



TPDES PERMIT NO. WQ0001481000
[For TCEQ office use only -
EPA I.D. No. TX0046400]

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

This is a renewal of TPDES
Permit No. WQ0001481000,
issued on June 30, 2009.

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

DeCordova Power Company LLC
Luminant Generation Company LLC

whose mailing address is

1601 Bryan Street 24-072
Dallas, TX 75201

are authorized to treat and discharge wastes from DeCordova Steam Electric Station (SIC 4911)

located at 4950 Power Plant Court, Granbury Texas, on the southwest shore of Lake Granbury along County Road 312, approximately seven miles southeast of the intersection of U.S. Highway 377 and State Highway 144 in the City of Granbury, Hood County, Texas 76408

directly to Lake Granbury in Segment No. 1205 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 May 1, 2019.

ISSUED DATE:

For the Commission

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Outfall Number 001

1. During the period beginning upon date of permit issuance and lasting through date of permit expiration, the permittee is authorized to discharge once-through cooling water (*1) and previously monitored effluent (low volume wastes, stormwater runoff from yard drains and the diked oil storage area, and metal cleaning wastes) subject to the following effluent limitations:

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>		<u>Minimum Self-Monitoring Requirements</u>	
	<u>Daily Average</u> lbs/day	<u>Daily Maximum</u> lbs/day	<u>Single Grab</u> mg/L	<u>Report Daily Average and Daily Maximum</u> Measurement Frequency Sample Type
Flow	1,041.48 MGD	1,041.48 MGD	N/A	Continuous Record
Temperature	105 °F (*2)	110 °F (*2)	N/A	Continuous Record
Total Residual Chlorine (*3)	N/A	145 (0.2 mg/L)	N/A	1/week Grab (*4)

- (*1) See Other Requirements, Item No. 2.
- (*2) See Other Requirements, Item No. 4.
- (*3) See Other Requirements, Item No. 5.
- (*4) Samples shall be taken during periods of chlorination.

2. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.
3. Effluent monitoring samples shall be taken at the following location: At Outfall 001, at the canal discharge weir prior to entering Lake Granbury.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Outfall Number 101

1. During the period beginning upon date of permit issuance and lasting through date of permit expiration, the permittee is authorized to discharge low volume wastes (*1), stormwater runoff from yard drains and the diked oil storage area, and previously monitored effluent (metal cleaning wastes and low volume wastes) subject to the following effluent limitations:

Volume: Intermittent and flow variable.

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				
Total Suspended Solids	Report, MGD 30	Report, MGD 100	N/A	1/day (*2) Estimate
Oil and Grease	15	20	100	1/week (*2) Grab
			20	1/week (*2) Grab

(*1) See Other Requirements, Item No. 6.
(*2) When discharge occurs.

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 (*2) 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, where low volume wastes, stormwater runoff, and previously monitored effluent (metal cleaning wastes and low volume wastes) are discharged from the yard drain system and prior to commingling with once-through cooling water.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Outfall Number 201

1. During the period beginning upon date of permit issuance and lasting through date of permit expiration, the permittee is authorized to discharge metal cleaning wastes (*1) and low volume wastes (*2) subject to the following effluent limitations:

Volume: Intermittent and flow variable.

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	Report, MGD	Report, MGD	N/A	1/day (*3) Estimate
Total Iron	1.0	1.0	1.0	1/week (*3) Grab
Total Copper	0.5	1.0	1.0	1/week (*3) Grab

- (*1) See Other Requirements, Item No. 7.
- (*2) See Other Requirements, Item No. 6.
- (*3) When discharge occurs.

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 (*3) 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 201, where metal cleaning wastes and low volume wastes are discharged from the east retention pond and prior to mixing with any other wastewater.

