u>	<u>Daily Average, mg/L</u>	<u>Daily Maximum, mg/L</u>
	pH	(6.0 SU minimum)	(9.0 SU maximum)
301	Flow (MGD)	(Report)	(Report)
	Biochemical Oxygen Demand, 5-day	20	45
	TSS	20	45
	TRC	1.0 (minimum)	N/A
	pH	(6.0 SU minimum)	(9.0 SU maximum)
401	Flow (MGD)	(Report)	(Report)
	TSS	30	100
	Oil and Grease	15	20
	Iron, Total	N/A	1.0
	Copper, Total	0.5	1.0
	pH	(6.0 SU minimum)	(9.0 SU maximum)

114. The technology-based limits are pH, FAC, TRC, TSS, Oil and Grease, Total Iron, and Total Copper. Compliance with technology-based limits must be achieved without the benefit of any dilution. For this reason, the revised draft permit includes internal outfalls to provide monitoring locations prior to the discharge mixing with other waters. Additionally, samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
115. Under the revised draft permit, Outfall 001 is located at the end of the Primary Discharge Canal (at the entrance to Sub-Impoundment A); the monitoring station for Outfall 001 remains downstream of the drop weir in the final discharge canal. TCEQ determined that when the OGSES is operating at 1,610 MGD, sampling for chlorine at either location will produce accurate results. Outfall 001 flow and temperature must be monitored continuously; FAC and TRC are monitored once per week with a grab sample. These samples must be collected at times that are representative of chlorination of the cooling water, *i.e.*, when the cooling water is being chlorinated.

116. Internal Outfall 101 is the discharge from FGD Pond A to the Primary Discharge Canal. The monitoring location for Outfall 101 is at the outfall, following discharge from the FGD Recycle Pond and prior to mixing in the Primary Discharge Canal. When discharging, flow must be monitored and reported daily, and monitoring to determine compliance for all other pollutants (pH, TSS, Oil and Grease, Total Iron, and Total Copper) is with a weekly grab sample. Sampling for Total Iron and Total Copper are only required when metal cleaning waste is discharged.
117. Proposed new Outfall 201 discharges in the Primary Discharge Canal from the Lignite Retention Pond. The monitoring location for Outfall 201 is after discharge from the Lignite Retention Pond and prior to mixing with any other waters. Flow must be monitored daily, TSS and pH are monitored with a grab sample collected once per week, and Oil and Grease are monitored with an annual grab sample, when discharging.
118. Internal Outfall 301 is the authorized discharge from the unbuilt on-site domestic sewage treatment plant to the Primary Discharge Canal. This discharge, in the event the treatment plant is built, will be continuous and thus flow must be monitored daily and TSS, BOD, and pH monitored by grab sample collected once per week. The monitoring location is at the outfall, at the discharge point from the domestic wastewater treatment plant and prior to mixing in the Primary Discharge Canal.
119. Internal Outfall 401 is the discharge from FGD Ponds B and C to the Primary Discharge Canal. The monitoring location is at the outfall, following discharge from FGD Ponds B and/or C and prior to mixing in the Primary Discharge Canal. Only when discharging, flow must be monitored and reported daily, and monitoring to determine compliance for

all the other pollutants (pH, TSS, Oil and Grease, Total Iron, and Total Copper) is by a grab sample collected once per week. Sampling for Total Iron and Total Copper are only required when metal cleaning waste is discharged.

120. Outfall 002 discharges directly to Twin Oak Reservoir in the area where the CWIS is located. The monitoring location for Outfall 002 is at the discharge from the Lignite Retention Pond. Like Outfall 201, the discharge from Outfall 002 will be intermittent. Accordingly, monitoring is only required when a discharge occurs. At that time, flow must be monitored once per day, TSS must be sampled once per week by grab sample, and Oil and Grease must be monitored once per year by grab sample.
121. Other Requirement 15 of both the existing permit and revised draft permits requires more extensive monitoring to be conducted for Outfalls 001 and 002 following discharge initiation. The results of these monitoring efforts must be reported to TCEQ on Tables 1 and 2 included as Attachment A in the revised draft permit.
122. To meet Other Requirement 15 of the existing permit, Oak Grove submitted to TCEQ Tables 1 and 2 for Outfall 001 on April 2, 2009, and for Outfall 002 on January 25, 2010. Data for existing Outfall 004 was submitted to TCEQ in August, 2009, and effluent from Outfall 005 (which corresponds to Outfall 101 under the revised draft permit minus FGD discharges) was collected on July 28, 2009.
123. For Outfall 001, the data in Tables 1 and 2 demonstrate that the once-through cooling water characteristics are consistent with the data provided in the application and confirm that Oak Grove can comply with the proposed permit effluent limits without the need for additional water quality-based effluent limits. Likewise, the data represented in Tables 1

