

# State Office of Administrative Hearings



Shelia Bailey Taylor  
Chief Administrative Law Judge

October 17, 2006

Derek Seal  
General Counsel  
Texas Commission on Environmental Quality  
PO Box 13087  
Austin Texas 78711-3087

Re: SOAH Docket No. 582-06-2038; TCEQ Docket No. 2006-0402-IWD; In Re:  
Application of Sandy Creek Energy Associates, L.P. for TPDES Permit no.  
WQ0004755000

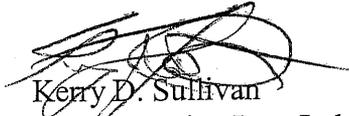
Dear Mr. Seal:

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 original documents with the Chief Clerk of the Texas Commission on Environmental Quality no later than November 6, 2006. Any replies to exceptions or briefs must be filed in the same manner no later than November 16, 2006.

This matter has been designated **TCEQ Docket No. 2006-0402-IWD; SOAH Docket No. 582-06-2038**. All documents to be filed must clearly reference these assigned docket numbers. Copies of all exceptions, briefs and replies must be served promptly on the State Office of Administrative Hearings and all parties. Certification of service to the above parties and an **original and eleven copies** shall be furnished to the Chief Clerk of the Commission. Failure to provide copies may be grounds for withholding consideration of the pleadings.

Sincerely,

  
Kerry D. Sullivan  
Administrative Law Judge

KDS/ds  
Enclosures  
cc: Mailing List

William P. Clements Building  
Post Office Box 13025 ♦ 300 West 15th Street, Suite 502 ♦ Austin Texas 78711-3025  
(512) 475-4993 Docket (512) 475-3445 Fax (512) 475-4994  
<http://www.soah.state.tx.us>

STATE OFFICE OF ADMINISTRATIVE HEARINGS  
WILLIAM P. CLEMENTS BUILDING  
300 West Fifteenth Street  
Austin, Texas 78701  
Phone (512) 475-4993  
Facsimile (512) 475-4994

SERVICE LIST

AGENCY: TEXAS COMMISSION ON ENVIRONMENTAL QUALITY  
(TCEQ)

STYLE/CASE: SANDY CREEK ENERGY ASSOCIATES LP

SOAH DOCKET NUMBER: 582-06-2038

TCEQ DOCKET NUMBER: 2006-0402-IWD

2006 OCT 20 AM 10:09  
CHIEF CLERK'S OFFICE  
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

---

STATE OFFICE OF ADMINISTRATIVE  
HEARINGS

KERRY D. SULLIVAN  
ADMINISTRATIVE LAW JUDGE

---

PARTIES

REPRESENTATIVE/ADDRESS

TEXAS COMMISSION ON  
ENVIRONMENTAL QUALITY

Marc Friberg, Staff Attorney  
Texas Commission on Environmental Quality  
MC-175  
P.O. Box 13087  
Austin, TX 78711-3087  
Tel 512/239-0600  
Fax 512/239-0606

OFFICE OF PUBLIC INTEREST COUNSEL  
OF THE TEXAS COMMISSION ON  
ENVIRONMENTAL QUALITY

Emily Collins  
Office of the Public Interest Counsel  
Texas Commission on Environmental Quality  
MC-103  
P.O. Box 13087  
Austin, TX 78711-3087  
Tel 512-239-6823  
Fax 512-239-6377

SANDY CREEK ENERGY ASSOCIATES, LP

Molly Cagle, Attorney  
Vinson & Elkins  
2801 Via Fortuna, Ste 100  
Austin, TX 78743  
Tel 512-542-8400  
Fax 512-542-8612

TPOWER

Ricky Bates, Pauline Frank, Gale Nolan and  
Gary Schimschot

Stuart N. Henry, Attorney  
Henry & Poplin  
819½ West 11<sup>th</sup> Street  
Austin, TX 78701  
Tel 512-708-1549  
Fax 512-708-1297

---

xc: Docket Clerk, State Office of Administrative Hearings  
Docket Clerk, Office of the Chief Clerk, TCEQ, Fax No. (512) 239-3311

TEXAS  
COMMISSION  
ON ENVIRONMENTAL  
QUALITY

SOAH DOCKET NO. 582-06-2038  
TCEQ DOCKET NO. 2006-0402-IWD

APR 17 2006  
CHIEF CLERK'S OFFICE

APPLICATION OF SANDY CREEK  
ENERGY ASSOCIATES, L.P. FOR  
TPDES PERMIT NO. WQ0004755000

§  
§  
§  
§  
§

BEFORE THE STATE OFFICE  
OF  
ADMINISTRATIVE HEARINGS

**PROPOSAL FOR DECISION**

**I. INTRODUCTION**

Sandy Creek Energy Associates, L.P., (Applicant or Sandy Creek) has applied to the Texas Commission on Environmental Quality (TCEQ or Commission) for a new Texas Pollutant Discharge Elimination System (TPDES) permit associated with a proposed 800-megawatt pulverized-coal boiler steam electric power generation plant in McLennan County, Texas.<sup>1</sup> For the reasons addressed below, the Administrative Law Judge (ALJ) recommends that the application be granted and that the Commission issue the draft permit prepared by the Executive Director.

**II. PROCEDURAL HISTORY AND OVERVIEW**

Sandy Creek filed its application on October 19, 2004. The Executive Director subsequently completed technical review of the application, prepared a draft permit, conducted public meetings and responded to public commentary. On April 17, 2006, the Executive Director issued a revised draft permit and the Applicant requested that the application be referred to the State Office of Administrative Hearings (SOAH) for a hearing on whether it complied with all applicable statutory and regulatory requirements.

---

<sup>1</sup> The Commission has previously and separately issued the required air permit to this applicant.

As requested, the Commission referred the matter to SOAH, and a preliminary hearing was conducted on May 30, 2006 in Riesel, Texas, by SOAH ALJ Kerry D. Sullivan. The following parties were designated:

- The Applicant, Sandy Creek Energy Associates, L.P. (represented by Molly Cagle and Patrick Lee);
- The Executive Director of the TCEQ (represented by Marc Friberg and Robin Smith);
- The Office of Public Interest Counsel of the TCEQ (represented by Emily Collins); and
- TPOWER, Ricky Bates, Pauline Frank, Gale Nolan, and Gary Schimschot (all represented by Stuart N. Henry).

In accordance with the Governor Perry's Executive Order RP 49 (requiring expedited processing of environmental permit applications that would use natural resources to generate power), a procedural schedule was adopted to allow completion of the hearing and issuance of the Proposal for Decision (PFD) within six months of the referral of the application to SOAH. The evidentiary hearing on the merits of the application was conducted on July 27 and 28, 2006. The record closed on September 1, 2006, with the filing of written closing statements and responses. In accordance with the Governor's Executive Order, the PFD in this matter is due by October 17, 2006.

Only the Applicant and the Executive Director presented the testimony of witnesses at the hearing. The Protestants and Public Interest Counsel also participated actively through cross examination of the witnesses called by other parties. The Applicant and the Executive Director filed closing statements supporting issuance of the requested permit. The Office of Public Interest Counsel filed a closing statement recommending denial of the permit on the basis that applicant failed adequately to address antidegradation requirements, and particularly thermal loading of the receiving waters. The Protestants presented no closing statements.

### III. FACILITY DESCRIPTION

Sandy Creek is a single-purpose limited partnership formed to develop, construct, own, and operate the proposed facility.<sup>2</sup> The Sandy Creek Energy Station (the facility) would be an 800-megawatt pulverized coal-fired electricity generating station located on a 700-acre tract approximately one mile west of Riesel, Texas, and 15 miles southeast of Waco. The coal would be from the Powder River Basin. The project would require an investment of approximately one billion dollars, and the station could provide power to the equivalent of approximately 800,000 homes.<sup>3</sup>

The water quality permit at issue in this proceeding would authorize the discharge of cooling-tower blowdown and previously monitored effluents (chemical metal-cleaning waste, low volume waste, and coal pile runoff) at an average flow of 2.6 million gallons per day. The primary water source would be the Waco Metropolitan Area Regional Sewerage System Treatment Facility (WMARSS),<sup>4</sup> which would pipe its treated wastewater eleven miles to the plant. Water from the Brazos River could also be used as a backup if the water from WMARSS is of insufficient quantity or quality to meet Sandy Creek's needs. Finally, the application states that Sandy Creek "may obtain groundwater for a limited number of services" at the station, although Sandy Creek now states that ground water should not be needed for any uses other than the potable water system, which would not discharge to the Brazos River.<sup>5</sup>

---

<sup>2</sup> Sandy Creek is a limited partnership owned by Sandy Creek GP, Inc., its general partner, and LS Power Associates, L.P., its limited partner. Sandy Creek Ex. 3 (Application) at 5.

<sup>3</sup> Sandy Creek Ex. 1 (French Direct), pp. 9-10.

<sup>4</sup> The effluent from WMARSS would be provided in accordance with 30 TEX ADMIN. CODE Chapter 210, pertaining to the use of reclaimed water.

<sup>5</sup> Sandy Creek Ex. 3, p. 54 of 343; Sandy Creek Ex. 1 (French Direct) p. 39 of 67.

Effluent from the plant would be discharged via pipe to the Brazos River above the Navasota River in Segment No. 1242 of the Brazos River basin. The designated uses for Segment No. 1242 are high aquatic-life use, contact recreation, and public water supply. Segment 1242 is currently listed on the state's inventory of impaired and threatened waters list for elevated levels of bacteria in the Lake Brazos area near the City of Waco.<sup>6</sup>

An average of 12 million gallons of water per day would be received at the facility. All influent would be pretreated, likely by a clarifier, to reduce suspended solids. The pretreated water would be used in numerous processes at the facility including, most notably, the cooling towers, to which about 90% of the pretreated influent would be routed. The cooling tower water would be used to remove heat from the steam condensers and other equipment through the circulation of cooling water between the equipment and the cooling tower.

The water would be cycled through the cooling towers an average of about five times before it is discharged. Much of the water that flows through the cooling towers would be lost to evaporation or drift. (On average, 8,242 gallons per minute of water would enter the cooling tower and 6,824 gallons per minute would be lost from the cooling tower through evaporation or drift.) The remainder eventually would be discharged in controlled releases to maintain concentrations of silica, hardness, alkalinity, sulfates, and chlorides within acceptable limits. Constituents could be added to the cooling tower water to inhibit scaling, corrosion, accumulation of solids, and biological growth.

In addition to the cooling towers, water would also be used in flue gas desulphurization, the bottom ash system, and other processes at the facility. A more complete description of the uses of water at the facility and a flow chart depicting them are set out in Attachments 1 and 2 to this PFD. Water discharged from these processes, along with storm water runoff from the coal piles,

---

<sup>6</sup> Sandy Creek Ex. 31 (ED's Response to Public comment), p. 10 of 44.

would be routed to one of four internal outfalls<sup>7</sup>, which would be combined prior to discharge via pipeline from the facility to the Brazos River.

#### IV. DISCUSSION

The discussion below follows the outline of the parties in addressing the completeness of the application, the characteristics of the discharge, and the terms and conditions of the draft permit. The emphasis will be on the antidegradation issue raised by the OPIC because that is the only potential basis for denial of the permit raised by any party in closing statements.

##### A. Completeness and Processing of the Application.

The Applicant and the Executive Director presented testimony that the application was filed, reviewed, and processed in accordance with Commission rules and policies and was declared administratively and technically complete by the ED.<sup>8</sup> In its closing argument, the OPIC also concurred, "The Applicant appears to have met their burden of proof on the laws and rules regarding completeness of their application."<sup>9</sup>

The ALJ concurs with the Applicant, ED, and OPIC that the application is complete. The only substantive question raised during the hearing in this regard relates to Sandy Creek's failure to supply pollutant analysis information requested in Worksheet 2.0 of the application form. The

---

<sup>7</sup> The internal outfalls are:

- A01 - low volume stream component (demineralization waste, condensate polisher waste, oil/water separator waste, boiler blowdown, reverse osmosis reject, sump and drain waste, bottom ash system waste),
- B01 - high volume stream component (cooling tower discharge),
- C01 - chemical metal cleaning stream component (i.e., air heater and boiler wash water), and
- D01 - coal pile stormwater runoff stream component.

<sup>8</sup> Sandy Creek Ex. 1 (French direct) p. 16 of 67; Sandy Creek Ex. 44 (Baez deposition) pp. 4, 6.

<sup>9</sup> OPIC Closing Statement, p. 3.

instructions pertaining to that worksheet describe it as “a series of analytical tables which may need to be completed in order for the application to be technically complete.” The instructions further provide:

If this application is for a new discharge, results from similar facilities, treatability studies, design information, or literature sources may be submitted when real effluent analytical data is not available. The basis of the “results” submitted should be explained.<sup>10</sup>

In its application, Sandy Creek responded to Worksheet 2.0 with a notation that the table was not applicable because the facility had not yet been constructed and with a cross reference to another section for “estimated effluent quality.” The section referenced set out the applicable New Source Performance Standards applicable to Sandy Creek and provided the estimated concentrations of the constituents expected in the discharge. These estimates were derived from a water balance model and included the anticipated number of cooling tower cycles of concentration. Separate estimates were provided for scenarios in which WMARSS effluent is received and in which water directly from the Brazos is received. The estimates rely on sources such as WMARSS’ renewal application and discharge monitoring reports, EPA data for the Brazos River, monthly sampling data independently collected from both sources, and multiple industry references and published test data collected from similar coal-fired power plants. Using a series of mathematical formulas, the quality of the incoming water as it is treated and used at various processes throughout the plant was estimated.<sup>11</sup>

The above information satisfied the Commission staff, which declared the application technically complete, and the ALJ concurs with the parties who addressed the issue in their briefs that the application provided the required information in the appropriate format.

---

<sup>10</sup> Sandy Creek Ex. 8 (Completing the industrial Wastewater Permit Application), p. 37 of 77.

<sup>11</sup> Sandy Creek Ex. 1 (French Direct) p.57 of 67 through page 58 of 67; Tr. Vol. 1 pp. 70, 126, 154.

**B. Characteristics of the Discharge – Compliance with Antidegradation Requirements.**

The Texas Surface Water Quality Standards, established by Commission rule, include designated uses to be protected, general and stream-segment specific criteria, and an antidegradation policy. These standards are designed to be protective of public health, aquatic resources, terrestrial life and other environmental and economic resources.<sup>12</sup>

The general criteria are set forth in Section 307.4 of the Commission's rules and consist of both numeric and narrative criteria pertaining to aesthetic parameters, radiological substances, toxic substances, nutrients, temperature, salinity, dissolved oxygen, aquatic life uses and habitat, and aquatic recreation.

Under the Texas Surface Water Quality Standards, the designated uses for Segment 1242 are high aquatic life use, contact recreation, and public water supply.<sup>13</sup> Segment 1242 is subject to the following criteria for specified segments set forth in Appendix A of 30 T.A.C. Chapter 307:

- Chloride: 350 mg/l
- Sulfate: 200 mg/l
- Total dissolved solids: 1,000 mg/l
- Dissolved Oxygen: 5.0 mg/l
- pH 6.9-9.0 SU
- Indicator bacteria 126/100 ml
- Temperature 95° F (max. increase of 5 F)

Uncontroverted expert testimony offered by the Applicant and the Executive Director indicate that a discharge in accordance with the draft permit would comply with these standards and would

---

<sup>12</sup> Sandy Creek Ex. 39 (Wilson Direct) page 29 and 60 of 62; Sandy Creek Ex. 44 (Baez deposition), p. 18.

<sup>13</sup> 30 TEX. ADMIN. CODE § 307.10, Appendix A.

be consistent with the designated uses.<sup>14</sup> The OPIC does not challenge Sandy Creek's compliance with these criteria.

The Public Interest Counsel does, however, assert that the Applicant has failed to fully satisfy the requirements of the Commission's antidegradation policy. That policy is set out in Section 307.5 of the Commission's rules. It contains three tiers and extensive provisions. The part in dispute provides as follows:

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

The Public Interest Counsel accurately points out that Sandy Creek expert witness Lee Wilson apparently misunderstood this provision as applying only to impaired water bodies that are not meeting the stream standards.<sup>15</sup> To the contrary, that provision directs that, where water quality is *better than* the minimum level necessary to support fishable/swimmable conditions, that high level of quality must be protected in the absence of a compelling reason to allow it to decline. The OPIC asserts that Sandy Creek failed to make the required antidegradation showing in light of Dr. Wilson's erroneous approach to the issue.

As the OPIC acknowledges, however, the Executive Director's staff also conducted an antidegradation review of Sandy Creek's application. Lori Hamilton, an aquatic scientist with the

---

<sup>14</sup> Sandy Creek Ex. 39 (Wilson direct) pp. 38-44 and 60 of 62; Sandy Creek Ex. 1 (French direct) p. 63 of 67; Sandy Creek Ex. 44 (Baez deposition) pp. 18 and 25; Sandy Creek Ex. 46 (Hamilton deposition) p. 5.

<sup>15</sup> Sandy Creek Ex. 39 (Wilson Direct) p.30 of 62. Dr. Wilson noted that Segment 1242 is impaired only with respect to bacteria, which would not be of concern in the proposed discharge.

Water Quality Assessment Section of the Commission's Water Quality Standards Team, performed the review and prepared a memo dated December 30, 2004, in which she "preliminarily determined that no significant degradation of water quality is expected in the Brazos River Above Navasota River, which has been identified as having high aquatic life uses."<sup>16</sup> Ms. Hamilton testified that this review was based on guidance provided in Commission publications and was performed consistently with the many other antidegradation reviews she has performed for the Commission.<sup>17</sup> Ms. Hamilton reiterated this assessment in her deposition testimony and during cross-examination during the hearing.<sup>18</sup>

Ms. Hamilton's testimony is generally straightforward and persuasive. Her review was performed in accordance with the Commission's procedures, and her opinion stands uncontradicted in the record. Nevertheless, the OPIC asserts that the ED's antidegradation review is inadequate to support issuance of the permit because it did not consider the thermal impact of the discharge. In support of this contention, the OPIC relies on an exchange between Ms. Hamilton and the OPIC representative. It went as follows:

Q: Did you review—the Applicant's temperature discharge—was that part of your review?

A: Any limits on temperature would be – the permit writer sets the limits.

Q: But my question was did you look at the proposed temperature discharge in your water quality review?

A: I don't recall. I did read through [Sandy Creek's] proposed effluent analysis – that section they had on that, but that was two years ago. I don't remember the specifics.

---

<sup>16</sup> Sandy Creek Ex. 21.

<sup>17</sup> Sandy Creek Ex. 46 (Hamilton deposition), pp. 3 and 5.

<sup>18</sup> Sandy Creek Ex. 46 (Hamilton deposition), p. 5; Tr. V. 2, pp. 71, 74.

Q: So the equation that we were talking about yesterday in regards to their temperature was not something that you reviewed or worked out yourself?