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 (TWC) §§5.103 and 5.105, and the Texas Health and Safety Code (THSC) §§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 Texas Water Code §26.001 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 one 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. Bacteria concentration (Fecal coliform, *E. coli*, or Enterococci) – the number of colonies of bacteria per 100 milliliters effluent. The daily average 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 bacteria equaling zero, a substitute value of one shall be made for input into either computation method. If specified, the 7-day average for 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 × Concentration, mg/L × 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(c).
 - 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 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 that 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 that 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; TWC Chapters 26, 27, and 28; and THSC 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

- a. 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.
- b. All laboratory tests submitted to demonstrate compliance with this permit must meet the requirements of 30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification.

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 may be 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 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 that 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 that 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 that 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 that 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) that 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 that would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant that 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 that would be subject to CWA §301 or §306 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 that 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 TWC §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 that 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 CWA §§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 TWC Chapters 26, 27, and 28, and THSC 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 TWC §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 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 that are subject neither to effluent limitations in the permit, nor to notification requirements in Monitoring and Reporting Requirements No. 9; or
 - 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 at least 180 days 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 that are not described in the permit application or that 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 TWC §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 CWA §307(a) for a toxic pollutant that 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 CWA §307(a) 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 Applications Review and Processing Team (MC 148) of the Water Quality 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 that 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 Texas Water Code Chapter 11.

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 Municipal Permits 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 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, 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 TWC §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 that 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% of the permitted daily average or annual average flow for three consecutive months, the permittee must initiate engineering and financial planning for expansion or upgrading of the domestic wastewater treatment or collection facilities. Whenever the flow reaches 90% 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 or collection facilities. In the case of a domestic wastewater treatment facility that reaches 75% 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 judgment 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%, unless otherwise authorized by this permit.
11. Facilities that 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 Permitting and Remediation Support 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 THSC Code Chapter 361.

OTHER REQUIREMENTS

1. Violations of daily maximum limitations for the following pollutants shall be reported orally or by facsimile to TCEQ Region 4, 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 4 and the Enforcement Division (MC 224):

<u>POLLUTANT</u>	<u>MAL (mg/L)*</u>
Copper (Total)	0.010

*MAL means "minimum analytical level."

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 minimum analytical level (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.

2. The term "once-through cooling water" means water passed through the main cooling condensers in one or two passes for the purpose of removing waste heat.
3. There shall be no discharge of polychlorinated biphenyl transformer fluid.
4. Daily average temperature is defined as the flow weighted average temperature (FWAT) and 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:

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

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

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

5. 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.

6. The term "low volume wastes" 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 and blowdown from re-circulating house service water systems. Sanitary and air conditioning wastes are not included.
7. The term "metal cleaning waste" means any wastewater resulting from cleaning (with or without chemical compounds) and metal process equipment including, but not limited to, boiler tube cleaning, boiler fireside cleaning, and air pre-heater cleaning.
8. 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 25th 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 the first paragraph of Provision 1 Self-Reporting as defined on Pages 4 and 5 of this permit.

9. The mixing zone for Outfall 001 is defined as a volume within a radius of 77.5 feet from the point of discharge. Chronic toxic criteria apply at the edge of the mixing zone.
10. There shall be no discharge of domestic sewage. All sewage shall be hauled by Gilbert Environmental Inc. (Registration No. 22634) to Michael Lee Gilbert Beneficial Land Use (BLU) Site, Registration No. 710312, or any appropriately authorized hauler to any appropriately authorized BLU Site.
11. COOLING WATER INTAKE STRUCTURE REQUIREMENTS: 316(b) of the Clean Water Act (CWA)

The permittee shall continue to operate and maintain the cooling water intake structure (CWIS) configuration consistent with the documents titled *40 CFR 122.21 Impacted by 316(b) of the Clean Water Act, Design and Engineering Calculations for 316(b) of the Clean Water Act*, and submitted as part of the permit application received November 4, 2008, in which is included a description of how the facility meets Best Technology Available (BTA) for minimizing Adverse Environmental Impact (AEI).