and 2 for Outfall 002 are not significantly different from the data provided in the application, and what differences do exist indicate better water quality at the OGSES than predicted using surrogate data. The same is true for the low volume wastes and other miscellaneous streams.

124. Oak Grove is also required to conduct chronic and acute biomonitoring or Whole Effluent Toxicity (WET) testing at Outfall 001.
125. The Outfall 002 discharge is authorized as an intermittent and variable flow, and, consistent with TCEQ guidelines, does not have the same critical conditions as Outfall 001, including biomonitoring requirements.
126. The revised draft permit imposes adequate monitoring and reporting requirements to confirm compliance with the permit terms and that the OGSES can be operated to comply with the permit.
127. Within six months of permit issuance, the revised draft permit requires Oak Grove to submit an Impingement Mortality and Entrainment Characterization Study to the TCEQ Water Quality Division. If it is later determined that the current CWIS configuration is not representative of BTA for minimizing adverse environmental impacts, this permit may be reopened to incorporate additional requirements.
128. The revised draft permit is written in terms and conditions that are reasonable and enforceable.
129. The methodologies used to develop the technology-based and water quality-based effluent limits and related monitoring and reporting requirements in the revised draft

permit are consistent with those used by TCEQ in setting limits for other facilities, including other power plants.

130. The permit limits and terms in the revised draft permit are consistent with the permit limits and terms of other steam electric power generating facilities throughout Texas.
131. The limits, terms, and conditions set forth in the revised draft permit are consistent with all relevant Texas Water Code provisions, TCEQ rules and guidance including its Implementation Procedures, and TCEQ and statewide policy regarding water quality.
132. The OGSES has been built and can be operated to comply with the terms and conditions of the revised draft permit and will be capable of meeting those terms and conditions.
133. Oak Grove's revised draft permit will expire on May 1, 2014.

Protection of Endangered & Threatened Species

134. The Executive Director reviewed Oak Grove's application in compliance with the endangered and threatened species screening process outlined in TCEQ's *Procedures to Implement the Texas Surface Water Quality Standards* ("Implementation Procedures") and determined that one species, the Houston toad (*Bufo Houstonensis Sanders*), is an endangered aquatic-dependent species of critical concern that occurs within Segment No. 1209's watershed as well as the 12070103 United States Geological Survey hydrologic unit code based on the U.S. Fish and Wildlife Service's (USFWS's) biological opinion.
135. USFWS species distribution information for the Segment No. 1209 watershed documents the toad's presence solely in the vicinity of Running Creek in Leon County, which is

farther up the watershed from the OGSES. The toad's preferred habitat is not present at the OGSES or Twin Oak Reservoir site.

136. Based on this information, TCEQ determined that the discharge from the OGSES is not expected to impact the toad and the permit does not require EPA review with respect to the presence of endangered or threatened species.
137. This determination was included in the Technical Summary and submitted to EPA for review. None of EPA's comments regarding Oak Grove's application concern the endangered species review conducted by TCEQ.
138. Oak Grove also conducted a complete threatened and endangered species assessment when construction of the OGSES began in the 1970s. The Houston Toad will not be affected by the project or its discharges.

Protection of Groundwater

139. Subsurface investigations at the site confirm that the location of the FGD ponds is protective of groundwater.
140. There are no faults, springs, seeps, lack of clay, or other geologic features onsite that would pose a threat to groundwater in the areas that have been developed.
141. All wastewater impoundments at the OGSES have clay liners constructed at least three feet thick and have a permeability equal to or less than 1×10^{-7} centimeters per second. When paired with the metals retention capacity of the clay, the liner is effectively impermeable and has been demonstrated to be protective of groundwater for wastewaters and solids with the characteristics of those that the OGSES will store in the impoundments.