A: No. The limit would be set by the permit writer.<sup>19</sup>

Sandy Creek and the ED both assert that this testimony does not indicate that potential thermal impact was excluded from Ms. Hamilton's considerations. They assert that it simply means, instead, that permit limits are set by the permit writer. Additionally, while Ms. Hamilton was candid in not recalling during her live testimony whether she had reviewed the anticipated temperature of the effluent in making her assessment, she did recall reviewing Sandy Creek's effluent analysis, which did in fact contain an analysis of how the discharge would impact in-stream temperatures. Section 1.9 of the technical report contained an the evaluation, entitled, "Evaluation of Permit Temperature Limits." It stated that, based on an energy balance performed by the Applicant, the maximum temperature differential in the receiving stream caused by the discharge would be 1.2 degrees Fahrenheit. This differential assumed the maximum allowed discharge of effluent at a temperature of 120 degrees and low flow condition in the receiving stream.<sup>20</sup>

The draft permit prepared by the Executive Director reduced the temperature parameter from the level proposed in the application to 95 degrees (the segment criteria).<sup>21</sup> In keeping with its application, Sandy Creek initially requested that the parameter be raised.<sup>22</sup> Staff opposed that request in the absence of additional modeling. Because Sandy Creek determined it could meet the lower temperature limit suggested by the ED's staff, the Applicant accepted that lower parameter

---

<sup>19</sup> Tr. vol. 2, p. 83.

<sup>20</sup> Sandy Creek Ex. 3, p. 337 of 343.

<sup>21</sup> Sandy Creek Ex. 4, p. 3 of 42.

<sup>22</sup> Sandy Creek Ex. 14, p. 6 of 67.

rather than model further to attempt to satisfy the ED with respect to a higher temperature parameter.<sup>23</sup>

It is unclear whether the lower permit parameter relates to Section 307.5 antidegradation concerns in that Ms. Hamilton conducted her review and issued her memo on December 30, 2004, well before Sandy Creek withdrew its request for the higher temperature level. As indicated in the exchange quoted above, Ms. Hamilton's recollection of the details of her permit review was not precise by the time of the hearing.

In light of Dr. Wilson's misinterpretation of the antidegradation rule and Ms. Hamilton's faded memory on the subject, the OPIC's focus on the temperature component of the degradation issue is entirely reasonable. The ALJ concurs with the OPIC that Dr. Wilson's testimony on this aspect of the degradation issue should be discounted for the reasons asserted by the OPIC. But Ms. Hamilton is an experienced aquatic scientist who has conducted antidegradation reviews for approximately 41 new wastewater discharge permit applications and 63 amendments for the Commission.<sup>24</sup> She followed her usual procedures and the Commission's guidance documents.

In this context, the ALJ concurs with the ED and Sandy Creek that Ms. Hamilton's somewhat ambiguous exchange with the OPIC, quoted above, does not mean that thermal impact was not considered but that the actual selection of the temperature parameter was the responsibility of the permit writer rather than her. It is also important that Ms. Hamilton's antidegradation assessment stands completely un rebutted in the record aside from the ambiguous exchange relied upon by the OPIC.<sup>25</sup>

---

<sup>23</sup> Tr. vol. I, p. 80, 213-14; Sandy Creek Ex. 15. p. 2 of 55.

<sup>24</sup> Sandy Creek Ex. 46 (Hamilton deposition), p. 2.

<sup>25</sup> Even though his testimony on this issue is discounted, Dr. Wilson has extensive experience as a water quality consultant. His overall conclusion that "the net change in overall water quality will not be significant" was consistent with Ms. Hamilton's assessment, and no other witnesses questioned the findings of these experts.

Ms. Hamilton's testimony is also reasonable from a common sense perspective and is in keeping with the usual situation indicated in the Commission's guidance document. As it now stands, the discharge can be no higher than the segment criteria – without accounting for any cooling that would occur in the three mile pipeline from the site to the Brazos River, and without mixing with the receiving waters. The Commission guidance document provides that increased temperature loading in which the discharge is not "significantly higher" than the instream criteria usually does not constitute degradation in the absence of site-specific concerns.<sup>26</sup>

Finally, with the 95-degree limitation, the largest temperature change to the receiving waters would be limited to 0.5 degree Fahrenheit (from 82.4 degrees to 82.9 degrees during summertime). This is well inside the 5 degree differential allowed by the criteria. Again, this narrow temperature differential at a level well below the 95-degree criteria supports an assessment that the temperature of the discharge would not degrade the quality of the receiving waters.

### **C. Terms and Conditions of the Draft Permit.**

Ms. Baez testified that there are two general categories of effluent limits: water quality based limits and technology based limits. The two sets of limits are compared and the more stringent is placed in the permit.<sup>27</sup> With the exception of the temperature restriction, all of the limits in the draft permit were based on the federal technology-based effluent limits for steam electric power generating.<sup>28</sup> The temperature parameter was based on the Commission's Surface Water Quality Standards.<sup>29</sup>

---

<sup>26</sup> Sandy Creek Ex. 10 (Procedures to Implement the Texas Surface Water Quality Standards), pp. 40-42.

<sup>27</sup> Sandy Creek Exhibit 44 (Baez deposition), p. 12.

<sup>28</sup> Sandy Creek Exhibit 44 (Baez deposition), p. 12. The regulations are contained in 40 CFR Part 423.

<sup>29</sup> Sandy Creek Exhibit 44 (Baez deposition), p. 12. The Surface Water Quality Standards are contained in 30 Tex. Admin. Code Chapter 307.

The TCEQ's basic approach regarding whether to include a parameter for a particular constituent is to make a preliminary determination whether the effluent would be expected to approach the potential effluent limit. If it is expected to exceed 70% of the limit, a periodic monitoring requirement is usually added to the draft permit; if it is expected to be greater than 85% of the limit, then an actual effluent limit is usually added.<sup>30</sup>

During the hearing, the Protestants questioned whether a better approach to setting effluent limits would be to impose monitoring requirements and effluent limits for the comprehensive list of pollutants for which toxicity criteria have been established – irrespective of the level at which they were expected to be present in the discharge.<sup>31</sup> Dr. Wilson testified, however, that such an approach would result in unnecessary and expensive monitoring that would, in turn, use additional chemicals and generate waste products.<sup>32</sup> Additionally, the facility would do start-up testing for all of these constituents, and if the actual effluent is closer to the potential limits than anticipated, additional effluent limits or monitoring requirements could be added. Finally, ongoing requirements for whole effluent toxicity (WET) testing would provide additional safeguards to identify the presence of any unexpected and otherwise unmonitored pollutants.<sup>33</sup> Accordingly, the ALJ accepts the uncontroverted evidence of Dr. Wilson and the Executive Director that the general approach used by the ED in setting the permit limits is the appropriate one.

---

<sup>30</sup> Sandy Creek Ex. 39 (Wilson direct) page 35 of 62.

<sup>31</sup> Tr. V. 1, p. 179.

<sup>32</sup> Tr. V. 1, p. 180.

<sup>33</sup> Tr. Vol. 1, p. 184-85.

## 1. Aluminum

A more specific issue regarding permit parameters relates to aluminum, which would be present in small concentrations in the discharge. Test results entered at hearing indicated that total aluminum in the discharge would exceed the limit for dissolved aluminum. Anticipated levels of dissolved aluminum were not separately provided, rendering it unclear whether the Applicant would satisfy this criterion. Dr. Wilson testified, however, that the dissolved fraction of total aluminum in the discharge is typically less than one half and often only about 10% of total aluminum, which would bring the discharge well below any potential permit limits. Nevertheless, Dr. Wilson and Ms. Baez both testified that it would be appropriate to add a permit provision requiring monitoring of dissolved aluminum to ensure compliance with the standard.<sup>34</sup>

In its closing argument, the OPIC asserts that, if the permit is granted, it should contain provisions for monitoring and a permit limit for dissolved aluminum. The ALJ believes a monitoring requirement is appropriate based on the evidence presented, but does not recommend imposition of a permit limit for dissolved aluminum at this point. Based on the record, it does not appear that the dissolved aluminum level contained in the discharge would be of concern or rise to the level where a permit limit would typically be required. The ALJ finds no basis to arbitrarily impose a permit limit on this particular element outside of the usual permit-writing procedures. Obviously, if the monitoring reveals the presence of dissolved aluminum at levels approaching or exceeding potential limits, a limitation should be imposed at that point in accordance with the Commission's standard practice.

---

<sup>34</sup> Tr. Vol. 2, p. 10 (Wilson), p. 164 (Baez).

## 2. Air Deposition of Mercury

In its closing statement, OPIC expresses concern that air deposition of mercury from the facility could adversely impact the receiving waters. OPIC acknowledges, however, that "TCEQ's nonpoint source pollution management program, rather than (this) TPDES proceeding . . . provides the appropriate framework in which to assess and control an individual source's contributions to water quality degradation via air deposition of mercury."<sup>35</sup> OPIC asserts that, if the Commission approves the permit under consideration in this proceeding, it must also separately assess Sandy Creek's potential to cause or contribute to degradation or impairment of state waters before allowing the facility to operate.

Sandy Creek and the ED both agree with OPIC that this issue is outside the scope of this hearing. The ALJ likewise concurs that air deposition of mercury is beyond the parameters of the matter referred to SOAH by the Commission, which relates only to the Sandy Creek's application for authorization to discharge treated wastewater via pipeline to an outfall on the Brazos River. The air permit proceeding has been separately held and decided and cannot be informally reopened here. And, as acknowledged by the OPIC, Sandy Creek's management of nonpoint source pollutants is separately reviewed by the Commission and is also beyond the scope of the current point source discharge application.

## V. ADDITIONAL FACTS

In addition to the facts addressed in the preceding discussion, the Findings of Fact contained in the attached order include other facts established during the hearing that are

---

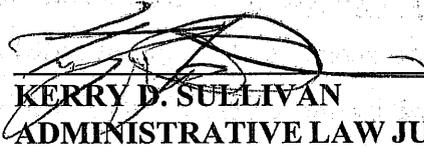
<sup>35</sup> OPIC Closing Statement, p. 17.

necessary to show compliance with regulatory requirements applicable to this proceeding. These additional facts were not seriously contested and are incorporated by reference into this PFD.

## VI. CONCLUSION

Based on the foregoing, the ALJ recommends that the Commission adopt the attached Order, including the Findings of Fact and Conclusions of Law contained therein, that the application for Permit No. WQ0004755000 be approved, and the draft permit be issued with the minor revisions recommended herein and as set out in Conclusions of Law No. 18. A copy of the draft permit admitted during the hearing is attached.

October 17, 2006.

  
KERRY D. SULLIVAN  
ADMINISTRATIVE LAW JUDGE  
STATE OFFICE OF ADMINISTRATIVE HEARINGS

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



AN ORDER granting the application of Sandy Creek Energy Associates, L.P., for TPDES Permit No. WQ0004755000; Docket No. 2006-0402-IWD; SOAH Docket No. 582-06-2038

On \_\_\_\_\_, the Texas Commission on Environmental Quality (Commission or TCEQ) considered the application of Sandy Creek Energy Associates, L.P., (Applicant or Sandy Creek) for TPDES Permit No. WQ0004755000. The application was presented to the Commission with a proposal for decision by Kerry D. Sullivan, an Administrative Law Judge (ALJ) with the State Office of Administrative Hearings (SOAH).

After considering the ALJ's proposal for decision and the evidence and arguments presented, the Commission makes the following Findings of Fact and Conclusions of Law:

**I. FINDINGS OF FACT**

**A. INTRODUCTION / BACKGROUND**

1. The proposed Sandy Creek Energy Station (the Station) will be a new pulverized coal-fired electricity generating station developed at an approximately 700-acre undeveloped site, about one mile west of Riesel, Texas and about 15 miles southeast of Waco, Texas, in McLennan County. The site is bound by Rattlesnake Road on the west, north, and east sides and FM 1860 on the south side.

2. The owner of the Station will be Sandy Creek, a single purpose limited partnership formed to develop, construct, own and operate the Station. LS Power Development, LLC., is the general partner of the company that owns 100% of Sandy Creek Energy Associates, L.P., directly and indirectly.

3. Sandy Creek's compliance history is a default 0.0, HIGH.

4. The Station will be capable of producing approximately 800 net megawatts (MW) of electricity, which will be generated by using heat generated from the combustion of low-sulfur sub-bituminous Powder River Basin (PRB) coal to generate steam in a boiler, which will in turn be used to power an electricity-generating turbine. 800 MW is approximately enough electricity to power 800,000 homes.

5. The electricity will be sold to load-serving entities such as municipalities, rural electric cooperatives, and other retail electricity providers. Based upon the transmissions structure in Texas, the power can go to any area served by the Electric Reliability Council of Texas (ERCOT), which is most of Texas.

6. Major equipment at the Station will include the pulverized coal-fired (PC) boiler, a multiple shell condensing steam turbine generator, multiple steam surface condensers, a multiple cell mechanical draft cooling tower, an auxiliary boiler, and various auxiliary equipment and facilities.

7. Although Sandy Creek has actively worked on the development, design, and planning for the Station since early 2003, final design and engineering work will be based on all environmental permit requirements, and will be done by a power plant engineering design and construction contractor hired by Sandy Creek.

8. The primary source of water at the Station will be reclaimed water from the Waco Metropolitan Area Regional Sewer System (WMARSS) treatment plant, to be provided to Sandy Creek under the terms of a contract entered into on January 1, 2004, by Sandy Creek and the City of Waco, which operates the WMARSS. The contract requires the reclaimed water provided by the WMARSS to comply with the TPDES permit for the WMARSS facility and also the quality requirements for Type II water set forth in Chapter 210 of TCEQ's rules. By letter dated March 4, 2005, TCEQ authorized this use of reclaimed water under Chapter 210 of its rules.

9. If WMARSS is unable to provide reclaimed water of sufficient quality or quantity, the City of Waco is required under the contract to provide water diverted from the Brazos River through an existing intake, or a new intake constructed by Sandy Creek, which would require additional authorizations. The City would release an amount of water from Lake Waco upstream of the City's intake point sufficient to compensate for the amount of water that would be withdrawn.

10. Average flow of water to the Station will be approximately 10-12 million gallons per day (MGD).

11. On October 19, 2004, Sandy Creek submitted an application to TCEQ for Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0004755000, which would authorize the discharge of wastewater from the Station to the Brazos River Above Navasota River in Segment 1242 of the Brazos River Basin. Accompanying the application was a check in the amount of \$1,250 to cover the application fee.

12. Sandy Creek submitted additional information regarding the TPDES application in subsequent correspondence. Based on some of the information in these submittals, the TPDES application was amended and information within it was clarified.

13. On or about October 19, 2004, Sandy Creek placed a copy of the application in the McLennan County Courthouse in Waco for public inspection and copying. The application remained publicly available during the entire public notice period. Sandy Creek subsequently placed at the McLennan County Courthouse copies of the additional formal submittals concerning the application, the Statement of Basis/Technical Summary and Executive Director's Preliminary Decision and draft permit, and the Executive Director's Response to Public Comment and revised draft permit.

14. TCEQ declared Sandy Creek's application administratively complete on December 29, 2004.

15. Sandy Creek published a Notice of Receipt and Intent to Obtain a Permit in *The Riesel Rustler* and the *Waco Tribune Herald* on January 7, 2005. Those newspapers are published and regularly circulated in McLennan County. The TCEQ Chief Clerk also mailed copies of the notice to interested persons, other agencies, elected officials and others.

16. On August 24, 2005, the TCEQ Executive Director announced that technical review of the application was complete, that Staff had prepared a draft permit, and that its preliminary decision was to grant Sandy Creek's application.

17. Sandy Creek published a Notice of Application and Preliminary Decision in *The Riesel Rustler* and the *Waco Tribune Herald* on September 2, 2005. The TCEQ Chief Clerk also mailed copies of the notice to interested persons, other agencies, elected officials and others.

18. On October 6, 2005, the Texas State Historical Preservation Officer, the Executive Director of the Texas Historical Commission, issued his comment on Sandy Creek's proposed project, in which he concluded that there would be no effect on historic properties as long as Sandy Creek follows the western alternative pipeline route.

19. A public meeting was held on January 12, 2006 at Riesel High School. The public meeting had originally been scheduled for December 8, 2005, and Sandy Creek had published notice of the meeting in the *Riesel Rustler* and *Waco Tribune Herald* on November 4, 2005. The meeting was cancelled due to inclement weather and rescheduled for January 12, 2006. Notice of the re-scheduled public meeting was published on December 23, 2005, in the *Riesel Rustler* and the *Waco Tribune Herald*. The TCEQ Chief Clerk also mailed copies of the notice to interested persons, other agencies, elected officials and others.

20. On March 30, 2006, the TCEQ Chief Clerk distributed the TCEQ Executive Director's Response to Public Comment by mail. In the Response to Public Comment, the Executive Director recommended the following changes to the draft permit in response to certain comments made by the public:

- Add volatile and acid compounds and dissolved oxygen to the list of constituents for which Sandy Creek will be required to sample under the draft permit.
- Clarify Other Requirement No. 10 to indicate that the coal pile runoff pond, in addition to all wastewater ponds at the Station, is subject to the lining requirements set forth in the draft permit.
- Add Other Requirement No. 12, providing that if the source of coal used at the facility changes from the Powder River Basin, Sandy Creek is required to resample the effluent for all pollutants required for steam electric stations in TCEQ's industrial wastewater permit application.

21. On April 17, 2006, the TCEQ Executive Director issued a revised draft permit, which incorporated each of the Executive Director's recommended revisions.

22. The Executive Director's processing of Sandy Creek's application followed the same procedures and processes that are used by TCEQ to process all similar applications.

23. On April 17, 2006, Sandy Creek submitted to TCEQ a written request that the TCEQ Chief Clerk directly refer Sandy Creek's application to SOAH under TEX. WATER CODE § 5.557 for a hearing on whether its application complies with all applicable statutory and regulatory requirements.

24. On April 18, 2006, TCEQ mailed notice of a May 30, 2006, SOAH preliminary hearing to interested persons, other agencies, elected officials and others. On April 21, 2006, Sandy Creek published a Notice of Hearing noticing the SOAH preliminary hearing in *The Riesel Rustler* and the *Waco Tribune Herald*.

25. On May 30, 2006, SOAH ALJ Kerry D. Sullivan accepted jurisdiction over TCEQ's referral of Sandy Creek's application and named the following parties at a preliminary hearing held at Riesel High School:

- the Applicant, Sandy Creek (represented by Molly Cagle and Patrick Lee);
- the Executive Director of TCEQ (represented by Marc Friberg and Robin Smith);
- the Office of Public Interest Counsel OPIC of TCEQ (represented by Emily Collins); and
- TPOWER, Ricky Bates, Pauline Frank, Gale Nolan, and Gary Schimschot (all represented by Stuart Henry and grouped as a single alignment).

26. SOAH ALJ Kerry D. Sullivan conducted an evidentiary hearing on the merits on July 27-28, 2006, at SOAH's offices in Austin. All named parties participated in the evidentiary hearing through their representatives.

27. The record closed on September 1, 2006, following the filing of written closing statements and replies to closing statements.

**B. Completeness of the Application**

28. Sandy Creek's application included basic information about the applicant and the project, completed application forms, signed and notarized as appropriate, payment of fees, verification of the legal status of the applicant, attachment of technical reports, an accurate list and map of adjacent and potentially affected landowners, and other information reasonably requested by the Executive Director and required to allow TCEQ to evaluate the permit application.