Specifically, the permittee shall adhere to the following conditions related to the operation, maintenance, and monitoring of the CWIS during periods of operation:

- A. bar grates shall be inspected, and cleaned as needed but no less frequently than every three years;

- B. screen condition shall be visually checked daily when the associated generating unit(s) is in operation;
- C. the screens must initiate a cleaning cycle whenever the water level differential (before and after the screens) exceeds eight psi (pounds per square inch);
- D. screens shall be in proper operating condition whenever the circulating water pumps are withdrawing water; if a screen must be taken out of service for maintenance the differential across the screens must maintain compliance with item c above;
- E. screens shall be rotated through a cleaning cycle a minimum of once per week when the associated generating unit(s) is in operation;
- F. water and impinged material resulting from the cleaning process shall enter a concrete trench from which water and material returns to the reservoir; if any material is removed it shall be properly disposed in accordance with TCEQ regulations;
- G. routine preventive maintenance shall be conducted to ensure proper operating condition of the screen(s) on an as needed basis, but at a minimum of once each three months;
- H. the intake bay shall be inspected for build-up of sediment periodically, and cleaned as necessary, but no less frequently than every five years; and
- I. records (e.g., electronic logs, data acquisition system records, operating procedures, operator logs, etc.) documenting the operation and maintenance described above shall be kept on site for a minimum of three years, and made available to TCEQ personnel upon request.

In addition, the permittee submitted the Impingement Mortality Characterization Study, DeCordova Steam Electric Station, Hood County, Texas (January 2010) for review to the Water Quality Standards Team (MC 150) of the Water Quality Assessment Section of the Water Quality Division.

If, based upon further review of the Impingement Mortality Characterization Study, Decordova Steam Electric Station, and the 316(b) Phase II regulation, it is later determined that the current CWIS configuration is not representative of BTA for minimizing AEI, this permit may be reopened to incorporate additional requirements.

12. Wastewater discharged via Outfall 001 must be sampled and analyzed as directed below for those parameters listed in Tables 1, 2, and 3 of Attachment A of this permit. Analytical testing for Outfall 001 must be completed within 60 days of the next available discharge event. Results of the analytical testing must be submitted within 90 days of initial discharge to the TCEQ Industrials Permits Team (MC-148). 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 both.

Table 1: Analysis is required for all pollutants. Wastewater must be sampled and analyzed for those parameters listed in Table 1 for a minimum of one sampling event.

Table 2: Analysis is required for those pollutants in Table 2 that are used at the facility that could in any way contribute to contamination in the Outfall 001 discharge. Sampling and analysis must 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 must be conducted for each pollutant believed present, for a minimum of one sampling event.

The permittee shall report the flow at Outfall 001 in million gallons per day (MGD) in the attachment. The permittee shall indicate on each table whether the samples are composite (C) or grab (G) by checking the appropriate box.

13. The permittee shall develop and submit to the TCEQ, within one year of the permit effective date, a plan to characterize the thermal plume in the receiving water through either the use of a model, mass balance, or via collected or existing in-stream temperature data. The permittee would then be required to implement the plan following its approval by the TCEQ.

The permittee is hereby placed on notice that the Executive Director of the TCEQ will be initiating changes to evaluation procedures and/or rulemaking that may affect thermal requirements for this facility.

Attachment A
Table 1

Outfall No.:	<input type="checkbox"/> C <input type="checkbox"/> G		Effluent Concentration (mg/L)				
			Samp.	Samp.	Samp.	Samp.	
Pollutants							
BOD (5-day)							
CBOD (5-day)							
Chemical Oxygen Demand							
Total Organic Carbon							
Dissolved Oxygen							
Ammonia Nitrogen							
Total Suspended Solids							
Nitrate Nitrogen							
Total Organic Nitrogen							
Total Phosphorus							
Oil and Grease							
Total Residual Chlorine							
Total Dissolved Solids							
Sulfate							
Chloride							
Fluoride							
Temperature (°F)							
Total Alkalinity (mg/L as CaCO ₃)							
pH (Standard Units; min/max)							

	Effluent Concentration (µg/L)				MAL ¹ (µg/L)
Total Aluminum					30
Total Antimony					60
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
Total Thallium					10
Total Zinc					5