Thermal Loading

142. Discharges into the industrial cooling impoundment through Outfall 001:

- A. Oak Grove has not requested a modification to the temperature limits in its TPDES permit; the revised draft permit carried over from the existing permit a daily average limit measured at the currently permitted Outfall 001 of 110° F and a daily maximum of 115° F.
- B. The Primary Discharge Canal, Sub-Impoundment A, the final discharge canal, and Twin Oak Reservoir are separate components of the industrial cooling impoundment at the OGSES. Because each assists in the dissipation of heat from the once-through cooling water, it is appropriate for the acreage of each to be considered in determining the total area available for cooling. Twin Oak Reservoir's area is 2,330 acres, and the entire area available for cooling (including Sub-Impoundment A) is 2,700 acres.
- C. To the extent the temperature of the once-through cooling water discharge needs to be controlled, Applicant can cut back on power generation.
- D. The temperature limits in the revised draft permit protect the reasonable use of Sub-Impoundment A, the final discharge canal, and Twin Oak Reservoir. Reasonable use is the only use that needs to be protected within the waterbodies that comprise the industrial cooling impoundment because the thermal load is discharged into an industrial cooling impoundment.

- E. Although temperature criteria in the revised draft permit were not required under the antidegradation analysis, the daily average and daily maximum limits were carried forward from the existing permit to avoid backsliding.
143. Releases from the industrial cooling impoundment into Duck Creek:
- A. The temperature standard applicable to Duck Creek is that for Segment 1209 of the Navasota River. The temperature standard for this segment of the Navasota River is 93°F.
 - B. Applicant's worst-case modeling predicted the highest water temperature in the reservoir at the point of release to Duck Creek below the dam is approximately 93°F. Therefore, the maximum temperature standard applicable to Duck Creek downstream will not be exceeded by releases from the reservoir.
144. Thermal discharges are not anticipated to cause an increase in the growth of bacteria in the receiving waters.
145. Thermal discharges can affect the DO concentrations of the receiving waters, primarily lowering the saturation concentration of DO as water temperature increases. The maximum temperature limit for Outfall 001 of 115°F translates to a DO saturation concentration of 5.8 mg/L. This concentration is greater than the applicable DO criterion of 5.0 mg/L established to protect high aquatic life use in Twin Oak Reservoir, and well above 2.0 mg/L, the applicable DO standard for Sub-Impoundment A and the final discharge canal.

Reporting and Transcription Costs

146. The costs for recording and expedited transcribing the hearing on the merits by a court reporter total \$11,073.46. This includes all transcription costs for the original and two copies of the transcript, a one-day turnaround, production of condensed versions, and other usual costs associated with recording and transcribing hearings. If the transcripts had not been expedited, the total cost would have been \$4,759.75. Oak Grove, not Protestants, ordered the transcripts to be expedited.
147. Although Oak Grove and Protestants were represented by counsel and participated extensively in the hearing, Oak Grove would benefit from the permit amendment and is in a significantly better position than Protestants to pay costs.

Conclusion

148. The terms and conditions of the revised draft permit are protective of the water quality of the Navasota, including the uses specified for Segment 1209 (*i.e.*, high aquatic life use, contact recreation, and public water supply).
149. Discharges in accordance with the revised draft permit will not impair any of the existing designated or intended uses of the receiving streams, including uses related to wildlife, terrestrial and aquatic life, human health, recreational use of the river, and use of the river by livestock and domestic animals.
150. Discharges in accordance with the revised draft permit will not alter the physical, thermal, chemical, or biological quality of, or contaminate the water of the state so as to render it harmful, detrimental or injurious to humans, animal life, vegetation or property or to

public health, safety, or welfare or impair the usefulness or public enjoyment of the water for any lawful or reasonable purpose.

151. Discharges in accordance with the revised draft permit will not have concentrations of taste or odor producing substances that would interfere with the reasonable use of the receiving waters, contain floating debris, suspended solids, putrescible sludge deposits, or sediment layers likely to adversely impact aquatic life or benthic biota, or contain settleable solids conducive to altering flow conditions or untimely filling of state waters.
152. Discharges consistent with the revised draft permit will not interfere with maintenance of any of the listed aesthetic parameters in the unclassified receiving streams or subsequent classified streams.
153. Discharges in accordance with the revised draft permit will allow the state to maintain the quality of water in the state consistent with the public health and enjoyment, the propagation and protection of terrestrial and aquatic life, and the operation of existing industries, taking into consideration the economic development of the state.
154. There will be no impacts to ground water resulting from operation of the OGSES under the terms of the revised draft permit.
155. The OGSES CWIS reflects the best technology available to minimize adverse environmental impacts.