29. The application included a signature page signed under oath by Michael P. Witzing, Senior Vice President of Sandy Creek, attesting that the information in the permit application was true, accurate, and complete to the best of his knowledge and belief.

30. The technical report submitted in connection with Sandy Creek's application was prepared by qualified persons, competent and experienced in the field of discharge from coal-fired power plants, and familiar with the design and operation of the Station.

31. Sandy Creek's technical report included a general description of all systems used at the Station in connection with the collection, transportation, treatment and disposal of wastewater; an indication of the average and maximum volume and rate of disposal of wastewater over representative periods of time; and a description of the characteristics and properties of the wastewater sufficient to allow evaluation of the water and environmental quality considerations involved.

32. Sandy Creek reasonably estimated the properties of the Station's discharge using a mathematical model that incorporated data collected from samples of the WMARSS' treated effluent and Brazos River water, as well as available industry references and published test data from facilities similar to the Station. Reliance on similar facility data is standard practice, accepted by TCEQ and consistent with good engineering practice.

33. Inherent in Sandy Creek's estimations are conservative assumptions about the amount of removal that will be achieved by various means of treatment; therefore, they likely represent over-estimations of the presence of various constituents.

34. TCEQ Staff reviewed Sandy Creek's application to determine whether it complied with all applicable rules and policies and documented the conclusions of that review in an internal report called the "Statement of Basis/Technical Summary and Executive Director's Preliminary Determination."

### **C. Characteristics of the Discharge**

35. Processes at the Station that will require the use of water include the cooling tower, the flue gas desulfurization (FGD) system, the submerged chain conveyor (SCC) system, the steam cycle, chemical metal cleaning, and miscellaneous uses including the washing of floor areas and equipment and the quenching of hot process streams.

36. Incoming water will be pretreated as needed to remove suspended solids before it is diverted for use at the different processes within the Station. Some of the individual processes at the Station will require additional pre-treatment of water using devices (*i.e.*, a reverse osmosis system, mixed bed demineralizer and condensate polisher) or addition of chemicals.

37. Wastewater generated from various areas or activities at the Station will be treated as appropriate prior to discharge:

- Low and high pH wastewater from the demineralization system, condensate polisher, chemical storage area drains and other parts of the Station will be directed to a neutralization tank for pH adjustment prior to discharge.
- Wastewater from floor and equipment drains, storage areas, the transformer area, and other areas potentially containing oil will be routed to the oil/water separator for removal of grease and oil prior to discharge.

- If discharged, wastewater from chemical metal cleaning activities such as fire-side boiler cleaning, water-side boiler cleaning, and air heater cleaning will be treated as necessary using pH adjustment, clarification, and/or filtration to meet applicable effluent limits.
- Stormwater runoff from the coal piles will be captured and diverted to a settling pond to remove suspended solids prior to discharge. An additional treatment device will remove additional TSS and TDS through the use of flocculants.

38. The post-use treatments that will be applied at the Station are generally consistent with the types of treatments applied at other permitted coal-fired power plants.

39. All domestic wastewater at the Station will be routed through an authorized septic tank/drainfield system for treatment and disposal, and will not be commingled with any of the wastewater that will be discharged under the TPDES permit.

40. The only stormwater runoff that will be permitted under the TPDES permit is runoff from the outdoor coal piles and stormwater captured in containment dikes around the transformers, which make up the switchyard. Stormwater from other areas of the property will not be commingled with wastewater and will be permitted under the TPDES General Permit No. TXR050000, for which Sandy Creek is required to submit a Notice of Intent.

41. There are no springs, seeps or other features in the vicinity of the project site that provide a hydrological connection between any ground water and the surface. Fifty to eighty-foot soil borings done at Sandy Creek's direction did not encounter any connections to any ground water resources at the site.

42. All wastewater (and stormwater from the coal piles and switchyard) will be routed into one of three streams at the Station, each of which is physically separated from the others by different piping systems. After monitoring to determine compliance with applicable federal New Source Performance Standards NSPS, the three streams will be combined on-site (via Internal Outfalls 101

and 201) before being transported via pipeline and discharged at the only external outfall, Outfall 001, at the Brazos River Above Navasota River in Segment 1242 of the Brazos River Basin.

43. The Station's discharge in accordance with the draft permit will be within the NSPS for the Steam Electric Power Plant industry set forth at 40 C.F.R. Part 423.

44. The Station's discharge in accordance with the draft permit will be within the effluent limits for metals contained in 30 T.A.C. Chapter 319.

45. The Station will dispose of treated wastewater at a daily average flow rate of 2.6 MGD and a daily maximum flow rate of 3.0 MGD when the Brazos River is the raw water source for the Stations, and a daily average flow rate of 2.3 MGD and a daily maximum flow rate of 2.6 MGD when the WMARSS is the raw water source for the Station.

46. Both Internal Outfalls 101 and 201 and Outfall 001 are subject to specific effluent limits and monitoring requirements set forth in the draft permit.

47. The Station's discharge will enter the Brazos River at Outfall 001 via either a headwall or a submerged diffuser, the construction of either of which will only minimally disrupt the part of the riverbed immediately surrounding the outfall.

48. There is no surface water intake for domestic drinking water supply located within five miles downstream from the discharge point.

49. The Texas Surface Water Quality Standards are set by the Commission at levels designed to be protective of public health, aquatic resources, terrestrial life and other environmental and economic resources.

50. The Texas Surface Water Quality Standards consist of both general criteria and criteria for classified segments. General criteria define the general goals to be attained by all water in the state,

and criteria for classified segments define the water quality standards applicable to particular classified waters in the state.

51. Because the Station's discharge would be to a classified segment of the Brazos River Basin (Segment 1242), both the general criteria and criteria for classified segments apply.

52. The general criteria are set forth at 30 T.A.C. section 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.

53. Under the Texas Surface Water Quality Standards, the designated uses for Segment 1242 are high aquatic life use, contact recreation and public water supply. Segment 1242 is subject to the following criteria for specified segments set forth in Appendix A of 30 T.A.C. Chapter 307:

- Chloride: 350 mg/l
- Sulfate: 200 mg/l
- Total dissolved solids: 1,000 mg/l
- Dissolved Oxygen: 5.0 mg/l
- pH 6.9-9.0 SU
- Indicator bacteria 126/100 ml
- Temperature 95 F (max. increase of 5 F)

54. The Station's discharge in accordance with the draft permit will maintain water quality consistent with the criteria for Segment 1242 of the Brazos River Basin and the general criteria.

55. The Station's discharge in accordance with the draft permit will not interfere with existing uses and will maintain water quality sufficient to protect those existing uses. The Station's discharge in accordance with the draft permit will not degrade waters that exceed fishable/swimmable quality. None of the receiving waters or segments downstream is an outstanding national resource water.

56. The Houston toad (*Bufo Houstonensis* Sanders), an endangered aquatic-dependent species of critical concern, is the only known threatened or endangered aquatic or aquatic-dependent species in the Segment 1242 watershed.

57. Distribution information for the Segment 1242 watershed provided by the United States Fish And Wildlife Service documents the toad's presence solely in the vicinity of Sweet Gum Branch in Burlinson County, which is farther down the watershed from the facility associated with this permit action.

58. Based on this information, and the expected absence of toxicity in the discharge, the Station's discharge in accordance with the draft permit will not impact Houston toad habitat or any individual toads.

**D. Terms and Conditions of The Draft Permit**

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

<u>Outfall</u>	<u>Pollutant</u>	<u>Daily Avg.</u>	<u>Daily Max.</u>	<u>Single Grab</u>
001	Flow (MGD)	2.6	3.0	N/A
	Free Avail. Chlorine	0.2 mg/l	0.5 mg/l	0.5 mg/l
	Temperature (F)	95	95	N/A
	pH (S.U.)	N/A	N/A	6.0-9.0
101	TSS	30 mg/l	100 mg/l	90 mg/l
	Oil and Grease	15 mg/l	20 mg/l	20 mg/l
	Copper, Total	1.0 mg/l	1.0 mg/l	1.0 mg/l
	Iron, Total	1.0 mg/l	1.0 mg/l	1.0 mg/l
	pH (S.U.)	N/A	N/A	6.0-9.0

201	TSS	30 mg/l	100 mg/l	100 mg/l
	Oil & Grease	15 mg/l	20 mg/l	20 mg/l
	pH (S.U.)	N/A	N/A	6.0-9.0

60. The “single grab” effluent limit on the discharge of total suspended solids from Outfall 101 should be changed from 90 mg/L to 100 mg/L to coincide with the daily maximum limit for that parameter.

61. With the exception of the 95 degree temperature limit at Outfall 001, all of the effluent limits in the draft permit are technology-based limits derived from applicable NSPS for Steam Electric Power Plants, which are codified at 40 C.F.R. Part 423. The technology-based effluent limits in the permit are appropriate and complete.

62. TCEQ utilized the TexTox model to identify the need for water quality-based effluent limits in the draft permit. The TexTox model is widely accepted as a valid indicator of potential toxicity. The TexTox model cannot be used to evaluate all constituents, but only those for which the Texas Surface Water Quality Standards lists a toxicity criteria, and for which the applicant is able to reasonably predict an effluent concentration based on available and reliable information.

63. Although the concentration of dissolved aluminum in the Station’s discharge is expected to be significantly lower than the potential effluent limit for dissolved aluminum calculated by the TexTox model, the following periodic compliance monitoring requirement for total aluminum at Outfall 001 should be added to the draft permit:

	Daily Avg. mg/l	Daily Max. mg/l	Single Grab mg/l	Measurement frequency	Sample type
Total aluminum	(Report)	(Report)	N/A	1/week	Grab

64. Predicted concentrations of other constituents most frequently associated with discharges from coal-fired power plants do not indicate that any additional or different water quality-based effluent limits or periodic monitoring requirements are needed in the draft permit.

65. Although pollutant concentrations are anticipated to be very low, the draft permit requires the Station to perform comprehensive initial startup testing of specific conventional, non-conventional, and toxic pollutants. This initial sampling must consist of four samples, taken at least one week apart, and must be representative of the Station's discharge. If the data indicates concentrations with the potential to exceed 70% or 85% of the concentrations at which TCEQ has determined the discharge could cause toxicity in the receiving waters, TCEQ will amend the permit to add any necessary periodic monitoring requirements and effluent limits.

66. Other Requirement No. 7 of the draft permit should be amended as follows to specify that startup testing is to be conducted within 60 days of initial discharge:

Table 1: Analysis is required for all pollutants. Wastewater shall be sampled and analyzed within 60 days of initial discharge for those parameters listed in Table 1 for a minimum of four (4) separate sampling events which are a minimum of one (1) week apart.

Table 2: Analysis is required for those pollutants used as a feedstock, intermediate, product, byproduct, coproduct, maintenance chemical, or that could in any way contribute to contamination in the Outfall 001 discharge. Sampling and analysis shall be conducted within 60 days of initial discharge for a minimum of one sampling event.

Table 3: For all pollutants listed, the permittee shall indicate whether each pollutant is believed to be present or absent in the discharge. Sampling and analysis shall be conducted within 60 days of initial discharge for each pollutant believed present, for a minimum of one sampling event.

67. A parameter for dissolved aluminum should be added to Table 1 of the draft permit, containing the list of constituents for which Sandy Creek will be required to conduct startup testing.

68. The draft permit requires weekly sampling to determine compliance with all effluent limits in the permit, the results of which are required to be submitted to TCEQ on a monthly basis.
69. The draft permit requires periodic 24-hour and 48-hour acute biomonitoring (*i.e.*, WET testing) to insure that the discharge is not toxic to living organisms.
70. The draft permit includes sufficient monitoring and reporting provisions to demonstrate compliance with all effluent limits.
71. The draft permit is written in terms and conditions that are reasonable and enforceable.
72. The methodologies used to develop the technology-based and water quality-based effluent limits in the draft permit are consistent with those used by TCEQ in setting limits for other facilities, including other power plants.
73. The terms and conditions contained in the draft permit are consistent with those found in TPDES permits issued by TCEQ to similar facilities.
74. The limits, terms and conditions set forth in the draft permit are consistent with all relevant Texas Water Code provisions, TCEQ rules and guidance including "Procedures to Implement the Texas Surface Water Quality Standards," and TCEQ and statewide policy regarding water quality.
75. The Station has been planned to comply with the terms and conditions of the draft permit and will be capable of meeting those terms and conditions.
76. The draft permit will expire on December 1, 2008; however, initial startup of the Station is not expected to occur until the second quarter of 2010.

**E. Conclusion**

77. The terms and conditions of the draft permit are fully protective of the water quality of the Brazos River, including the uses specified for Segment 1242 (*i.e.*, high aquatic life use, contact recreation and public water supply).

78. Discharges in accordance with the draft permit will have no significant impact on water quality in the Brazos River, including effects to aquatic life, human health, recreational use of the river, and use of the river by livestock and domestic animals.

79. Discharges in accordance with the 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.

80. Discharges in accordance with the 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.

81. There will be no impacts to ground water resulting from operation of the Station under the terms of the draft permit.

**CONCLUSIONS OF LAW**

1. The Commission has jurisdiction over water quality to issue a TPDES permit under TEX. WATER CODE §§ 5.013, 26.003, 26.011 and 26.027.
2. 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.

3. At the request of Sandy Creek, TCEQ properly referred this case to SOAH for a contested case hearing under TEX. WATER CODE § 5.557 and 30 T.A.C. §§ 55.210 on whether Sandy Creek's application complies with all statutory and regulatory requirements.

4. The proceedings herein described were conducted in accordance with applicable law and regulations, specifically TEX. WATER CODE Chapters 5 and 26, TEX. GOVT. CODE Chapter 2001 and § 2003.047, the Commission's rules, and SOAH's procedural rules.

5. The Findings of Fact set forth in this Order are based on a preponderance of the evidence.

6. Sandy Creek and TCEQ satisfied all public notice requirements set forth in TEX. GOVT. CODE § 2001.051 and § 2001.052, TEX. WATER CODE §§ 5.552, 5.553, 5.555, 26.022 and 26.028 and 30 T.A.C. §§ 39.551, *et seq.*

7. TEX. WATER CODE § 26.027(b) and 30 T.A.C. §§ 281.5, 305.45 and 305.48 set forth the requirements for a complete TPDES permit application. Sandy Creek's application contained all required information and otherwise complied with Commission rules, forms and guidance, and therefore satisfied all applicable requirements for a complete application.

8. Sandy Creek'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 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, Title 30, Chapter 307 of the Texas Administrative Code are developed and adopted by TCEQ with the authority of Section 303(c) of the Federal Clean Water Act and Section 26.023 of the TEXAS WATER CODE. Under 30 T.A.C. §

307.1, the purpose of the Standards is to “maintain the quality of water in the state consistent with public health and enjoyment, propagation and protection of terrestrial and aquatic life, operation of existing industries, and economic development of the state.”

10. In accordance with TEX. WATER CODE § 26.030, the Sandy Creek Energy Station’s (Station’s) discharge under the terms of the draft permit will not result in any adverse effects on the receiving waters, including unpleasant odor.

11. In accordance with TEX. WATER CODE § 26.041, the Station’s discharge under the terms of the draft permit will not be injurious to public health.

12. The Commission is not required to include in this TPDES permit a monitoring requirement for every constituent that might be contained in the effluent from a facility. In accordance with TEX. WATER CODE § 26.042, the monitoring and reporting requirements included in the draft permit are reasonable and appropriate to confirm compliance with the draft permit terms and other applicable requirements of the Texas Water Code.

13. The terms and conditions of the draft permit are consistent with the state goal and policy regarding ground water quality in accordance with TEX. WATER CODE § 26.401.

14. The draft permit includes terms and conditions meeting all of the requirements of TEX. WATER CODE § 26.029.

15. In accordance with the policy of the State of Texas as set forth at TEX. WATER CODE § 26.003, discharges in accordance with the 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.

16. In accordance with TEX. WATER CODE § 26.027(a), issuance of the 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.

17. Sandy Creek'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.

18. Sandy Creek's application should be granted and TPDES Permit No. WQ0004755000 should be issued with the following modifications:

- Page 2 – The following periodic compliance monitoring requirement for total aluminum at Outfall 001 should be added to the draft permit:

	Daily Avg.	Daily Max.	Single Grab	Measurement frequency	Sample type
Total aluminum	(Report)	(Report)	N/A	1/week	Grab

- Page 2a – The “single grab” effluent limit on the discharge of total suspended solids from Outfall 101 should be changed from 90 mg/L to 100 mg/L.
- Page 13 – Other Requirement No. 7 should be amended as follows to specify that all startup testing is to be conducted within 60 days of initial discharge:

Table 1: Analysis is required for all pollutants. Wastewater shall be sampled and analyzed within 60 days of initial discharge for those parameters listed in Table 1 for a minimum of four (4) separate sampling events which are a minimum of one (1) week apart.

Table 2: Analysis is required for those pollutants used as a feedstock, intermediate, product, byproduct, coproduct, maintenance chemical, or that could in any way contribute to contamination in the Outfall 001 discharge. Sampling and analysis shall be conducted within 60 days of initial discharge for a minimum of one sampling event.

Table 3: For all pollutants listed, the permittee shall indicate whether each pollutant is believed to be present or absent in the discharge. Sampling and analysis shall be conducted within 60 days of initial discharge for each pollutant believed present, for a minimum of one sampling event.

- Page 16 – A parameter for dissolved aluminum should be added to Table 1.

**NOW, THEREFORE, IT IS ORDERED BY THE TEXAS COMMISSION ON ENVIRONMENT QUALITY THAT:**

1. The application of Sandy Creek Energy Associates, L.P., for TPDES Permit No. WQ0004755000 is approved and the draft permit is issued with the revisions set out in this Order.
2. Sandy Creek shall comply with all Findings of Fact and Conclusions of Law contained herein.
3. Sandy Creek shall pay all transcription and reporting costs.
4. All other motions, requests for entry of specific Findings of Fact or Conclusions of Law, and any other requests for general or specific relief, if not expressly granted herein, are hereby denied.
5. The effective date of this Order is the date the Order is final, as provided by 30 TAC § 80.273 and Gov't Code § 2001.144.

6. The Commission's Chief Clerk shall forward a copy of this Order to all parties.
7. If any provision, sentence, clause, or phrase of this Order is for any reason held to be invalid, the invalidity of any provision shall not affect the validity of the remaining portions of this Order.

ISSUED:

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

---

Kathleen Hartnett White, Chairman  
For the Commission

**Attachment 1**  
**Summary of Processes in which Water would be Used**

**Raw Water Pretreatment.** An average of 12 million gallons per day of water would be received at the plant. All influent would be pretreated, likely by a clarifier, to reduce suspended solids.

**Cooling towers.** The cooling towers will reject heat from the steam condensers and other equipment through the circulation of cooling water between such equipment and the cooling tower. The water would be cycled through the cooling towers an average of about five times before it is discharged. Much of the water that flows through the cooling towers is lost to evaporation or drift. (On average, 8,242 gallons per minute of water would enter the cooling tower and 6,824 gallons per minute would be lost from the cooling tower through evaporation or drift.) The remainder is eventually discharged in controlled releases to maintain concentrations of silica, hardness, alkalinity, sulfates, and chlorides within acceptable limits. Constituents could be added to the cooling tower water to inhibit scaling, corrosion, accumulation of solids, and biological growth.