¹ Minimum Analytical Level

Attachment A
Table 2

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

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

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

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

Attachment A
Table 3

Outfall No.:	□C □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 ₃)						
Surfactants						
Total Antimony						
Total Beryllium						
Total Boron						
Total Cobalt						
Total Iron						
Total Magnesium						
Total Molybdenum						
Total Manganese						
Total Thallium						
Total Tin						
Total Titanium						

CHRONIC BIOMONITORING REQUIREMENTS: FRESHWATER

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

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, reproduction, or growth 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 Part of the permit and in accordance with "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition" (EPA-821-R-02-013), or its most recent update:
 - 1) Chronic static renewal survival and reproduction test using the water flea (*Ceriodaphnia dubia*) (Method 1002.0). This test should be terminated when 60% of the surviving adults in the control produce three broods or at the end of eight days, whichever comes first. This test shall be conducted once per quarter.
 - 2) Chronic static renewal 7-day larval survival and growth test using the fathead minnow (*Pimephales promelas*) (Method 1000.0). 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 are 32%, 42%, 56%, 75%, and 100% effluent. The critical dilution, defined as 100% 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 WET limit, Chemical-Specific (CS) effluent limits, a Best Management Practice (BMP), or other appropriate actions to address toxicity. The permittee may be required to conduct a Toxicity Reduction after multiple toxic events.
- e. Testing Frequency Reduction
 - 1) If none of the first four consecutive quarterly tests demonstrates significant toxicity, the permittee may submit this information in writing and, upon approval, 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 toxicity, 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 toxicity, 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 fail to meet the following criteria:

- 1) a control mean survival of 80% or greater;
- 2) a control mean number of water flea neonates per surviving adult of 15 or greater;
- 3) a control mean dry weight of surviving fathead minnow larvae of 0.25 mg or greater;
- 4) a control Coefficient of Variation percent (CV%) of 40 or less between replicates for the young of surviving females in the water flea test; and the growth and survival endpoints in the fathead minnow test.
- 5) a critical dilution CV% of 40 or less for young of surviving females in the water flea test; and the growth and survival endpoints for the fathead minnow test. However, if statistically significant lethal or nonlethal effects are exhibited at the critical dilution, a CV% greater than 40 shall not invalidate the test.
- 6) a Percent Minimum Significant Difference of 47 or less for water flea reproduction;
- 7) a Percent Minimum Significant Difference of 30 or less for fathead minnow growth.

- b. Statistical Interpretation

- 1) For the water flea survival test, the statistical analyses used to determine if there is a significant difference between the control and an effluent dilution shall be Fisher's Exact Test as described in the manual referenced above, or its most recent update.
- 2) For the water flea reproduction test and the fathead minnow larval survival and growth 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 the methods described in the manual referenced above, or its most recent update.
- 3) 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.

- 4) 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 80% 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.
 - 5) The NOEC is defined as the greatest effluent dilution at which no significant effect is demonstrated. The Lowest Observed Effect Concentration (LOEC) is defined as the lowest effluent dilution at which a significant effect is demonstrated. A significant effect is herein defined as a statistically significant difference between the survival, reproduction, or growth of the test organism(s) in a specified effluent dilution compared to the survival, reproduction, or growth of the test organism(s) in the control (0% effluent).
 - 6) 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.
 - 7) Pursuant to the responsibility assigned to the permittee in Part 2.b.3), 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.
 - 8) Staff will review test results for consistency with rules, procedures, and permit requirements.
- c. Dilution Water
- 1) Dilution water used in the toxicity tests shall be the receiving water collected as close to the point of discharge as possible but unaffected by the discharge.
 - 2) Where the receiving water proves unsatisfactory as a result of pre-existing 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 (i.e., 7 days);
 - c) the permittee submitted all test results indicating receiving water toxicity with the reports and information required in Part 3 of this Section.