II. CONCLUSIONS OF LAW

1. The Commission has jurisdiction over water quality to issue the renewal and major amendment of Oak Grove's existing TPDES Permit No. WQ0001986000 under TEX. WATER CODE §§ 5.013, 26.003, 26.011, and 26.027.

2. Oak Grove's application was directly referred to SOAH for a contested case hearing under TEX. WATER CODE § 5.557 and 30 TEX. ADMIN. CODE § 55.210 on whether Oak Grove's application complies with all statutory and regulatory requirements.
3. SOAH has jurisdiction over all matters relating to the conduct of a hearing in this proceeding, including the preparation of a proposal for decision with findings of fact and conclusions of law, under TEX. GOVT. CODE §§ 2001.058 and 2003.047 and TEX. WATER CODE § 5.557.
4. The existing permit remains effective and will not expire until the Commission takes action on the application because the renewal and amendment application was timely filed pursuant to TEX. ADMIN. CODE §§ 305.62(g), (h) and 305.65(4).
5. Under 30 TEX. ADMIN. CODE §§ 55.210 and 80.17(a), Oak Grove has the burden to prove, by a preponderance of the evidence, that the application satisfies all statutory and regulatory requirements.
6. Oak Grove and TCEQ satisfied all public notice requirements set forth in TEX. GOV'T CODE §§ 2001.051, 2001.052, TEX. WATER CODE §§ 5.552, 5.553, 5.555, 26.022 and 26.028, and 30 TEX. ADMIN. CODE §§ 39.411, 39.413, 39.418, 39.419, and 39.551.
7. Oak Grove properly submitted a complete Application pursuant to TEX. WATER CODE § 26.027(b) and 30 TEX. ADMIN. CODE §§ 281.5, 305.45, 305.48, 305.62, and 306.65.
8. Oak Grove's TPDES permit application was filed and processed (including issuance of a preliminary decision, the review and response to public comment, and the preparation of the final revised draft permit) in accordance and consistent with TEX. WATER CODE §§ 5.553 and 5.557 and all applicable Commission rules, regulations, and policies.

9. The Texas Surface Water Quality Standards (TSWQS), promulgated at 30 TEX. ADMIN. CODE Chapter 307, apply to Sub-Impoundment A, the final discharge canal, and Twin Oak Reservoir because those waters are surface waters in the state. 30 TEX. ADMIN. CODE §§ 307.2(b) 307.4(a).
10. The TSWQS do not apply to the Primary Discharge Canal because it is not a surface water in the state.
11. In accordance with 30 TEX. ADMIN. CODE § 307.3(a)(28), the Primary Discharge Canal, Sub-Impoundment A, the final discharge canal, and Twin Oak Reservoir comprise the facility's industrial cooling impoundments.
12. In accordance with TCEQ's regulations implementing the TSWQS at 30 TEX. ADMIN. CODE Chapter 307, the OGSES's discharge under the terms of the revised draft permit will comply with the general criteria, antidegradation policy, toxic material provisions, and site-specific uses and criteria.
13. Discharge from the OGSES will not interfere with the maintenance of a reasonable use of Sub-Impoundment A, the final discharge canal, and Twin Oak Reservoir.
14. In accordance with TCEQ's regulations implementing the National Pollutant Discharge Elimination System at 30 TEX. ADMIN. CODE Chapter 308, the OGSES's discharge under the terms of the revised draft permit will comply with the TPDES permitting regulations.
15. In accordance with TCEQ's regulations implementing the TSWQS at 30 TEX. ADMIN. CODE Chapter 309, the OGSES's discharge under the terms of the revised draft permit will comply with the effluent limitations applicable to domestic wastewater.