**Flue Gas Desulfurization.** On average, 583 gallons per minute would be used in the flue gas desulfurization system to form a lime slurry for injection into the boiler exhaust gas to reduce sulfur dioxide emissions. All water used in this process would be evaporated or bound in the absorption products, so there would be no liquid waste stream from this system.

**Bottom Ash System.** The bottom ash system removes ash from the bottom of the boiler. The bottom ash system consists of a water-filled trough that collects ash that falls out of suspension in the boiler. Ash is removed from the water-filled trough by a submerged chain conveyor. Pyrites removed from the coal pulverizers may be sluiced, using cooling tower blowdown, to the bottom ash system for disposal with the bottom ash. Cooling tower blowdown will be continuously fed through the bottom ash system to maintain proper temperature. Water coming out of the bottom ash system will be routed to Outfall 001 via low stream component A01.

**Filters.** A portion of the pretreated raw water will pass through filters for additional solids removal. Filtered water will be used as needed for miscellaneous process uses, fire protection, and as feed to the reverse osmosis/demineralization system. Backwash from the filters will be directed back to the raw water pretreatment system for further treatment and reuse.

**Reverse Osmosis System.** The reverse osmosis system will provide the initial demineralization of filtered water for use in the steam cycle. Concentrate from the reverse osmosis system will be routed to the low volume steam component A01.

**Mixed Bed Demineralizer.** Mixed bed demineralization removes additional dissolved ions from the clear water produced by the reverse osmosis system. Low and high pH regeneration wastes from the demineralization system will be directed to the neutralization tank for pH adjustment prior to discharge.

**Demineralized Water Treatment Storage.** Demineralized water will be stored in a field-erected storage tank prior to use in the steam cycle. Demineralized water will also be used to backwash the mixed bed demineralizers and condensate polisher.

**Condensate Polisher.** Condensate polishing, consisting primarily of demineralization, may be required to further remove ions from the condensate of the steam cycle. Regeneration wastes from the condensate polisher will also be directed to the neutralization tank for pH adjustment prior to discharge.

**Neutralization Tank.** Low and high pH regeneration wastes from the demineralization system, the condensate polisher, and chemical storage area drains will be directed to a neutralization tank for pH adjustment prior to discharge to Outfall 001 via low volume stream component A01.

**Steam Cycle.** High purity demineralized water will be used for steam production in the boiler in order to prevent scaling and deposition. Demineralized water will be pumped from the demineralized water storage tank. Some of the boiler water may be extracted for further polishing in a condensate polisher as described above and then returned to the boiler feedwater cycle. Continuous streams of steam and water extracted from various locations in the boiler and feedwater systems will be sampled to allow for steam and water chemistry tests and routed to the low volume steam component A01. Some of the boiler water will also be blown down to maintain process chemistry requirements. The boiler blowdown will be routed to the low volume stream component A01.

**Miscellaneous Uses.** Miscellaneous uses will include washing of floor areas and equipment and quenching of hot process streams. Filtered water will be used for such miscellaneous uses and will result in miscellaneous effluent that will be collected and treated, as appropriate, prior to discharge via low volume stream component A01.

**Oil/Water Separator.** Water from floor and equipment drains and storage areas potentially containing oil will be routed to the oil/water separator. This includes water used for hosing down floors and equipment, process water that may be drained from equipment during maintenance, and process water leaking from equipment and routed to drains, etc. Stormwater that could contain oil will be captured in containment dikes around the transformers. If required, this stormwater will be routed to the oil/water separator. Recovered oils collected by the oil/water separator will be removed periodically from the SCEs by a licensed hauler and disposed in an approved oil recovery and/or waste disposal facility. Treated effluent produced by the oil/water separator will be directed to Outfall 001 via the low volume stream component A01.

**Chemical Metal Cleaning.** Wastes from periodic washing of air heaters and boiler components (both fire side and water side) will be treated prior to discharge to Outfall 001 via chemical metal cleaning stream component C01. Treatment is expected to include clarification, filtration and/or settling for solids removal to meet NSPS. In any given month, no more than 380,000 gallons of wash water are expected to be used. The water balances depicting the average

consumptive use include a wash volume of 380,000 gallons average over a month (9 gpm). The water balances depicting the maximum consumptive use include a wash volume of 380,000 gallons average over a single day (264 gpm).

**Coal Pile Stormwater Runoff Pond.** Stormwater runoff from the coal piles will be routed to a stormwater runoff pond. Coal pile runoff will meet NSPS for total suspended solids prior to discharge to Outfall 001 via coal pile runoff stream component D01.



Kathleen Hartnett White, *Chairman*  
 R. B. "Ralph" Marquez, *Commissioner*  
 Larry R. Soward, *Commissioner*  
 Glenn Shankle, *Executive Director*



## TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

*Protecting Texas by Reducing and Preventing Pollution*

THE STATE OF TEXAS  
 COUNTY OF TRAVIS

I hereby certify that this is a true and correct copy of a  
 Texas Commission on Environmental Quality document,  
 which is filed in the permanent records of the Commission.  
 Given under my hand and the seal of office on

*LaDonna Castanuela* APR 20 2006

LaDonna Castanuela, Chief Clerk  
 Texas Commission on Environmental Quality

Mr. Andrew Dera  
 Sandy Creek Energy Associates, L.P.  
 Two Tower Center, 20th Floor  
 East Brunswick, New Jersey 08816-1100

Re: Sandy Creek Energy Associates, L.P., Permit No. WQ0004755000  
 (RN 104136700; CN 602555526)

Dear Mr. Dera:

Enclosed is a copy of the above referenced permit for a wastewater treatment facility issued on behalf of the Executive Director pursuant to Chapter 26 of the Texas Water Code.

Self-reporting or Discharge Monitoring Forms and instructions will be forwarded to you from the Water Quality Management Information Systems Team so that you may comply with monitoring requirements. For existing facilities, revised forms will be forwarded if monitoring requirements have changed.

Enclosed is a "Notification of Completion of Wastewater Treatment Facilities" form. Use this form when the facility begins to operate or goes into a new phase. The form notifies the agency when the proposed facility is completed or when it is placed in operation. This notification complies with the special provision incorporated into the permit.

Should you have any questions, please contact Ms. Monica Baez of the Texas Commission on Environmental Quality's Wastewater Permitting Section at (512) 239-4671 or if by correspondence, include MC 148 in the letterhead address below.

Sincerely,

L'Oreal W. Stepney, Director  
 Water Quality Division

LWS/MB/jp

Enclosures

**Sandy Creek Ex. 4**

**Page 1 of 42**

ccs: TCEQ, Region 9  
 Mr. Michael Vogt, Sandy Creek Energy Associates, L.P., 400 Chesterfield Center, Suite 110, St Louis,  
 Missouri 63017



TPDES PERMIT NO. WQ0004755000  
[For TCEQ office use only -  
EPA I.D. No. TX0127256]

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY  
P. O. Box 13087  
Austin, Texas 78711-3087

PERMIT TO DISCHARGE WASTES  
under provisions of  
Section 402 of the Clean Water Act  
and Chapter 26 of the Texas Water Code

Sandy Creek Energy Associates, L.P.

whose mailing address is

Two Tower Center, 20th Floor  
East Brunswick, New Jersey 08816-1100

is authorized to treat and discharge wastes from the Sandy Creek Energy Station, a coal-fueled electric power generation plant (SIC 4911)

located on an approximately 700-acre parcel of land in and near the City of Riesel, bounded by Rattlesnake Road on the west, north, and east sides, and Farm-to-Market Road 1860 on the south side, in McLennan County, Texas

from the plant site via pipeline to the Brazos River Above Navasota River in Segment No. 1242 of the Brazos River Basin

only according to effluent limitations, monitoring requirements and other conditions set forth in this permit, as well as the rules of the Texas Commission on Environmental Quality (TCEQ), the laws of the State of Texas, and other orders of the TCEQ. The issuance of this permit does not grant to the permittee the right to use private or public property for conveyance of wastewater along the discharge route described in this permit. This includes, but is not limited to, property belonging to any individual, partnership, corporation or other entity. Neither does this permit authorize any invasion of personal rights nor any violation of federal, state, or local laws or regulations. It is the responsibility of the permittee to acquire property rights as may be necessary to use the discharge route.

This permit shall expire at midnight on December 1, 2008.

ISSUED DATE:

THE STATE OF TEXAS  
COUNTY OF TRAVIS

I hereby certify that this is a true and correct copy of a Texas Commission on Environmental Quality document, which is filed in the permanent records of the Commission. Given under my hand and the seal of office on

 APR 20 2006

LaDonna Castanuela, Chief Clerk  
Texas Commission on Environmental Quality

For the Commission

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Outfall Number 001

1. During the period beginning upon date of issuance and lasting through date of expiration, the permittee is authorized to discharge cooling tower blowdown and previously monitored effluents (PMEs) subject to the following effluent limitations:

The daily average flow of effluent shall not exceed 2.6 million gallons per day (MGD). The daily maximum flow shall not exceed 3.0 MGD.

Effluent Characteristics	Discharge Limitations		Minimum Self-Monitoring Requirements	
	Daily Average mg/L	Daily Maximum mg/L	Single Grab mg/L	Report Daily Average and Daily Maximum Measurement Frequency Sample Type
Flow (MGD)	(Report) 0.2	(Report) 0.5	N/A	Continuous
Free Available Chlorine	(95)	(95)	0.5	1/week
Temperature (°F)			N/A	1/week
				Totalizing Meter
				Grab
				Grab

2. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 1/week by grab sample.
3. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.
4. Effluent monitoring samples shall be taken at the following location: After all mixing on the plant site prior to transport to Outfall 001, where cooling tower blowdown and previously monitored effluents discharge to the Brazos River.

**THE STATE OF TEXAS  
COUNTY OF TRAVIS**

I hereby certify that this is a true and correct copy of a Texas Commission on Environmental Quality document, which is filed in the permanent records of the Commission. Given under my hand and the seal of office on

*LaDonna Castanuela* APR 20 2006

LaDonna Castanuela, Chief Clerk  
Texas Commission on Environmental Quality

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Outfall Number 101

1. During the period beginning upon date of issuance and lasting through date of expiration, the permittee is authorized to discharge chemical metal cleaning waste (\*1) subject to the following effluent limitations:

Volume: Flow variable.

Effluent Characteristics	Discharge Limitations		Minimum Self-Monitoring Requirements	
	Daily Average mg/L	Daily Maximum mg/L	Report Daily Average and Daily Maximum Measurement Frequency	Sample Type
Flow (MGD)	(Report)	(Report)	1/day (*2)	Estimate
Total Suspended Solids	30	100	1/week (*2)	Grab
Oil and Grease	15	20	1/week (*2)	Grab
Copper, Total (*3)	1.0	1.0	1/week (*2)	Grab
Iron, Total (*3)	1.0	1.0	1/week (*2)	Grab

- (\*1) See Other Requirements, Item 8.
- (\*2) These parameters only apply to chemical metal cleaning waste and samples shall be obtained only when discharging chemical metal cleaning waste.
- (\*3) See Other Requirements, Item 1.

2. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 1/week by grab sample.
3. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.
4. Effluent monitoring samples shall be taken at the following location: At Outfall 101, prior to mixing with any other waters.

THE STATE OF TEXAS  
COUNTY OF TRAVIS

I hereby certify that this is a true and correct copy of a Texas Commission on Environmental Quality document, which is filed in the permanent records of the Commission. Given under my hand and the seal of office on

*LaDonna Castanuela*  
LaDonna Castanuela, Chief Clerk  
Texas Commission on Environmental Quality

APR 20 2004

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Outfall Number 201

1. During the period beginning upon date of issuance and lasting through date of expiration, the permittee is authorized to discharge low volume waste (\*1) and coal pile runoff subject to the following effluent limitations:

Volume: Flow Variable.

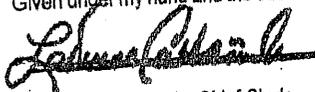
Effluent Characteristics	Discharge Limitations		Minimum Self-Monitoring Requirements	
	Daily Average (mg/L)	Daily Maximum lbs/day (mg/L)	Single Grab mg/L	Report Daily Average and Daily Maximum Measurement Frequency Sample Type
Flow (MGD)	(Report)	(Report)	N/A	1/day Estimate
Total Suspended Solids	30	100	100	1/week Grab
Oil and Grease	15	20	20	1/week Grab

(\*1) See Other Requirements, Item 8.

2. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 1/week grab sample.
3. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.
4. Effluent monitoring samples shall be taken at the following location: At Outfall 201, prior to mixing with any other waters.

THE STATE OF TEXAS  
COUNTY OF TRAVIS

I hereby certify that this is a true and correct copy of a Texas Commission on Environmental Quality document, which is filed in the permanent records of the Commission. Given under my hand and the seal of office on

 APR 20 2006

LaDonna Castanuela, Chief Clerk  
Texas Commission on Environmental Quality

**DEFINITIONS AND STANDARD PERMIT CONDITIONS**

As required by Title 30 Texas Administrative Code (TAC) Chapter 305, certain regulations appear as standard conditions in waste discharge permits. 30 TAC §§ 305.121 - 305.129 (relating to Permit Characteristics and Conditions) as promulgated under the Texas Water Code §§ 5.103 and 5.105, and the Texas Health and Safety Code §§ 361.017 and 361.024(a), establish the characteristics and standards for waste discharge permits, including sewage sludge, and those sections of 40 Code of Federal Regulations (CFR) Part 122 adopted by reference by the Commission. The following text includes these conditions and incorporates them into this permit. All definitions in Section 26.001 of the Texas Water Code and 30 TAC Chapter 305 shall apply to this permit and are incorporated by reference. Some specific definitions of words or phrases used in this permit are as follows:

**1. Flow Measurements**

- a. Annual average flow - the arithmetic average of all daily flow determinations taken within the preceding 12 consecutive calendar months. The annual average flow determination shall consist of daily flow volume determinations made by a totalizing meter, charted on a chart recorder and limited to major domestic wastewater discharge facilities with a 1 million gallons per day or greater permitted flow.
- b. Daily average flow - the arithmetic average of all determinations of the daily flow within a period of one calendar month. The daily average flow determination shall consist of determinations made on at least four separate days. If instantaneous measurements are used to determine the daily flow, the determination shall be the arithmetic average of all instantaneous measurements taken during that month. Daily average flow determination for intermittent discharges shall consist of a minimum of three flow determinations on days of discharge.
- c. Daily maximum flow - the highest total flow for any 24-hour period in a calendar month.
- d. Instantaneous flow - the measured flow during the minimum time required to interpret the flow measuring device.
- e. 2-hour peak flow (domestic wastewater treatment plants) - the maximum flow sustained for a two-hour period during the period of daily discharge. The average of multiple measurements of instantaneous maximum flow within a two-hour period may be used to calculate the 2-hour peak flow.
- f. Maximum 2-hour peak flow (domestic wastewater treatment plants) - the highest 2-hour peak flow for any 24-hour period in a calendar month.

**2. Concentration Measurements**

- a. Daily average concentration - the arithmetic average of all effluent samples, composite or grab as required by this permit, within a period of one calendar month, consisting of at least four separate representative measurements.
  - i. For domestic wastewater treatment plants - When four samples are not available in a calendar month, the arithmetic average (weighted by flow) of all values in the previous four consecutive month period consisting of at least four measurements shall be utilized as the daily average concentration.
  - ii. For all other wastewater treatment plants - When four samples are not available in a calendar month, the arithmetic average (weighted by flow) of all values taken during the month shall be utilized as the daily average concentration.
- b. 7-day average concentration - the arithmetic average of all effluent samples, composite or grab as required by this permit, within a period of one calendar week, Sunday through Saturday.
- c. Daily maximum concentration - the maximum concentration measured on a single day, by the sample type specified in the permit, within a period of one calendar month.
- d. Daily discharge - the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in terms of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the sampling day. For pollutants with limitations expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the sampling day.

The "daily discharge" determination of concentration made using a composite sample shall be the concentration of the composite sample. When grab samples are used, the "daily discharge" determination of concentration shall be the arithmetic average (weighted by flow value) of all samples collected during that day.

- e. Fecal coliform bacteria concentration - the number of colonies of fecal coliform bacteria per 100 milliliters effluent. The daily average fecal coliform bacteria concentration is a geometric mean of the values for the effluent samples collected in a calendar month. The geometric mean shall be determined by calculating the  $n$ th root of the product of all measurements made in a calendar month, where  $n$  equals the number of measurements made; or, computed as the antilogarithm of the arithmetic mean of the logarithms of all measurements made in a calendar month. For any measurement of fecal coliform bacteria equaling zero, a substituted value of one shall be made for input into either computation method. The 7-day average for fecal coliform bacteria is the geometric mean of the values for all effluent samples collected during a calendar week.
  - f. Daily average loading (lbs/day) - the arithmetic average of all daily discharge loading calculations during a period of one calendar month. These calculations must be made for each day of the month that a parameter is analyzed. The daily discharge, in terms of mass (lbs/day), is calculated as ( Flow, MGD x Concentration, mg/l x 8.34).
  - g. Daily maximum loading (lbs/day) - the highest daily discharge, in terms of mass (lbs/day), within a period of one calendar month.
3. Sample Type
- a. Composite sample - For domestic wastewater, a composite sample is a sample made up of a minimum of three effluent portions collected in a continuous 24-hour period or during the period of daily discharge if less than 24 hours, and combined in volumes proportional to flow, and collected at the intervals required by 30 TAC § 319.9 (a). For industrial wastewater, a composite sample is a sample made up of a minimum of three effluent portions collected in a continuous 24-hour period or during the period of daily discharge if less than 24 hours, and combined in volumes proportional to flow, and collected at the intervals required by 30 TAC § 319.9 (b).
  - b. Grab sample - an individual sample collected in less than 15 minutes.
4. Treatment Facility (facility) - wastewater facilities used in the conveyance, storage, treatment, recycling, reclamation and/or disposal of domestic sewage, industrial wastes, agricultural wastes, recreational wastes, or other wastes including sludge handling or disposal facilities under the jurisdiction of the Commission.
5. The term "sewage sludge" is defined as solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in 30 TAC Chapter 312. This includes the solids which have not been classified as hazardous waste separated from wastewater by unit processes .
6. Bypass - the intentional diversion of a waste stream from any portion of a treatment facility.

## MONITORING AND REPORTING REQUIREMENTS

### 1. Self-Reporting

Monitoring results shall be provided at the intervals specified in the permit. Unless otherwise specified in this permit or otherwise ordered by the Commission, the permittee shall conduct effluent sampling and reporting in accordance with 30 TAC §§ 319.4 - 319.12. Unless otherwise specified, a monthly effluent report shall be submitted each month, to the Enforcement Division (MC 224), by the 20th day of the following month for each discharge which is described by this permit whether or not a discharge is made for that month. Monitoring results must be reported on an approved self-report form, that is signed and certified as required by Monitoring and Reporting Requirements No. 10.