- 3) The synthetic dilution water shall consist of standard, moderately hard, reconstituted 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 three composite samples from Outfall 001. The second and third composite samples will be used for the renewal of the dilution concentrations for each toxicity test.
- 2) The permittee shall collect the 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 composite sample. The holding time for any subsequent composite sample shall not exceed 72 hours. Samples shall be maintained at a temperature of 0-6 degrees Centigrade during collection, shipping, and storage.
- 4) If Outfall 001 ceases discharging during the collection of effluent samples, the requirements for the minimum number of effluent samples, the minimum numbers 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 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 sample collection duration and the static renewal protocol associated with the abbreviated sample collection must be documented in the full report.

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 Standards Implementation Team (MC 150) of the Water Quality Division.

- a. The permittee shall prepare a full report of the results of all tests conducted in accordance with the manual referenced above, or its most recent update, for every valid and invalid toxicity test initiated whether carried to completion or not.
- b. The permittee shall routinely report the results of each biomonitoring test on the Table 1 forms provided with 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 for the appropriate parameters for valid tests only:
- 1) For the water flea, Parameter TLP3B, enter a "1" if the NOEC for survival is less than the critical dilution; otherwise, enter a "0."
 - 2) For the water flea, Parameter TOP3B, report the NOEC for survival.
 - 3) For the water flea, Parameter TXP3B, report the LOEC for survival.
 - 4) For the water flea, Parameter TWP3B, enter a "1" if the NOEC for reproduction is less than the critical dilution; otherwise, enter a "0."
 - 5) For the water flea, Parameter TPP3B, report the NOEC for reproduction.
 - 6) For the water flea, Parameter TYP3B, report the LOEC for reproduction.
 - 7) For the fathead minnow, Parameter TLP6C, enter a "1" if the NOEC for survival is less than the critical dilution; otherwise, enter a "0."
 - 8) For the fathead minnow, Parameter TOP6C, report the NOEC for survival.
 - 9) For the fathead minnow, Parameter TXP6C, report the LOEC for survival.
 - 10) For the fathead minnow, Parameter TWP6C, enter a "1" if the NOEC for growth is less than the critical dilution; otherwise, enter a "0."
 - 11) For the fathead minnow, Parameter TPP6C, report the NOEC for growth.
 - 12) For the fathead minnow, Parameter TYP6C, report the LOEC for growth
- d. Enter the following codes 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 Toxicity

The requirements of this Part apply only when a test demonstrates a significant effect at the critical dilution. A significant effect is defined as a statistically significant difference between a specified endpoint (survival, growth, or reproduction) of the test organism in a specified effluent dilution when compared to the specified endpoint of the test organism in the control.

Significant lethality is defined as a statistically significant difference in survival at the critical dilution when compared to the survival of the test organism in the control. Significant sublethality is defined as a statistically significant difference in growth/reproduction at the critical dilution when compared to the growth/reproduction of the test organism in the control.

a. The permittee shall conduct a total of 2 additional tests (retests) for any species that demonstrates a significant effect (lethal or sublethal) at the critical dilution. 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 the retests are performed due to a demonstration of significant lethality, and 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. 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.

If neither test demonstrates significant lethality and the permittee is testing under the reduced testing frequency provision of Part 1.e., the permittee shall return to a quarterly testing frequency for that species.

c. If the two retests are performed due to a demonstration of significant sublethality, and one or both of the two retests specified in item 4.a. demonstrates significant lethality, the permittee shall again perform two retests as stipulated in item 4.a.

d. If the two retests are performed due to a demonstration of significant sublethality, and neither test demonstrates significant lethality, the permittee shall continue testing at the quarterly frequency.

e. Regardless of whether retesting for lethal or sublethal effects, or a combination of the two, no more than one retest per month is required for a species.

5. Toxicity Reduction Evaluation

a. Within 45 days of the retest that demonstrates significant lethality, or within 45 days of being so instructed due to multiple toxic events, the permittee shall submit a General Outline for initiating a Toxicity Reduction Evaluation (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 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, or within 90 days of being so instructed due to multiple toxic events, 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 TRE 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 alternative approaches. When conducting characterization analyses, the permittee shall perform multiple characterizations and follow the procedures specified in the document entitled, "Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I" (EPA/600/6-91/005F), 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 source(s) of effluent toxicity, the permittee shall conduct, concurrent with toxicity testing, chemical-specific analyses for the identified and suspected pollutant(s) and 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 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 substantiating documentation which identifies the pollutant(s) and 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 accommodates 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 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 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 to specify CS limits.