16. In accordance with TCEQ's regulations implementing the TSWQS at 30 TEX. ADMIN. CODE Chapter 319, the OGSES's discharge under the terms of the revised draft permit will comply with the general regulations incorporated into permits.
17. In accordance with TEX. WATER CODE § 26.030, the OGSES's discharge under the terms of the revised draft permit will not result in any adverse effects on the receiving waters, including unpleasant odor.
18. In accordance with TEX. WATER CODE § 26.041, the OGSES's discharge under the terms of the revised draft permit will not be injurious to public health.
19. The OGSES's discharge in accordance with the revised draft permit will comply with effluent limitations guidelines for the Steam Electric Power Generating Point Source Category set forth at 40 C.F.R. Part 423.
20. In accordance with TEX. WATER CODE § 26.042, the monitoring and reporting requirements included in the revised draft permit are reasonable and appropriate to confirm compliance with the revised draft permit terms and other applicable requirements of the TEXAS WATER CODE.
21. The terms and conditions of the revised draft permit are consistent with the state goal and policy regarding groundwater quality in accordance with TEX. WATER CODE § 26.401.
22. The revised draft permit includes terms and conditions meeting all of the requirements of TEX. WATER CODE § 26.029.
23. The OGSES is not a new source under Clean Water Act § 316, but is an existing facility as that term is defined in EPA's regulations implementing § 316(b) promulgated at

40 C.F.R. § 125.83. Therefore, OGSES is subject to Phase II rules promulgated in 40 C.F.R. Part 125, Subpart J under Clean Water Act § 316(b).

24. None of the alternative candidate CWIS technologies considered by Oak Grove meets the requirements for BTA.
25. The current CWIS with conventional traveling screens at the OGSES is representative of BTA, as determined on a case-by-case best professional judgment basis, to minimize adverse environmental impact pursuant to § 316(b) of the Clean Water Act (33 U.S.C. § 1326(b)), 40 C.F.R. § 125.90(b), and the *U.S. EPA Draft Fact Sheet for Development of BPJ-Based Section 316(b) NPDES Permit Conditions*.
26. As an industrial cooling impoundment, Twin Oak Reservoir is exempt from the thermal limitation requirements under § 316(a) of the Clean Water Act at 33 U.S.C. § 1326(a).
27. In accordance with the policy of the State of Texas as set forth at TEX. WATER CODE § 26.003, discharges in accordance with the revised draft permit will allow the state to maintain the quality of water in the state consistent with the public health and enjoyment, the propagation and protection of terrestrial and aquatic life, and the operation of existing industries, taking into consideration the economic development of the state.
28. The temperature differential requirement set forth in 30 TEX. ADMIN. CODE § 307.4(f) is not relevant to the Oak Grove TPDES permit because industrial cooling impoundments are specifically exempt from the temperature differential requirements.
29. In accordance with TEX. WATER CODE § 26.027(a), issuance of the revised draft permit would not violate the provisions of any state or federal law or rule or regulation

promulgated thereunder, and would be consistent with the policy of the State of Texas, as set forth at TEX. WATER CODE § 26.003.

30. Oak Grove's TPDES permit application meets all requirements for Commission approval as set out in the Texas Water Code, the Texas Government Code, and the relevant requirements of the Commission's implementing regulations.
31. Allocating reporting and transcription costs of \$1,586.58 (which is 33% of the non-rush fees) to Protestants, with Oak Grove responsible for the remaining costs, is a reasonable allocation of costs under the factors set forth in 30 TEX. ADMIN. CODE § 80.23(d).
32. Oak Grove's application should be granted and TPDES Permit No. WQ0001986000 should be issued.

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 of Oak Grove Management Company, LLC to renew and amend TPDES Permit No. WQ0001986000 is approved and the permit is issued.
2. The Executive Director's Response to Public Comments is adopted; however, if there is any conflict between this Order and the Executive Director's Response to Comments, this Order prevails.
3. Oak Grove shall comply with all Findings of Fact and Conclusions of Law contained herein.

4. Protestants Roy Henrichson and Robertson County: Our Land Our Lives shall reimburse Oak Grove \$1,586.58, which is 33% of the non-rush transcription and reporting costs. Oak Grove shall pay the remaining transcription and reporting costs.
5. 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.
6. The effective date of this Order is the date the Order is final, as provided by 30 TEX. ADMIN. CODE § 80.273 and TEX. GOV'T CODE ANN. § 2001.144.
7. The Chief Clerk of the Commission shall forward a copy of this Order to all parties.
8. If any provision, sentence, clause, or phrase of this Order is for any reason held to be invalid, the invalidity of any portion shall not affect the validity of the remaining portions of this Order.

ISSUED:

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Bryan W. Shaw, Ph.D., Chairman
For the Commission