As provided by state law, the permittee is subject to administrative, civil and criminal penalties, as applicable, for negligently or knowingly violating the Clean Water Act, the Texas Water Code, Chapters 26, 27, and 28, and Texas Health and Safety Code, Chapter 361, including but not limited to knowingly making any false statement, representation, or certification on any report, record, or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, or falsifying, tampering with or knowingly rendering inaccurate any monitoring device or method required by this permit or violating any other requirement imposed by state or federal regulations.

### 2. Test Procedures

Unless otherwise specified in this permit, test procedures for the analysis of pollutants shall comply with procedures specified in 30 TAC §§319.11 - 319.12. Measurements, tests and calculations shall be accurately accomplished in a representative manner.

### 3. Records of Results

- a. Monitoring samples and measurements shall be taken at times and in a manner so as to be representative of the monitored activity.

- b. Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503), monitoring and reporting records, including strip charts and records of calibration and maintenance, copies of all records required by this permit, records of all data used to complete the application for this permit, and the certification required by 40 CFR § 264.73(b)(9) shall be retained at the facility site, or shall be readily available for review by a TCEQ representative for a period of three years from the date of the record or sample, measurement, report, application or certification. This period shall be extended at the request of the Executive Director.
- c. Records of monitoring activities shall include the following:
  - i. date, time and place of sample or measurement;
  - ii. identity of individual who collected the sample or made the measurement.
  - iii. date and time of analysis;
  - iv. identity of the individual and laboratory who performed the analysis;
  - v. the technique or method of analysis; and
  - vi. the results of the analysis or measurement and quality assurance/quality control records.

The period during which records are required to be kept shall be automatically extended to the date of the final disposition of any administrative or judicial enforcement action that maybe instituted against the permittee.

#### 4. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit using approved analytical methods as specified above, all results of such monitoring shall be included in the calculation and reporting of the values submitted on the approved self-report form. Increased frequency of sampling shall be indicated on the self-report form.

#### 5. Calibration of Instruments

All automatic flow measuring or recording devices and all totalizing meters for measuring flows shall be accurately calibrated by a trained person at plant start-up and as often thereafter as necessary to ensure accuracy, but not less often than annually unless authorized by the Executive Director for a longer period. Such person shall verify in writing that the device is operating properly and giving accurate results. Copies of the verification shall be retained at the facility site and/or shall be readily available for review by a TCEQ representative for a period of three years.

#### 6. Compliance Schedule Reports

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of the permit shall be submitted no later than 14 days following each schedule date to the Regional Office and the Enforcement Division (MC 224).

#### 7. Noncompliance Notification

- a. In accordance with 30 TAC § 305.125(9) any noncompliance which may endanger human health or safety, or the environment shall be reported by the permittee to the TCEQ. Report of such information shall be provided orally or by facsimile transmission (FAX) to the Regional Office within 24 hours of becoming aware of the noncompliance. A written submission of such information shall also be provided by the permittee to the Regional Office and the Enforcement Division (MC 224) within five working days of becoming aware of the noncompliance. The written submission shall contain a description of the noncompliance and its cause; the potential danger to human health or safety, or the environment; the period of noncompliance, including exact dates and times; if the noncompliance has not been corrected, the time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance, and to mitigate its adverse effects.
- b. The following violations shall be reported under Monitoring and Reporting Requirement 7.a.:
  - i. Unauthorized discharges as defined in Permit Condition 2(g).
  - ii. Any unanticipated bypass which exceeds any effluent limitation in the permit.
  - iii. Violation of a permitted maximum daily discharge limitation for pollutants listed specifically in the Other Requirements section of an Industrial TPDES permit.
- c. In addition to the above, any effluent violation which deviates from the permitted effluent limitation by more than 40% shall be reported by the permittee in writing to the Regional Office and the Enforcement Division (MC 224) within 5 working days of becoming aware of the noncompliance.
- d. Any noncompliance other than that specified in this section, or any required information not submitted or submitted incorrectly, shall be reported to the Enforcement Division (MC 224) as promptly as possible. For effluent limitation violations, noncompliances shall be reported on the approved self-report form.

8. In accordance with the procedures described in 30 TAC §§ 35.301 - 35.303 (relating to Water Quality Emergency and Temporary Orders) if the permittee knows in advance of the need for a bypass, it shall submit prior notice by applying for such authorization.

9. Changes in Discharges of Toxic Substances

All existing manufacturing, commercial, mining, and silvicultural permittees shall notify the Regional Office, orally or by facsimile transmission within 24 hours, and both the Regional Office and the Enforcement Division (MC 224) in writing within five (5) working days, after becoming aware of or having reason to believe:

- a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant listed at 40 CFR Part 122, Appendix D, Tables II and III (excluding Total Phenols) which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
- i. One hundred micrograms per liter (100 µg/L);
  - ii. Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
  - iii. Five (5) times the maximum concentration value reported for that pollutant in the permit application; or
  - iv. The level established by the TCEQ.
- b. That any activity has occurred or will occur which would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
- i. Five hundred micrograms per liter (500 µg/L);
  - ii. One milligram per liter (1 mg/L) for antimony;
  - iii. Ten (10) times the maximum concentration value reported for that pollutant in the permit application; or
  - iv. The level established by the TCEQ.

10. Signatories to Reports

All reports and other information requested by the Executive Director shall be signed by the person and in the manner required by 30 TAC § 305.128 (relating to Signatories to Reports).

11. All Publicly Owned Treatment Works (POTWs) must provide adequate notice to the Executive Director of the following:

- a. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of the CWA if it were directly discharging those pollutants;
- b. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit; and
- c. For the purpose of this paragraph, adequate notice shall include information on:
  - i. The quality and quantity of effluent introduced into the POTW; and
  - ii. Any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

**PERMIT CONDITIONS**

1. General

- a. When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in an application or in any report to the Executive Director, it shall promptly submit such facts or information.
- b. This permit is granted on the basis of the information supplied and representations made by the permittee during action on an application, and relying upon the accuracy and completeness of that information and those representations. After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked, in whole or in part, in accordance with 30 TAC Chapter 305, Subchapter D, during its term for good cause including, but not limited to, the following:
  - i. Violation of any terms or conditions of this permit;
  - ii. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or
  - iii. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

- c. The permittee shall furnish to the Executive Director, upon request and within a reasonable time, any information to determine whether cause exists for amending, revoking, suspending or terminating the permit. The permittee shall also furnish to the Executive Director, upon request, copies of records required to be kept by the permit.

## 2. Compliance

- a. Acceptance of the permit by the person to whom it is issued constitutes acknowledgment and agreement that such person will comply with all the terms and conditions embodied in the permit, and the rules and other orders of the Commission.
- b. The permittee has a duty to comply with all conditions of the permit. Failure to comply with any permit condition constitutes a violation of the permit and the Texas Water Code or the Texas Health and Safety Code, and is grounds for enforcement action, for permit amendment, revocation or suspension, or for denial of a permit renewal application or an application for a permit for another facility.
- c. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit.
- d. The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal or other permit violation which has a reasonable likelihood of adversely affecting human health or the environment.
- e. Authorization from the Commission is required before beginning any change in the permitted facility or activity that may result in noncompliance with any permit requirements.
- f. A permit may be amended, suspended and reissued, or revoked for cause in accordance with 30 TAC §§ 305.62 and 305.66 and Texas Water Code Section 7.302. The filing of a request by the permittee for a permit amendment, suspension and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.
- g. There shall be no unauthorized discharge of wastewater or any other waste. For the purpose of this permit, an unauthorized discharge is considered to be any discharge of wastewater into or adjacent to water in the state at any location not permitted as an outfall or otherwise defined in the Other Requirements section of this permit.
- h. In accordance with 30 TAC § 305.535(a), the permittee may allow any bypass to occur from a TPDES permitted facility which does not cause permitted effluent limitations to be exceeded or an unauthorized discharge to occur, but only if the bypass is also for essential maintenance to assure efficient operation.
- i. The permittee is subject to administrative, civil, and criminal penalties, as applicable, under Texas Water Code §§ 7.051 - 7.075 (relating to Administrative Penalties), 7.101 - 7.111 (relating to Civil Penalties), and 7.141 - 7.202 (relating to Criminal Offenses and Penalties) for violations including, but not limited to, negligently or knowingly violating the federal Clean Water Act, §§ 301, 302, 306, 307, 308, 318, or 405, or any condition or limitation implementing any sections in a permit issued under the CWA § 402, or any requirement imposed in a pretreatment program approved under the CWA §§ 402 (a)(3) or 402 (b)(8).

## 3. Inspections and Entry

- a. Inspection and entry shall be allowed as prescribed in the Texas Water Code Chapters 26, 27, and 28, and Texas Health and Safety Code Chapter 361.
- b. The members of the Commission and employees and agents of the Commission are entitled to enter any public or private property at any reasonable time for the purpose of inspecting and investigating conditions relating to the quality of water in the state or the compliance with any rule, regulation, permit or other order of the Commission. Members, employees, or agents of the Commission and Commission contractors are entitled to enter public or private property at any reasonable time to investigate or monitor or, if the responsible party is not responsive or there is an immediate danger to public health or the environment, to remove or remediate a condition related to the quality of water in the state. Members, employees, Commission contractors, or agents acting under this authority who enter private property shall observe the establishment's rules and regulations concerning safety, internal security, and fire protection, and if the property has management in residence, shall notify management or the person then in charge of his presence and shall exhibit proper credentials. If any member, employee, Commission contractor, or agent is refused the right to enter in or on public or private property under this authority, the Executive Director may invoke the remedies authorized in Texas Water Code Section 7.002. The statement above, that Commission entry shall occur in accordance with an establishment's rules and regulations concerning safety, internal security, and fire protection, is not grounds for denial or restriction of entry to any part of the facility, but merely describes the Commission's duty to observe appropriate rules and regulations during an inspection.

## 4. Permit Amendment and/or Renewal

- a. The permittee shall give notice to the Executive Director as soon as possible of any planned physical alterations or additions to the permitted facility if such alterations or additions would require a permit amendment or result in a violation of permit requirements. Notice shall also be required under this paragraph when:
  - i. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in accordance with 30 TAC § 305.534 (relating to New Sources and New Dischargers); or
  - ii. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements in Monitoring and Reporting Requirements No. 9;
  - iii. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.
- b. Prior to any facility modifications, additions, or expansions that will increase the plant capacity beyond the permitted flow, the permittee must apply for and obtain proper authorization from the Commission before commencing construction.
- c. The permittee must apply for an amendment or renewal prior to expiration of the existing permit in order to continue a permitted activity after the expiration date of the permit. If an application is submitted prior to the expiration date of the permit, the existing permit shall remain in effect until the application is approved, denied, or returned. If the application is returned or denied, authorization to continue such activity shall terminate upon the effective date of the action. If an application is not submitted prior to the expiration date of the permit, the permit shall expire and authorization to continue such activity shall terminate.
- d. Prior to accepting or generating wastes which are not described in the permit application or which would result in a significant change in the quantity or quality of the existing discharge, the permittee must report the proposed changes to the Commission. The permittee must apply for a permit amendment reflecting any necessary changes in permit conditions, including effluent limitations for pollutants not identified and limited by this permit.
- e. In accordance with the Texas Water Code § 26.029(b), after a public hearing, notice of which shall be given to the permittee, the Commission may require the permittee, from time to time, for good cause, in accordance with applicable laws, to conform to new or additional conditions.
- f. If any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Section 307(a) of the Clean Water Act for a toxic pollutant which is present in the discharge and that standard or prohibition is more stringent than any limitation on the pollutant in this permit, this permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition. The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that established those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

## 5. Permit Transfer

- a. Prior to any transfer of this permit, Commission approval must be obtained. The Commission shall be notified in writing of any change in control or ownership of facilities authorized by this permit. Such notification should be sent to the Water Quality Applications Team (MC 161) of the Registration, Review, and Reporting Division.
- b. A permit may be transferred only according to the provisions of 30 TAC § 305.64 (relating to Transfer of Permits) and 30 TAC § 50.133 (relating to Executive Director Action on Application or WQMP update).

## 6. Relationship to Hazardous Waste Activities

This permit does not authorize any activity of hazardous waste storage, processing, or disposal which requires a permit or other authorization pursuant to the Texas Health and Safety Code.

## 7. Relationship to Water Rights

Disposal of treated effluent by any means other than discharge directly to water in the state must be specifically authorized in this permit and may require a permit pursuant to Chapter 11 of the Texas Water Code.

## 8. Property Rights

A permit does not convey any property rights of any sort, or any exclusive privilege.

## 9. Permit Enforceability

The conditions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

## 10. Relationship to Permit Application

The application pursuant to which the permit has been issued is incorporated herein; provided, however, that in the event of a conflict between the provisions of this permit and the application, the provisions of the permit shall control.

## 11. Notice of Bankruptcy.

a. Each permittee shall notify the executive director, in writing, immediately following the filing of a voluntary or involuntary petition for bankruptcy under any chapter of Title 11 (Bankruptcy) of the United States Code (11 USC) by or against:

- i. the permittee;
- ii. an entity (as that term is defined in 11 USC, §101(15)) controlling the permittee or listing the permit or permittee as property of the estate; or
- iii. an affiliate (as that term is defined in 11 USC, §101(2)) of the permittee.

b. This notification must indicate:

- i. the name of the permittee;
- ii. the permit number(s);
- iii. the bankruptcy court in which the petition for bankruptcy was filed; and
- iv. the date of filing of the petition.

**OPERATIONAL REQUIREMENTS**

1. The permittee shall at all times ensure that the facility and all of its systems of collection, treatment, and disposal are properly operated and maintained. This includes, but is not limited to, the regular, periodic examination of wastewater solids within the treatment plant by the operator in order to maintain an appropriate quantity and quality of solids inventory as described in the various operator training manuals and according to accepted industry standards for process control. Process control, maintenance, and operations records shall be retained at the facility site, or shall be readily available for review by a TCEQ representative, for a period of three years.
2. Upon request by the Executive Director, the permittee shall take appropriate samples and provide proper analysis in order to demonstrate compliance with Commission rules. Unless otherwise specified in this permit or otherwise ordered by the Commission, the permittee shall comply with all applicable provisions of 30 TAC Chapter 312 concerning sewage sludge use and disposal and 30 TAC §§ 319.21 - 319.29 concerning the discharge of certain hazardous metals.
3. Domestic wastewater treatment facilities shall comply with the following provisions:
  - a. The permittee shall notify the Municipal Permits Team, Wastewater Permitting Section (MC 148) of the Water Quality Division, in writing, of any facility expansion at least 90 days prior to conducting such activity.
  - b. The permittee shall submit a closure plan for review and approval to the Agriculture and Sludge Team, Wastewater Permitting Section (MC 148) of the Water Quality Division, for any closure activity at least 90 days prior to conducting such activity. Closure is the act of permanently taking a waste management unit or treatment facility out of service and includes the permanent removal from service of any pit, tank, pond, lagoon, surface impoundment and/or other treatment unit regulated by this permit.
4. The permittee is responsible for installing prior to plant start-up, and subsequently maintaining, adequate safeguards to prevent the discharge of untreated or inadequately treated wastes during electrical power failures by means of alternate power sources, standby generators, and/or retention of inadequately treated wastewater.
5. Unless otherwise specified, the permittee shall provide a readily accessible sampling point and, where applicable, an effluent flow measuring device or other acceptable means by which effluent flow may be determined.

6. The permittee shall remit an annual water quality fee to the Commission as required by 30 TAC Chapter 21. Failure to pay the fee may result in revocation of this permit under Texas Water Code § 7.302(b)(6).

7. Documentation

For all written notifications to the Commission required of the permittee by this permit, the permittee shall keep and make available a copy of each such notification under the same conditions as self-monitoring data are required to be kept and made available. Except for information required for TPDES permit applications, effluent data, including effluent data in permits, draft permits and permit applications, and other information specified as not confidential in 30 TAC § 1.5(d), any information submitted pursuant to this permit may be claimed as confidential by the submitter. Any such claim must be asserted in the manner prescribed in the application form or by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, information may be made available to the public without further notice. If the Commission or Executive Director agrees with the designation of confidentiality, the TCEQ will not provide the information for public inspection unless required by the Texas Attorney General or a court pursuant to an open records request. If the Executive Director does not agree with the designation of confidentiality, the person submitting the information will be notified.

8. Facilities which generate domestic wastewater shall comply with the following provisions; domestic wastewater treatment facilities at permitted industrial sites are excluded.

- a. Whenever flow measurements for any domestic sewage treatment facility reach 75 percent of the permitted daily average or annual average flow for three consecutive months, the permittee must initiate engineering and financial planning for expansion and/or upgrading of the domestic wastewater treatment and/or collection facilities. Whenever the flow reaches 90 percent of the permitted daily average or annual average flow for three consecutive months, the permittee shall obtain necessary authorization from the Commission to commence construction of the necessary additional treatment and/or collection facilities. In the case of a domestic wastewater treatment facility which reaches 75 percent of the permitted daily average or annual average flow for three consecutive months, and the planned population to be served or the quantity of waste produced is not expected to exceed the design limitations of the treatment facility, the permittee shall submit an engineering report supporting this claim to the Executive Director of the Commission.

If in the judgement of the Executive Director the population to be served will not cause permit noncompliance, then the requirement of this section may be waived. To be effective, any waiver must be in writing and signed by the Director of the Enforcement Division (MC 149) of the Commission, and such waiver of these requirements will be reviewed upon expiration of the existing permit; however, any such waiver shall not be interpreted as condoning or excusing any violation of any permit parameter.

- b. The plans and specifications for domestic sewage collection and treatment works associated with any domestic permit must be approved by the Commission, and failure to secure approval before commencing construction of such works or making a discharge is a violation of this permit and each day is an additional violation until approval has been secured.
- c. Permits for domestic wastewater treatment plants are granted subject to the policy of the Commission to encourage the development of area-wide waste collection, treatment and disposal systems. The Commission reserves the right to amend any domestic wastewater permit in accordance with applicable procedural requirements to require the system covered by this permit to be integrated into an area-wide system, should such be developed; to require the delivery of the wastes authorized to be collected in, treated by or discharged from said system, to such area-wide system; or to amend this permit in any other particular to effectuate the Commission's policy. Such amendments may be made when the changes required are advisable for water quality control purposes and are feasible on the basis of waste treatment technology, engineering, financial, and related considerations existing at the time the changes are required, exclusive of the loss of investment in or revenues from any then existing or proposed waste collection, treatment or disposal system.

9. Domestic wastewater treatment plants shall be operated and maintained by sewage plant operators holding a valid certificate of competency at the required level as defined in 30 TAC Chapter 30.

10. For Publicly Owned Treatment Works (POTWs), the 30-day average (or monthly average) percent removal for BOD and TSS shall not be less than 85 percent, unless otherwise authorized by this permit.

11. Facilities which generate industrial solid waste as defined in 30 TAC § 335.1 shall comply with these provisions:

- a. Any solid waste, as defined in 30 TAC § 335.1 (including but not limited to such wastes as garbage, refuse, sludge from a waste treatment, water supply treatment plant or air pollution control facility, discarded materials, discarded materials to be recycled, whether the waste is solid, liquid, or semisolid), generated by the permittee during the management and treatment of wastewater, must be managed in accordance with all applicable provisions of 30 TAC Chapter 335, relating to Industrial Solid Waste Management.

- b. Industrial wastewater that is being collected, accumulated, stored, or processed before discharge through any final discharge outfall, specified by this permit, is considered to be industrial solid waste until the wastewater passes through the actual point source discharge and must be managed in accordance with all applicable provisions of 30 TAC Chapter 335.
- c. The permittee shall provide written notification, pursuant to the requirements of 30 TAC § 335.8(b)(1), to the Corrective Action Section (MC 127) of the Remediation Division informing the Commission of any closure activity involving an Industrial Solid Waste Management Unit, at least 90 days prior to conducting such an activity.
- d. Construction of any industrial solid waste management unit requires the prior written notification of the proposed activity to the Registration and Reporting Section (MC 129) of the Registration, Review, and Reporting Division. No person shall dispose of industrial solid waste, including sludge or other solids from wastewater treatment processes, prior to fulfilling the deed recordation requirements of 30 TAC § 335.5.
- e. The term "industrial solid waste management unit" means a landfill, surface impoundment, waste-pile, industrial furnace, incinerator, cement kiln, injection well, container, drum, salt dome waste containment cavern, or any other structure vessel, appurtenance, or other improvement on land used to manage industrial solid waste.
- f. The permittee shall keep management records for all sludge (or other waste) removed from any wastewater treatment process. These records shall fulfill all applicable requirements of 30 TAC Chapter 335 and must include the following, as it pertains to wastewater treatment and discharge:
  - i. Volume of waste and date(s) generated from treatment process;
  - ii. Volume of waste disposed of on-site or shipped off-site;
  - iii. Date(s) of disposal;
  - iv. Identity of hauler or transporter;
  - v. Location of disposal site; and
  - vi. Method of final disposal.

The above records shall be maintained on a monthly basis. The records shall be retained at the facility site, or shall be readily available for review by authorized representatives of the TCEQ for at least five years.

- 12. For industrial facilities to which the requirements of 30 TAC Chapter 335 do not apply, sludge and solid wastes, including tank cleaning and contaminated solids for disposal, shall be disposed of in accordance with Chapter 361 of the Texas Health and Safety Code.

TCEQ Revision 05/2004

THE STATE OF TEXAS  
COUNTY OF TRAVIS

I hereby certify that this is a true and correct copy of a  
Texas Commission on Environmental Quality document,  
which is filed in the permanent records of the Commission.  
Given under my hand and the seal of office on

*LaDonna Castanuela* APR 20 2006

LaDonna Castanuela, Chief Clerk  
Texas Commission on Environmental Quality

OTHER REQUIREMENTS

- Violations of daily maximum limitations for the following pollutants shall be reported orally or by facsimile to TCEQ Region 9, within 24 hours from the time the permittee becomes aware of the violation followed by a written report within five working days to TCEQ Region 9 and the Enforcement Division (MC 224):

<u>POLLUTANT</u>	<u>MAL (mg/l)</u>
Copper, Total	0.010
Iron, Total	1.000

Test methods utilized shall be sensitive enough to demonstrate compliance with the permit effluent limitations. Permit compliance/noncompliance determinations will be based on the effluent limitations contained in this permit with consideration given to the MAL for the parameters specified above.

When an analysis of an effluent sample for any of the parameters listed above indicates no detectable levels above the MAL and the test method detection level is as sensitive as the specified MAL, a value of zero (0) shall be used for that measurement when determining calculations and reporting requirements for the self-reporting form. This applies to determinations of daily maximum concentration, calculations of loading and daily averages, and other reportable results.

When a reported value is zero (0) based on this MAL provision, the permittee shall submit the following statement with the self-reporting form either as a separate attachment to the form or as a statement in the comments section of the form.

"The reported value(s) of zero (0) for        [list parameter(s)]        on the self-reporting form for        [monitoring period date range]        is based on the following conditions: 1) the analytical method used had a method detection level as sensitive as the MAL specified in the permit, and 2) the analytical results contained no detectable levels above the specified MAL."

When an analysis of an effluent sample for a parameter indicates no detectable levels and the test method detection level is not as sensitive as the MAL specified in the permit, or an MAL is not specified in the permit for that parameter, the level of detection achieved shall be used for that measurement when determining calculations and reporting requirements for the self-reporting form. A zero (0) may not be used.

- There shall be no discharge of polychlorinated biphenyl (PCB) transformer fluid or of waters containing PCB's.
- The permittee shall conduct effluent sampling and reporting in accordance with 30 TAC 319.4-319.12. A monthly effluent report must be submitted each month by the 25<sup>th</sup> day of the following month for each discharge which is described by this permit whether or not a discharge is made for that month.

This provision supersedes and replaces Provision 1 Self-Reporting as defined on Page 4 of this permit.

- There shall be no discharge of domestic wastewater. Domestic wastewater shall be routed to an authorized septic tank/drainfield system for treatment and disposal.
- Chronic toxic criteria apply at the edge of the mixing zone. The mixing zone is defined as 300 feet downstream and 100 feet upstream from the point of discharge.

6. Prior to commencing construction on a modified existing/new source water intake structure subject to the requirements of 40 Code of Federal Regulations (CFR) Part 122, Subpart I; the permittee shall amend the permit to incorporate the requirements of this subpart. The permit amendment application shall meet the requirements of 40 CFR §122.21(r) and §125.86.
7. Attachment A (Table1) shall be completed with the analytical results for Outfalls 001, 101, and 201; tables 2 and 3 shall be completed with the analytical results for Outfall 001 and sent to the TCEQ Wastewater Permitting Section (MC 148), Industrial Team within 90 days of the final sampling event. Based on a technical review of the submitted analytical results, an amendment may be initiated by TCEQ staff to include additional effluent limitations, monitoring requirements, or other conditions.

Table 1: Analysis is required for all pollutants. Wastewater shall be sampled and analyzed for those parameters listed in Table 1 for a minimum of four (4) separate sampling events which are a minimum of one (1) week apart.

Table 2: Analysis is required for those pollutants used as a feedstock, intermediate, product, byproduct, coproduct, maintenance chemical, or that could in any way contribute to contamination in the Outfall 001 discharge. Sampling and analysis shall be conducted for a minimum of one sampling event.

Table 3: For all pollutants listed, the permittee shall indicate whether each pollutant is believed to be present or absent in the discharge. Sampling and analysis shall be conducted for each pollutant for each pollutant believed present, for a minimum of one sampling event.

The permittee shall report the flow at Outfall X in million gallons per day.

## 8. DEFINITIONS

- A. The "flow weighted average temperature" (FWAT) shall be computed and recorded on a daily basis. FWAT shall be computed at equal time intervals not greater than two hours. The method of calculating FWAT is as follows:

$$\text{FWAT} = \frac{\text{SUMMATION (INSTANTANEOUS FLOW X INSTANTANEOUS TEMPERATURE)}}{\text{SUMMATION (INSTANTANEOUS FLOW)}}$$

The "daily average temperature" shall be arithmetic average of all FWAT's calculated during the calendar month.

The "daily maximum temperature" shall be the highest FWAT calculated during calendar month.

- B. The term "total residual chlorine" (or total residual oxidants for intake water with bromides) means the value obtained using the amperometric method for total residual chlorine described in 40 CFR Part 136.

Total residual chlorine may not be discharged from any single generating unit for more than two hours per day unless the discharger demonstrates to the permitting authority that discharge for more than two hours is required for macroinvertebrate control.

Simultaneous multi-unit chlorination is permitted.

The term "free available chlorine" shall mean the value obtained using the amperometric titration method for free available chlorine described in "Standard Methods for the Examination of Water and Wastewater". The permittee may use the DPD spectrophotometric method (EPA Method 330.5) upon written notification of the Executive Director, provided that EPA has modified the existing effluent limitation guidelines (40 CFR Part 423) or has provided the permittee with documentation that this new test method is appropriate for use by steam electric power generating facilities.

Neither free available chlorine nor total residual chlorine may be discharged from any unit for more than two hours in any one day and not more than one unit in any plant may discharge free available or total residual chlorine at any one time unless the permittee can demonstrate to the permitting Agency that the units in a particular location cannot operate at or below the limitations specified in this permit.

- C. The term "metal cleaning waste" means 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.

The term "chemical metal cleaning waste" means any wastewater resulting from the cleaning of any metal process equipment with chemical compounds, including, but not limited to, boiler tube cleaning.

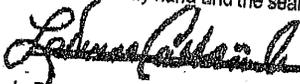
- D. The term "low volume waste sources" means wastewaters from, but not limited to: wet scrubber air pollution control systems, ion exchange water treatment system, water treatment, evaporator and boiler blowdown, laboratory and sampling streams, floor drainage, cooling tower basin cleaning wastes, blowdown from recirculating house service water systems and SCC quench water stream. Sanitary and air conditioning wastes are not included.
- E. The term "ash transport water" shall mean water used in the transport of either fly ash or bottom ash.
- F. The term "coal pile runoff" means the rainfall runoff from or through any coal, ash, or other material storage pile.
- G. The term "blowdown" means the minimum discharge of recirculating water for the purpose of discharging materials contained in the water, the further buildup of which would cause concentration in amounts exceeding limits established by best engineering practices.
- H. The term "10-year, 24-hour rainfall event" shall mean a rainfall event with the probable recurrence interval of once in ten years as defined by the National Weather Service, or by equivalent regional or state rainfall probability information.
9. The 126 priority pollutants (Appendix A of Part 423) contained in chemicals added for cooling tower maintenance, except chromium and zinc, shall be limited in the discharge to "no detectable amount". The permittee shall be responsible for determining the composition of maintenance chemicals. The use of other chemical additives, including phosphorus, is not authorized unless approval is obtained and limitations are established on a case-by-case basis in accordance with 40 CFR Part 122.62(a).

This permit prohibits the use of chemical substances containing chromium or zinc for the maintenance of the cooling tower blowdown.

#### 10. POND LINER AND OPERATION REQUIREMENTS

- A. All wastewater ponds (including the coal pile runoff pond) shall be lined in compliance with one of the following requirements:

1. Soil Liner: The soil liner shall contain at least 3 feet of clay-rich (liquid limit greater than or equal to 30 and plasticity index greater than or equal to 15) soil material along the sides and bottom of the pond compacted in lifts of no more than 9 inches, to 95% standard proctor density at the optimum moisture content to achieve a permeability equal to or less than  $1 \times 10^{-7}$  cm/sec.
  2. Synthetic/Plastic/Rubber Liner: The liner shall be either a plastic or rubber membrane liner at least 30 mils in thickness which completely covers the sides and the bottom of the pond and which is not subject to degradation due to reaction with wastewater with which it will come into contact. If this lining material is vulnerable to ozone or ultraviolet deterioration it should be covered with a protective layer of soil of at least 6 inches. A leak detection system is also required.
  3. Alternate Liner: The permittee shall submit plans for any other pond lining method. Pond liner plans must be approved in writing by the Executive Director of the Texas Natural Resource Conservation Commission prior to pond construction.
- B. The permittee shall notify the Texas Commission on Environmental Quality Regional Office upon completion of construction of any new pond and at least a week prior to its use. Certification of the lining specifications shall be provided by a Texas licensed professional engineer and shall be available for inspection by TCEQ personnel upon request. For new construction, the certification and the test results of soils forming the bottom and sides of the pond shall be submitted to the TCEQ, Wastewater Permitting Section (MC 148) and Regional Office for review prior to discharging any wastewaters into the ponds. Permeability tests shall be made with material typical of the expected use.
- C. The permittee shall maintain a minimum 2 foot freeboard for all wastewater ponds.
- D. At least once per month, the permittee shall inspect any pond leak detection systems that are in service. Leaking ponds shall be removed from service either until repairs are made or replacement ponds are constructed.
11. The permittee is hereby placed on notice that this permit may be reviewed by the Texas Commission on Environmental Quality after the completion of any new intensive water quality survey on Segment No. 1242 of the Brazos River Basin and any subsequent updating of the water quality model for Segment No. 1242, in order to determine if the limitations and conditions contained herein are consistent with any such revised model. The permit may be amended, pursuant to 30 TAC 305.62, as a result of such review.
  12. The permittee shall resample the effluent for all pollutants required for steam electric stations in the TCEQ's industrial wastewater permit application if the source of coal used at the facility changes from the Powder River basin.

THE STATE OF TEXAS  
COUNTY OF TRAVIS  
I hereby certify that this is a true and correct copy of a  
Texas Commission on Environmental Quality document,  
which is filed in the permanent records of the Commission.  
Given under my hand and the seal of office on  
 APR 20 2006  
LaDonna Castanuela, Chief Clerk  
Texas Commission on Environmental Quality

ATTACHMENT A

TABLE 1

Outfall No.:	<input type="checkbox"/> C <input type="checkbox"/> G	Effluent Concentration (mg/l)						
Pollutants		Samp. 1	Samp. 2	Samp. 3	Samp. 4	Average		
BOD (5-day)								
CBOD (5-day)								
Dissolved Oxygen								
Chemical Oxygen Demand								
Total Organic Carbon								
Ammonia Nitrogen								
Total Suspended Solids								
Nitrate Nitrogen								
Total Organic Nitrogen								
Total Phosphorus								
Oil and Grease								
Total Residual Chlorine								
Total Dissolved Solids								
Sulfate								
Chloride								
Fluoride								
Fecal Coliform								
Temperature(°F)								
pH (Standard Units; min/max)								
		Effluent Concentration (µg/l)						MAL (µg/l)
Total Aluminum						30		
Total Antimony						30		
Total Arsenic						10		
Total Barium						10		
Total Beryllium						5		
Total Cadmium						1		
Total Chromium						10		
Trivalent Chromium						N/A		
Hexavalent Chromium						10		
Total Copper						10		
Cyanide						20		
Total Lead						5		
Total Mercury						0.2		
Total Nickel						10		
Total Selenium						10		

Total Silver						2.0
Total Thallium						10
Total Zinc						5

TABLE 2:

Outfall No.:	<input type="checkbox"/> C <input type="checkbox"/> G	Effluent Concentration (µg/l) (*1)					MAL (µg/l)
		Samp. 1	Samp. 2	Samp. 3	Samp. 4	Average	
<u>Benzene</u>							10
<u>Benzidine</u>							50
<u>Benzo(a)anthracene</u>							10
<u>Benzo(a)pyrene</u>							10
<u>Carbon Tetrachloride</u>							10
<u>Chlorobenzene</u>							10
<u>Chloroform</u>							10
<u>Chrysene</u>							10
<u>Cresols</u>							(*2)
<u>Dibromochloromethane</u>							10
<u>1,2-Dibromoethane</u>							2
<u>1,4-Dichlorobenzene</u>							10
<u>1,2-Dichloroethane</u>							10
<u>1,1-Dichloroethylene</u>							10
<u>Fluoride</u>							500
<u>Hexachlorobenzene</u>							10
<u>Hexachlorobutadiene</u>							10
<u>Hexachloroethane</u>							20
<u>Methyl Ethyl Ketone</u>							50
<u>Nitrobenzene</u>							10
<u>n-Nitrosodiethylamine</u>							20
<u>n-Nitroso-di-n-Butylamine</u>							20
<u>PCB's, Total (*3)</u>							1
<u>Pentachlorobenzene</u>							20
<u>Pentachlorophenol</u>							50
<u>Phenanthrene</u>							10
<u>Pyridine</u>							20
<u>1,2,4,5-Tetrachlorobenzene</u>							20
<u>Tetrachloroethylene</u>							10
<u>Trichloroethylene</u>							10
<u>1,1,1-Trichloroethane</u>							10
<u>2,4,5-Trichlorophenol</u>							50

<b>TTHM (Total</b>						<b>10</b>
<b>Vinyl Chloride</b>						<b>10</b>

(\*1) Indicate units if different from µg/l.

(\*2) MAL's for Cresols: p-Chloro-m-Cresol 10 µg/l; 4,6-Dinitro-o-Cresol 50 µg/l; p-Cresol 10 µg/l

(\*3) Total of PCB-1242, PCB-1254, PCB-1221, PCB-1232, PCB-1248, PCB-1260, PCB-1016.

TABLE 3:

Outfall No.:	<input type="checkbox"/> C <input type="checkbox"/> G	Believed Present	Believed Absent	Effluent Concentration (mg/l)		No. of Samples
				Average	Maximum	
Pollutants						
Bromide						
Color (PCU)						
Nitrate-Nitrite(as N)						
Sulfide(as S)						
Sulfite(as SO <sub>3</sub> )						
Surfactants						
Total Antimony						
Total Beryllium						
Total Boron						
Total Cobalt						
Total Iron						
Total Magnesium						
Total Molybdenum						
Total Manganese						
Total Thallium						
Total Tin						
Total Titanium						

Outfall No.:	<input type="checkbox"/> C <input type="checkbox"/> G	Effluent Concentration (µg/l) (*1)					MAL (µg/l)
		Samp. 1	Samp. 2	Samp. 3	Samp. 4	Avg.	
Pollutants							
Beta-hexachlorocyclohexane							0.05
Carbaryl							5
Chlordane							0.15
Chlorpyrifos							0.05
2,4-D							10
Danitol							----
4,4'-DDD							0.1
4,4'-DDE							0.1
4,4'-DDT							0.1
Demeton							0.2

Diazinon						0.5
Dicofol						20
Dieldrin						0.1
Diuron						----
Endosulfan I (alpha)						0.1
Endosulfan II (beta)						0.1
Endosulfan Sulfate						0.1
Endrin						0.1
Gamma - Hexachlorocyclohexane						0.05
Guthion						0.10
Heptachlor						0.05
Heptachlor Epoxide						1.0
Hexachlorophene						10
Malathion						0.10
Methoxychlor						2.0
Mirex						0.2
Parathion						0.1
Toxaphene						5
2,4,5-TP (Silvex)						2

\* Indicate units if different from mg/L.

Outfall No.:	<input type="checkbox"/> C <input type="checkbox"/> G	Effluent Concentration (µg/l) *		No. of Samples	MAL
		Average	Maximum		
<b>POLLUTANTS</b>					
<b>VOLATILE COMPOUNDS</b>					
Acrolein					50
Acrylonitrile					50
Benzene					10
Bromoform					10
Carbon Tetrachloride					10
Chlorobenzene					10
Chlorodibromomethane					10
Chloroethane					50
2-Chloroethylvinyl Ether					10
Chloroform					10
Dichlorobromomethane					10
1,1-Dichloroethane					10
1,2,-Dichloroethane					10
1,1-Dichloroethylene					10

1,2-Dichloropropane				10
1,3-Dichloropropylene				10
Ethylbenzene				10
Methyl Bromide				20
Methyl Chloride				50
Methylene Chloride				20
1,1,2,2-Tetrachloroethane				10
Tetrachloroethylene				50
Toluene				10
1,2-Trans-Dichloroethylene				10
1,1,1-Trichloroethane				10
1,1,2-Trichloroethane				10
Trichloroethylene				10
Vinyl Chloride				10

Pollutants	Effluent Concentration		No. of	MAL
	Average	Maximum		
<b>ACID COMPOUNDS</b>				
2-Chlorophenol				10
2,4-Dichlorophenol				10
2,4-Dimethylphenol				10
4,6-Dinitro-o-Cresol				50
2,4-Dinitrophenol				50
2-Nitrophenol				20
4-Nitrophenol				50
P-Chloro-m-Cresol				10
Pentachlorophenol				50
Phenol				10
2,4,6-Trichlorophenol				10
<b>BASE/NEUTRAL COMPOUNDS</b>				
Acenaphthene				10
Acenaphthylene				10
Anthracene				10
Benzidine				50
Benzo(a)Anthracene				10
Benzo(a)Pyrene				10
3,4-Benzofluoranthene				10

Benzo(ghi)Perylene				20
Benzo(k)Fluoranthene				10
Bis(2-Chloroethoxy)Methane				10
Bis(2-Chloroethyl)Ether				10
Bis(2-Chloroisopropyl)Ether				10
Bis(2-Ethylhexyl)Phthalate				10
4-Bromophenyl Phenyl Ether				10
Chrysene				10
Dibenzo(a,h)Anthracene				20
1,2-Dichlorobenzene				10
1,3-Dichlorobenzene				10
1,4-Dichlorobenzene				10
3,3-Dichlorobenzidine				50
Diethyl Phthalate				10
Dimethyl Phthalate				10
Di-n-Butyl Phthalate				10
2,4-Dinitrotoluene				10
<b>Effluent Concentration</b>				
Pollutants	Average	Maximum	No. of	MAL
<b>BASE/NEUTRAL COMPOUNDS (cont.)</b>				
2,6-Dinitrotoluene				10
Di-n-Octyl Phthalate				10
1,2-Diphenyl Hydrazine (as Azobenzene)				20
Fluoranthene				10
Fluorene				10
Hexachlorobenzene				10
Hexachlorobutadiene				10
Hexachlorocyclopentadiene				10
Hexachloroethane				20
Indeno(1,2,3-cd)pyrene				20
Isophorone				10
Naphthalene				10
Nitrobenzene				10
N-Nitrosodimethylamine				50
N-Nitrosodi-n-Propylamine				20
N-Nitrosodiphenylamine				20
Phenanthrene				10

Pyrene				10
1,2,4-Trichlorobenzene				10
<b>PESTICIDES</b>				
Aldrin				0.05
alpha-BHC				0.05
beta-BHC				0.05
gamma-BHC				0.05
delta-BHC				0.05
Chlordane				0.15
4,4,-DDT				0.1
4,4,-DDE				0.1
4,4,-DDD				0.1
Dieldrin				0.1
alpha-Endosulfan				0.1
beta-Endosulfan				0.1
Endosulfan Sulfate				0.1
Endrin				0.1
Endrin Aldehyde				0.1
Heptachlor				0.05
	<b>Effluent Concentration</b>			
<b>Pollutants</b>	<b>Average</b>	<b>Maximum</b>	<b>No. of</b>	<b>MAL</b>
PCB-1254				1.0
PCB-1221				1.0
PCB-1232				1.0
PCB-1248				1.0
PCB-1260				1.0
PCB-1016				1.0
Toxaphene				5.0

\* Indicate units if different from µg/l.

48-HOUR ACUTE BIOMONITORING REQUIREMENTS: FRESHWATER

The provisions of this Section apply to Outfall 001 for whole effluent toxicity testing (biomonitoring).

1. Scope, Frequency and Methodology

- a. The permittee shall test the effluent for toxicity in accordance with the provisions below. Such testing will determine if an appropriately dilute effluent sample adversely affects the survival of the test organisms.
- b. The permittee shall conduct the following toxicity tests utilizing the test organisms, procedures, and quality assurance requirements specified in this section of the permit and in accordance with "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition" (EPA-821-R-02-012), or the most recent update thereof:
  - 1) Acute static renewal 48-hour definitive toxicity test using the water flea (*Daphnia pulex* or *Ceriodaphnia dubia*). A minimum of five replicates with eight organisms per replicate shall be used in the control and in each dilution. This test shall be conducted once per quarter.
  - 2) Acute static renewal 48-hour definitive toxicity test using the fathead minnow (*Pimephales promelas*). A minimum of five replicates with eight organisms per replicate shall be used in the control and in each dilution. This test shall be conducted once per quarter.

The permittee must perform and report a valid test for each test species during the prescribed reporting period. An invalid test must be repeated during the same reporting period. An invalid test is herein defined as any test failing to satisfy the test acceptability criteria, procedures, and quality assurance requirements specified in the test methods and permit. All test results, valid or invalid, must be submitted as described below.

- c. The permittee shall use five effluent dilution concentrations and a control in each toxicity test. These additional effluent concentrations shall be 19%, 25%, 33%, 44%, and 59% effluent. The critical dilution, defined as 44% effluent, is the effluent concentration representative of the proportion of effluent in the receiving water during critical low flow or critical mixing conditions.
- d. This permit may be amended to require a Whole Effluent Toxicity (WET) limit, a Chemical-Specific (CS) limit, a Best Management Practice (BMP), additional toxicity testing, and/or other appropriate actions to address toxicity. The permittee may be required to conduct additional biomonitoring tests and/or a Toxicity Reduction Evaluation (TRE) if biomonitoring data indicate multiple numbers of unconfirmed toxicity events.
- e. Testing Frequency Reduction
  - 1) If none of the first four consecutive quarterly tests demonstrates significant lethal effects, the permittee may submit this information in writing and, upon approval from the Water Quality Standards Team, reduce the testing frequency to once per six months for the invertebrate test species and once per year for the vertebrate test species.

- 2) If one or more of the first four consecutive quarterly tests demonstrates significant lethal effects, the permittee shall continue quarterly testing for that species until the permit is reissued. If a testing frequency reduction had been previously granted and a subsequent test demonstrates significant lethal effects, the permittee will resume a quarterly testing frequency for that species until the permit is reissued.

## 2. Required Toxicity Testing Conditions

- a. Test Acceptance - The permittee shall repeat any toxicity test, including the control and all effluent dilutions, which fails to meet any of the following criteria:

- 1) a control mean survival of 90% or greater;
- 2) a Coefficient of Variation percent (CV%) of 40 or less for both the control and critical dilution. However, if significant lethality is demonstrated, a CV% greater than 40 shall not invalidate the test. The CV% requirement does not apply when significant lethality occurs.

- b. Statistical Interpretation

- 1) For the water flea and fathead minnow tests, the statistical analyses used to determine if there is a significant difference between the control and an effluent dilution shall be in accordance with "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition" (EPA-821-R-02-012), or the most recent update thereof.
- 2) The permittee is responsible for reviewing test concentration-response relationships to ensure that calculated test-results are interpreted and reported correctly. The EPA manual, "Method Guidance and Recommendation for Whole Effluent Toxicity (WET) Testing (40 CFR Part 136)" (EPA 821-B-00-004) provides guidance on determining the validity of test results.
- 3) If significant lethality is demonstrated (that is, there is a statistically significant difference in survival at the critical dilution when compared to the control), the conditions of test acceptability are met, and the survival of the test organisms are equal to or greater than 90% in the critical dilution and all dilutions below that, then the permittee shall report a survival No Observed Effect Concentration (NOEC) of not less than the critical dilution for the reporting requirements.
- 4) The NOEC is defined as the greatest effluent dilution at which no significant lethality is demonstrated. The Lowest Observed Effect Concentration (LOEC) is defined as the lowest effluent dilution at which significant lethality is demonstrated. Significant lethality is herein defined as a statistically significant difference at the 95% confidence level between the survival of the test organism(s) in a specified effluent dilution compared to the survival of the test organism(s) in the control (0% effluent).
- 5) The use of NOECs and LOECs assumes either a monotonic (continuous) concentration-response relationship or a threshold model of the concentration-response relationship. For any test result that demonstrates a non-monotonic (non-continuous) response, the NOEC should be determined based on the guidance manual referenced in Item 3 above and a full report will be submitted to the Water Quality Standards Team.

- 6) Pursuant to the responsibility assigned to the permittee in Part 2.b.2), test results that demonstrate a non-monotonic (non-continuous) concentration-response relationship may be submitted, prior to the due date, for technical review. The above-referenced guidance manual will be used when making a determination of test acceptability.
- 7) The Water Quality Standards Team will review test results (i.e., Table 1 and Table 2 forms) for consistency with established TCEQ rules, procedures, and permit requirements.

c. Dilution Water

- 1) Dilution water used in the toxicity tests shall be the receiving water collected at a point upstream of the discharge as close as possible to the discharge point, but unaffected by the discharge. Where the toxicity tests are conducted on effluent discharges to receiving waters that are classified as intermittent streams, or where the toxicity tests are conducted on effluent discharges where no receiving water is available due to zero flow conditions, the permittee shall; (a) substitute a synthetic dilution water that has a pH, hardness, and alkalinity similar to that of the closest downstream perennial water unaffected by the discharge, or (b) utilize the closest downstream perennial water unaffected by the discharge.
- 2) Where the receiving water proves unsatisfactory as a result of preexisting instream toxicity (i.e. fails to fulfill the test acceptance criteria of item 2.a.), the permittee may substitute synthetic dilution water for the receiving water in all subsequent tests provided the unacceptable receiving water test met the following stipulations:
  - a) a synthetic lab water control was performed (in addition to the receiving water control) which fulfilled the test acceptance requirements of item 2.a;
  - b) the test indicating receiving water toxicity was carried out to completion;
  - c) the permittee submitted all test results indicating receiving water toxicity with the reports and information required in Part 3 of this Section.

The synthetic dilution water shall have a pH, hardness, and alkalinity similar to that of the receiving water or a natural water in the drainage basin that is unaffected by the discharge, provided the magnitude of these parameters will not cause toxicity in a synthetic dilution water control that has been formulated to match the pH, hardness, and alkalinity naturally found in the receiving water. Upon approval, the permittee may substitute other appropriate dilution water with chemical and physical characteristics similar to that of the receiving water.

d. Samples and Composites

- 1) The permittee shall collect a minimum of two flow-weighted 24-hour composite samples from Outfall 001. The second 24-hour composite sample will be used for the renewal of the dilution concentrations for each toxicity test. A 24-hour composite sample consists of a minimum of 12 effluent portions collected at equal time intervals representative of a 24-hour operating day and combined proportionally to flow, or a sample continuously collected proportionally to flow over a 24-hour operating day.
- 2) The permittee shall collect the 24-hour composite samples such that the samples are representative of any periodic episode of chlorination, biocide usage, or other potentially toxic substance discharged on an intermittent basis.

- 3) The permittee shall initiate the toxicity tests within 36 hours after collection of the last portion of the first 24-hour composite sample. The holding time for any subsequent 24-hour composite sample shall not exceed 36 hours. Samples shall be maintained at a temperature of 0-6 degrees Centigrade during collection, shipping, and storage.
- 4) If flow from the outfall being tested ceases during the collection of effluent samples, the requirements for the minimum number of effluent samples, the minimum number of effluent portions, and the sample holding time, are waived during that sampling period. However, the permittee must have collected an effluent composite sample volume sufficient to complete the required toxicity tests with daily renewal of the effluent. When possible, the effluent samples used for the toxicity tests shall be collected on separate days if the discharge occurs over multiple days. The effluent composite sample collection duration and the static renewal protocol associated with the abbreviated sample collection must be documented in the full report required in Part 3.

### 3. Reporting

All reports, tables, plans, summaries, and related correspondence required in any Part of this Section shall be submitted to the attention of the Water Quality Standards Team (MC 150) of the Water Quality Division. All DMRs, including DMRs with biomonitoring data, should be sent to the Water Quality Compliance Monitoring Team of the Enforcement Division (MC 224).

- a. The permittee shall prepare a full report of the results of all tests conducted pursuant to this permit in accordance with the Report Preparation Section of "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms Fifth Edition" (EPA-821-R-02-012), or the most recent update thereof, for every valid and invalid toxicity test initiated whether carried to completion or not. The full reports shall be retained for 3 years at the plant site and shall be available for inspection by TCEQ personnel.
- b. A full report must be submitted with the first valid biomonitoring test results for each test species and with the first test results any time the permittee subsequently employs a different test laboratory. Full reports need not be submitted for subsequent testing unless specifically requested. The permittee shall routinely report the results of each biomonitoring test on the Table 1 forms provided with this permit. All Table 1 reports must include the information specified in the Table 1 form attached to this permit.
  - 1) Annual biomonitoring test results are due on or before January 20th for biomonitoring conducted during the previous 12 month period.
  - 2) Semiannual biomonitoring test results are due on or before July 20th and January 20th for biomonitoring conducted during the previous 6 month period.
  - 3) Quarterly biomonitoring test results are due on or before April 20th, July 20th, October 20th, and January 20th, for biomonitoring conducted during the previous calendar quarter.
  - 4) Monthly biomonitoring test results are due on or before the 20th day of the month following sampling.
- c. Enter the following codes on the DMR for the appropriate parameters for valid tests only:
  - 1) For the water flea, Parameter TEM3D, enter a "1" if the NOEC for survival is less than the critical dilution; otherwise, enter a "0."

- 2) For the water flea, Parameter TOM3D, report the NOEC for survival.
  - 3) For the water flea, Parameter TXM3D, report the LOEC for survival.
  - 4) For the fathead minnow, Parameter TEM6C, enter a "1" if the NOEC for survival is less than the critical dilution; otherwise, enter a "0."
  - 5) For the fathead minnow, Parameter TOM6C, report the NOEC for survival.
  - 6) For the fathead minnow, Parameter TXM6C, report the LOEC for survival.
- d. Enter the following codes on the DMR for retests only:
- 1) For retest number 1, Parameter 22415, enter a "1" if the NOEC for survival is less than the critical dilution; otherwise, enter a "0."
  - 2) For retest number 2, Parameter 22416, enter a "1" if the NOEC for survival is less than the critical dilution; otherwise, enter a "0."

#### 4. Persistent Lethality

The requirements of this Part apply only when a toxicity test demonstrates significant lethality. Significant lethality is defined as a statistically significant difference, at the 95% confidence level, between the survival of the test organism in a specified effluent dilution when compared to the survival of the test organism in the control.

- a. The permittee shall conduct a total of two additional tests (retests) for any species that demonstrates significant lethality. The two retests shall be conducted monthly during the next two consecutive months. The permittee shall not substitute either of the two retests in lieu of routine toxicity testing. All reports shall be submitted within 20 days of test completion. Test completion is defined as the last day of the test. The retests shall also be reported on the DMRs as specified in Part 3.d.
- b. If one or both of the two retests specified in item 4.a. demonstrates significant lethality, the permittee shall initiate the TRE requirements as specified in Part 5.
- c. The provisions of item 4.a. are suspended upon completion of the two retests and submittal of the TRE Action Plan and Schedule defined in Part 5 of this Section.

#### 5. Toxicity Reduction Evaluation

- a. Within 45 days of the last test day of the retest that demonstrates significant lethality, the permittee shall submit a General Outline for initiating a TRE. The outline shall include, but not be limited to, a description of project personnel, a schedule for obtaining consultants (if needed), a discussion of influent and/or effluent data available for review, a sampling and analytical schedule, and a proposed TRE initiation date.
- b. Within 90 days of the last test day of the retest that demonstrates significant lethality, the permittee shall submit a TRE Action Plan and Schedule for conducting a TRE. The plan shall specify the approach and methodology to be used in performing the TRE. A Toxicity Reduction Evaluation is a step-wise investigation combining toxicity testing with physical and chemical analysis to determine actions necessary to eliminate or reduce effluent toxicity to a level not effecting

significant lethality at the critical dilution. The TRE Action Plan shall lead to the successful elimination of significant lethal effects at the critical dilution for both test species defined in item 1.b. As a minimum, the TRE Action Plan shall include the following:

- 1) **Specific Activities** - The TRE Action Plan shall specify the approach the permittee intends to utilize in conducting the TRE, including toxicity characterizations, identifications, confirmations, source evaluations, treatability studies, and/or alternative approaches. When conducting characterization analyses, the permittee shall perform multiple characterizations and follow the procedures specified in the document entitled, "Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures" (EPA/600/6-91/003), or alternate procedures. The permittee shall perform multiple identifications and follow the methods specified in the documents entitled, "Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/60-0/R-92/080) and "Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/081). All characterization, identification, and confirmation tests shall be conducted in an orderly and logical progression;
  - 2) **Sampling Plan** - The TRE Action Plan should describe sampling locations, methods, holding times, chain of custody, and preservation techniques. The effluent sample volume collected for all tests shall be adequate to perform the toxicity characterization/identification/confirmation procedures, and chemical-specific analyses when the toxicity tests show significant lethality. Where the permittee has identified or suspects specific pollutant(s) and/or source(s) of effluent toxicity, the permittee shall conduct, concurrent with toxicity testing, chemical-specific analyses for the identified and/or suspected pollutant(s) and/or source(s) of effluent toxicity;
  - 3) **Quality Assurance Plan** - The TRE Action Plan should address record keeping and data evaluation, calibration and standardization, baseline tests, system blanks, controls, duplicates, spikes, toxicity persistence in the samples, randomization, reference toxicant control charts, as well as mechanisms to detect artifactual toxicity; and
  - 4) **Project Organization** - The TRE Action Plan should describe the project staff, project manager, consulting engineering services (where applicable), consulting analytical and toxicological services, etc.
- c. Within 30 days of submittal of the TRE Action Plan and Schedule, the permittee shall implement the TRE with due diligence.
- d. The permittee shall submit quarterly TRE Activities Reports concerning the progress of the TRE. The quarterly reports are due on or before April 20th, July 20th, October 20th, and January 20th. The report shall detail information regarding the TRE activities including:
- 1) results and interpretation of any chemical-specific analyses for the identified and/or suspected pollutant(s) performed during the quarter;
  - 2) results and interpretation of any characterization, identification, and confirmation tests performed during the quarter;
  - 3) any data and/or substantiating documentation which identifies the pollutant(s) and/or source(s) of effluent toxicity;

- 4) results of any studies/evaluations concerning the treatability of the facility's effluent toxicity;
- 5) any data which identifies effluent toxicity control mechanisms that will reduce effluent toxicity to the level necessary to meet no significant lethality at the critical dilution; and
- 6) any changes to the initial TRE Plan and Schedule that are believed necessary as a result of the TRE findings.

Copies of the TRE Activities Report shall also be submitted to the U.S. EPA Region 6 office.

- e. During the TRE, the permittee shall perform, at a minimum, quarterly testing using the more sensitive species; testing for the less sensitive species shall continue at the frequency specified in Part 1.b.
- f. If the effluent ceases to effect significant lethality (herein as defined below) the permittee may end the TRE. A "cessation of lethality" is defined as no significant lethality for a period of 12 consecutive months with at least monthly testing. At the end of the 12 months, the permittee shall submit a statement of intent to cease the TRE and may then resume the testing frequency specified in Part 1.b. The permittee may only apply the "cessation of lethality" provision once.

This provision accommodate situations where operational errors and upsets, spills, or sampling errors triggered the TRE, in contrast to a situation where a single toxicant or group of toxicants cause lethality. This provision does not apply as a result of corrective actions taken by the permittee. "Corrective actions" are herein defined as proactive efforts which eliminate or reduce effluent toxicity. These include, but are not limited to, source reduction or elimination, improved housekeeping, changes in chemical usage, and modifications of influent streams and/or effluent treatment.

The permittee may only apply this cessation of lethality provision once. If the effluent again demonstrates significant lethality to the same species, the permit will be amended to add a WET limit with a compliance period, if appropriate. However, prior to the effective date of the WET limit, the permittee may apply for a permit amendment removing and replacing the WET limit with an alternate toxicity control measure by identifying and confirming the toxicant and/or an appropriate control measure.

- g. The permittee shall complete the TRE and submit a Final Report on the TRE Activities no later than 28 months from the last test day of the retest that confirmed significant lethal effects at the critical dilution. The permittee may petition the Executive Director (in writing) for an extension of the 28-month limit. However, to warrant an extension the permittee must have demonstrated due diligence in their pursuit of the TIE/TRE and must prove that circumstances beyond their control stalled the TIE/TRE. The report shall provide information pertaining to the specific control mechanism(s) selected that will, when implemented, result in reduction of effluent toxicity to no significant lethality at the critical dilution. The report will also provide a specific corrective action schedule for implementing the selected control mechanism(s). A copy of the TRE Final Report shall also be submitted to the U.S. EPA Region 6 office.
- h. Based upon the results of the TRE and proposed corrective actions, this permit may be amended to modify the biomonitoring requirements, where necessary, to require a compliance schedule for implementation of corrective actions, to specify a WET limit, to specify a BMP, and/or to specify CS limits.

TABLE 1 (SHEET 1 OF 2)

WATER FLEA SURVIVAL

Dates and Times      No. 1 FROM: \_\_\_\_\_ Date      Time      TO: \_\_\_\_\_ Date      Time  
 Composites  
 Collected      No. 2 FROM: \_\_\_\_\_ TO: \_\_\_\_\_

Test initiated: \_\_\_\_\_ am/pm \_\_\_\_\_ date

Dilution water used: \_\_\_\_\_ Receiving water \_\_\_\_\_ Synthetic Dilution water

PERCENT SURVIVAL

Time	Rep	Percent effluent (%)					
		0%	19%	25%	33%	44%	59%
24h	A						
	B						
	C						
	D						
	E						
48h	A						
	B						
	C						
	D						
	E						
Mean at test end							
CV%*							

\*Coefficient of Variation = Standard Deviation x 100/mean

Dunnnett's Procedure or Steel's Many-One Rank Test as appropriate:

Is the mean survival at 48 hours significantly less (p = 0.05) than the control survival?

CRITICAL DILUTION (44%): \_\_\_\_\_ YES \_\_\_\_\_ NO

Enter percent effluent corresponding to the NOEC\LOEC below:

- 1) NOEC survival = \_\_\_\_\_ % effluent
- 2) LOEC survival = \_\_\_\_\_ % effluent



24-HOUR ACUTE BIOMONITORING REQUIREMENTS: FRESHWATER

The provisions of this Section apply individually and separately to Outfall 001 for whole effluent toxicity testing (biomonitoring). No samples or portions of samples from one outfall may be composited with samples or portions of samples from another outfall.

1. Scope, Frequency and Methodology

- a. The permittee shall test the effluent for lethality in accordance with the provisions in this Section. Such testing will determine compliance with the Surface Water Quality Standard, 30 TAC §307.6(e)(2)(B), of greater than 50% survival of the appropriate test organisms in 100% effluent for a 24-hour period.
- b. The toxicity tests specified shall be conducted once per six months. The permittee shall conduct the following toxicity tests utilizing the test organisms, procedures, and quality assurance requirements specified in this section of the permit and in accordance with "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition" (EPA-821-R-02-012), or the most recent update thereof:
  - 1) Acute 24-hour static toxicity test using the water flea (*Daphnia pulex* or *Ceriodaphnia dubia*). A minimum of five replicates with eight organisms per replicate shall be used in the control and in each dilution.
  - 2) Acute 24-hour static toxicity test using the fathead minnow (*Pimephales promelas*). A minimum of five replicates with eight organisms per replicate shall be used in the control and in each dilution.

The permittee must perform and report a valid test for each test species during the prescribed reporting period. An invalid test must be repeated during the same reporting period. An invalid test is herein defined as any test failing to satisfy the test acceptability criteria, procedures, and quality assurance requirements specified in the test methods and permit. All test results, valid or invalid, must be submitted as described below.

- c. In addition to an appropriate control, a 100% effluent concentration shall be used in the toxicity tests. Except as discussed in item 2.b., the control and/or dilution water shall consist of a standard, synthetic, moderately hard, reconstituted water.
- d. This permit may be amended to require a Whole Effluent Toxicity (WET) limit, a Best Management Practice (BMP), Chemical-Specific (CS) limits, additional toxicity testing, and/or other appropriate actions to address toxicity. The permittee may be required to conduct additional biomonitoring tests and/or a Toxicity Reduction Evaluation (TRE) if biomonitoring data indicate multiple numbers of unconfirmed toxicity events.
- e. If the biomonitoring dilution series specified in the Chronic biomonitoring requirements includes a 100% effluent concentration, those results may fulfill the requirements of this Section. The results of any test with a 100% effluent concentration performed in the proper time interval may be substituted in lieu of performing a separate 24-hour acute test. Compliance will be evaluated as specified in item a. The greater than 50% survival in 100% effluent for a 24-hour period standard applies to all tests utilizing a 100% effluent dilution, regardless of whether the results are submitted to comply with the minimum testing frequency defined in item b.

## 2. Required Toxicity Testing Conditions

- a. Test Acceptance - The permittee shall repeat any toxicity test, including the control, if the control fails to meet a mean survival equal to or greater than 90%.
- b. Dilution Water - In accordance with item 1.c., the control and/or dilution water shall normally consist of a standard, synthetic, moderately hard, reconstituted water. If the permittee utilizes the results of a 48-Hour Acute test or a Chronic test to satisfy the 24-Hour Acute Biomonitoring requirements in accordance with item 1.e., the permittee may use the receiving water or dilution water that meets the requirements of item 2.a. as the control and dilution water.
- c. Samples and Composites
  - 1) The permittee shall collect one flow-weighted 24-hour composite sample from Outfall 001. A 24-hour composite sample consists of a minimum of 12 effluent portions collected at equal time intervals representative of a 24-hour operating day and combined proportional to flow, or a sample continuously collected proportional to flow over a 24-hour operating day.
  - 2) The permittee shall collect the 24-hour composite samples such that the samples are representative of any periodic episode of chlorination, biocide usage, or other potentially toxic substance discharged on an intermittent basis.
  - 3) The permittee shall initiate the toxicity tests within 36 hours after collection of the last portion of the 24-hour composite sample. Samples shall be maintained at a temperature of 0-6 degrees Centigrade during collection, shipping, and storage.
  - 4) If the Outfall ceases discharging during the collection of the effluent composite sample, the requirements for the minimum number of effluent portions are waived. However, the permittee must have collected a composite sample volume sufficient for completion of the required test. The abbreviated sample collection, duration, and methodology must be documented in the full report required in Part 3 of this Section.

## 3. Reporting

All reports, tables, plans, summaries, and related correspondence required in any Part of this Section shall be submitted to the attention of the Water Quality Standards Team (MC 150) of the Water Quality Division. All DMRs, including DMRs with biomonitoring data, should be sent to the Water Quality Compliance Monitoring Team of the Enforcement Division (MC 224).

- a. The permittee shall prepare a full report of the results of all tests conducted pursuant to this permit in accordance with the Report Preparation Section of "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition" (EPA-821-R-02-012), or the most recent update thereof, for every valid and invalid toxicity test initiated. All full reports shall be retained for three years at the plant site and shall be available for inspection by TCEQ personnel.
- b. A full report must be submitted with the first valid biomonitoring test results for each test species and with the first test results any time the permittee subsequently employs a different test laboratory. Full reports need not be submitted for subsequent testing unless specifically requested. The permittee shall routinely report the results of each biomonitoring test on the Table 2 forms provided with this permit.

All Table 2 reports must include the information specified in the Table 2 form attached to this permit.

- 1) Semiannual biomonitoring test results are due on or before January 20th and July 20th for biomonitoring conducted during the previous 6 month period.
  - 2) Quarterly biomonitoring test results are due on or before January 20th, April 20th, July 20th, and October 20th, for biomonitoring conducted during the previous calendar quarter.
- c. Enter the following codes on the DMR for the appropriate parameters for valid tests only:
- 1) For the water flea, Parameter TIE3D, enter a "0" if the mean survival at 24-hours is greater than 50% in the 100% effluent dilution; if the mean survival is less than or equal to 50%, enter a "1."
  - 2) For the fathead minnow, Parameter TIE6C, enter a "0" if the mean survival at 24-hours is greater than 50% in the 100% effluent dilution; if the mean survival is less than or equal to 50%, enter a "1."
- d. Enter the following codes on the DMR for retests only:
- 1) For retest number 1, Parameter 22415, enter a "0" if the mean survival at 24-hours is greater than 50% in the 100% effluent dilution; if the mean survival is less than or equal to 50%, enter a "1."
  - 2) For retest number 2, Parameter 22416, enter a "0" if the mean survival at 24-hours is greater than 50% in the 100% effluent dilution; if the mean survival is less than or equal to 50%, enter a "1."

#### 4. Persistent Mortality

The requirements of this Part apply when a toxicity test demonstrates significant lethality, here defined as a mean mortality of 50% or greater to organisms exposed to the 100% effluent concentration after 24-hours.

- a. The permittee shall conduct two additional tests (retests) for each species that demonstrates significant lethality. The two retests shall be conducted once per week for two weeks. Five effluent dilution concentrations in addition to an appropriate control shall be used in the retests. These additional effluent concentrations shall be 6%, 13%, 25%, 50% and 100% effluent. The first retest shall be conducted within 15 days of the laboratory determination of significant lethality. All test results shall be submitted within 20 days of test completion of the second retest. Test completion is defined as the 24th hour. The retests shall also be reported on the DMRs as specified in Part 3.d.
- b. If one or both of the two retests specified in item 4.a. demonstrates significant lethality, the permittee shall initiate the TRE requirements as specified in Part 5 of this Section.

#### 5. Toxicity Reduction Evaluation

- a. Within 45 days of the retest that demonstrates significant lethality, the permittee shall submit a General Outline for initiating a TRE. The outline shall include, but not be limited to, a description of project personnel, a schedule for obtaining consultants (if needed), a discussion of influent and/or effluent data available for review, a sampling and analytical schedule, and a proposed TRE initiation date.

- b. Within 90 days of the retest that demonstrates significant lethality, the permittee shall submit a TRE Action Plan and Schedule for conducting a TRE. The plan shall specify the approach and methodology to be used in performing the TRE. A Toxicity Reduction Evaluation is a step-wise investigation combining toxicity testing with physical and chemical analysis to determine actions necessary to eliminate or reduce effluent toxicity to a level not effecting significant lethality at the critical dilution. The TRE Action Plan shall lead to the successful elimination of significant lethality for both test species defined in item 1.b. As a minimum, the TRE Action Plan shall include the following:
- 1) Specific Activities - The TRE Action Plan shall specify the approach the permittee intends to utilize in conducting the TRE, including toxicity characterizations, identifications, confirmations; source evaluations, treatability studies, and/or alternative approaches. When conducting characterization analyses, the permittee shall perform multiple characterizations and follow the procedures specified in the document entitled, "Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures" (EPA/600/6-91/003), or alternate procedures. The permittee shall perform multiple identifications and follow the methods specified in the documents entitled, "Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/080) and "Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/081). All characterization, identification, and confirmation tests shall be conducted in an orderly and logical progression;
  - 2) Sampling Plan - The TRE Action Plan should describe sampling locations, methods, holding times, chain of custody, and preservation techniques. The effluent sample volume collected for all tests shall be adequate to perform the toxicity characterization/ identification/ confirmation procedures, and chemical-specific analyses when the toxicity tests show significant lethality. Where the permittee has identified or suspects specific pollutant(s) and/or source(s) of effluent toxicity, the permittee shall conduct, concurrent with toxicity testing, chemical-specific analyses for the identified and/or suspected pollutant(s) and/or source(s) of effluent toxicity;
  - 3) Quality Assurance Plan - The TRE Action Plan should address record keeping and data evaluation, calibration and standardization, baseline tests, system blanks, controls, duplicates, spikes, toxicity persistence in the samples, randomization, reference toxicant control charts, as well as mechanisms to detect artifactual toxicity; and
  - 4) Project Organization - The TRE Action Plan should describe the project staff, project manager, consulting engineering services (where applicable), consulting analytical and toxicological services, etc.
- c. Within 30 days of submittal of the TRE Action Plan and Schedule, the permittee shall implement the TRE with due diligence.
- d. The permittee shall submit quarterly TRE Activities Reports concerning the progress of the TRE. The quarterly TRE Activities Reports are due on or before April 20th, July 20th, October 20th, and January 20th. The report shall detail information regarding the TRE activities including:
- 1) results and interpretation of any chemical-specific analyses for the identified and/or suspected pollutant(s) performed during the quarter;

- 2) results and interpretation of any characterization, identification, and confirmation tests performed during the quarter;
- 3) any data and/or substantiating documentation which identifies the pollutant(s) and/or source(s) of effluent toxicity;
- 4) results of any studies/evaluations concerning the treatability of the facility's effluent toxicity;
- 5) any data which identifies effluent toxicity control mechanisms that will reduce effluent toxicity to the level necessary to eliminate significant lethality; and
- 6) any changes to the initial TRE Plan and Schedule that are believed necessary as a result of the TRE findings.

Copies of the TRE Activities Report shall also be submitted to the U.S. EPA Region 6 office.

- e. During the TRE, the permittee shall perform, at a minimum, quarterly testing using the more sensitive species; testing for the less sensitive species shall continue at the frequency specified in Part 1.b.
- f. If the effluent ceases to effect significant lethality (herein as defined below) the permittee may end the TRE. A "cessation of lethality" is defined as no significant lethality for a period of 12 consecutive weeks with at least weekly testing. At the end of the 12 weeks, the permittee shall submit a statement of intent to cease the TRE and may then resume the testing frequency specified in Part 1.b. The permittee may only apply the "cessation of lethality" provision once.

This provision accommodate situations where operational errors and upsets, spills, or sampling errors triggered the TRE, in contrast to a situation where a single toxicant or group of toxicants cause lethality. This provision does not apply as a result of corrective actions taken by the permittee. "Corrective actions" are herein defined as proactive efforts which eliminate or reduce effluent toxicity. These include, but are not limited to, source reduction or elimination, improved housekeeping, changes in chemical usage, and modifications of influent streams and/or effluent treatment.

The permittee may only apply this cessation of lethality provision once. If the effluent again demonstrates significant lethality to the same species, the permit will be amended to add a WET limit with a compliance period, if appropriate. However, prior to the effective date of the WET limit, the permittee may apply for a permit amendment removing and replacing the WET limit with an alternate toxicity control measure by identifying and confirming the toxicant and/or an appropriate control measure.

- g. The permittee shall complete the TRE and submit a Final Report on the TRE Activities no later than 18 months from the last test day of the retest that demonstrates significant lethality. The permittee may petition the Executive Director (in writing) for an extension of the 18-month limit. However, to warrant an extension the permittee must have demonstrated due diligence in their pursuit of the TIE/TRE and must prove that circumstances beyond their control stalled the TIE/TRE. The report shall specify the control mechanism(s) that will, when implemented, reduce effluent toxicity as specified in item 5.g. The report will also specify a corrective action schedule for implementing the selected control mechanism(s). A copy of the TRE Final Report shall also be submitted to the U.S. EPA Region 6 office.

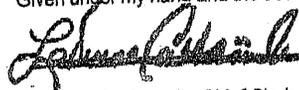
- h. Within 3 years of the last day of the test confirming toxicity, the permittee shall comply with 30 TAC 307.6.(e)(2)(B), which requires greater than 50% survival of the test organism in 100% effluent at the end of 24-hours. The permittee may petition the Executive Director (in writing) for an extension of the 3-year limit. However, to warrant an extension the permittee must have demonstrated due diligence in their pursuit of the TIE/TRE and must prove that circumstances beyond their control stalled the TIE/TRE.

The requirement to comply with 30 TAC 307.6.(e)(2)(B) may be exempted upon proof that toxicity is caused by an excess, imbalance, or deficiency of dissolved salts. This exemption excludes instances where individually toxic components (e.g. metals) form a salt compound. Following the exemption, the permit may be amended to include an ion-adjustment protocol, alternate species testing, or single species testing.

- i. Based upon the results of the TRE and proposed corrective actions, this permit may be amended to modify the biomonitoring requirements where necessary, to require a compliance schedule for implementation of corrective actions, to specify a WET limit, to specify a BMP, and/or to specify a CS limit.

THE STATE OF TEXAS  
COUNTY OF TRAVIS

I hereby certify that this is a true and correct copy of a  
Texas Commission on Environmental Quality document,  
which is filed in the permanent records of the Commission.  
Given under my hand and the seal of office on

 APR 20 2006

LaDonna Castanuela, Chief Clerk  
Texas Commission on Environmental Quality

TABLE 2 (SHEET 1 OF 2)

WATER FLEA SURVIVAL

GENERAL INFORMATION

	Time (am/pm)	Date
Composite Sample Collected		
Test Initiated		

PERCENT SURVIVAL

Time	Rep	Percent effluent (%)					
		0%	6%	13%	25%	50%	100%
24h	A						
	B						
	C						
	D						
	E						
	MEAN*						

Enter percent effluent corresponding to the LC50 below:

24 hour LC50 = \_\_\_\_\_% effluent

95% confidence limits: \_\_\_\_\_

Method of LC50 calculation: \_\_\_\_\_

STATE OF TEXAS  
COUNTY OF TRAVIS

I hereby certify that this is a true and correct copy of a Texas Commission on Environmental Quality document, which is filed in the permanent records of the Commission. Given under my hand and the seal of office on

*LaDonna Castanuela* APR 20 2006

LaDonna Castanuela, Chief Clerk  
Texas Commission on Environmental Quality

TABLE 2 (SHEET 2 OF 2)  
 FATHEAD MINNOW SURVIVAL  
 GENERAL INFORMATION

	Time (am/pm)	Date
Composite Sample Collected		
Test Initiated		

PERCENT SURVIVAL

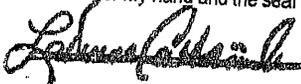
Time	Rep	Percent effluent (%)					
		0%	6%	13%	25%	50%	100%
24h	A						
	B						
	C						
	D						
	E						
	MEAN						

Enter percent effluent corresponding to the LC50 below:

24 hour LC50 = \_\_\_\_\_ % effluent

95% confidence limits: \_\_\_\_\_

Method of LC50 calculation: \_\_\_\_\_

STATE OF TEXAS  
 COUNTY OF TRAVIS  
 I hereby certify that this is a true and correct copy of a  
 Texas Commission on Environmental Quality document,  
 which is filed in the permanent records of the Commission.  
 Given under my hand and the seal of office on  
 APR 20 2006  
 LaDonna Castanuela, Chief Clerk  
 Texas Commission on Environmental Quality