TABLE 1 (SHEET 1 OF 4)

BIOMONITORING REPORTING

CERIODAPHNIA DUBIA SURVIVAL AND REPRODUCTION

Dates and Times Composites Collected

No. 1 FROM: _____ Date Time TO: _____ Date Time

No. 2 FROM: _____ TO: _____

No. 3 FROM: _____ TO: _____

Test initiated: _____ am/pm _____ date

Dilution water used: _____ Receiving Water _____ Synthetic Dilution Water

NUMBER OF YOUNG PRODUCED PER ADULT AT END OF TEST

REP.	Percent effluent (%)					
	0%	32%	42%	56%	75%	100%
A						
B						
C						
D						
E						
F						
G						
H						
I						
J						
Survival Mean						
Total Mean						
CV%*						
PMSD						

*Coefficient of Variation = standard deviation x 100/mean (calculation based on young of the surviving adults) Designate males (M), and dead females (D), along with number of neonates (x) released prior to death.

TABLE 1 (SHEET 2 OF 4)

CERIODAPHNIA DUBIA SURVIVAL AND REPRODUCTION TEST

1. Dunnett's Procedure or Steel's Many-One Rank Test or Wilcoxon Rank Sum Test (with Bonferroni adjustment) or t-test (with Bonferroni adjustment) as appropriate:

Is the mean number of young produced per adult significantly less than the number of young per adult in the control for the % effluent corresponding to significant nonlethal effects?

CRITICAL DILUTION (100%): _____ YES _____ NO

PERCENT SURVIVAL

Time of Reading	Percent effluent					
	0%	32%	42%	56%	75%	100%
24h						
48h						
End of Test						

2. Fisher's Exact Test:

Is the mean survival at test end significantly less than the control survival for the % effluent corresponding to lethality?

CRITICAL DILUTION (100%): _____ YES _____ NO

3. Enter percent effluent corresponding to each NOEC/LOEC below:

- a.) NOEC survival = _____% effluent
- b.) LOEC survival = _____% effluent
- c.) NOEC reproduction = _____% effluent
- d.) LOEC reproduction = _____% effluent

TABLE 1 (SHEET 3 OF 4)

BIOMONITORING REPORTING

FATHEAD MINNOW LARVAE GROWTH AND SURVIVAL

Dates and Times
 Composites
 Collected

No. 1 FROM: _____ Date Time _____ TO: _____ Date Time _____

No. 2 FROM: _____ TO: _____

No. 3 FROM: _____ TO: _____

Test initiated: _____ am/pm _____ date

Dilution water used: _____ Receiving Water _____ Synthetic Dilution Water

FATHEAD MINNOW GROWTH DATA

Effluent Concentration	Average Dry Weight in milligrams in replicate chambers					Mean Dry Weight	CV%*
	A	B	C	D	E		
0%							
32%							
42%							
56%							
75%							
100%							
PMSD							

* Coefficient of Variation = standard deviation x 100/mean

- Dunnnett's Procedure or Steel's Many-One Rank Test or Wilcoxon Rank Sum Test (with Bonferroni adjustment) or t-test (with Bonferroni adjustment) as appropriate:

Is the mean dry weight (growth) at 7 days significantly less than the control's dry weight (growth) for the % effluent corresponding to significant nonlethal effects?

CRITICAL DILUTION (100%): _____ YES _____ NO

TABLE 1 (SHEET 4 OF 4)

BIOMONITORING REPORTING

FATHEAD MINNOW GROWTH AND SURVIVAL TEST

FATHEAD MINNOW SURVIVAL DATA

Effluent Concentration	Percent Survival in replicate chambers					Mean percent survival			CV%*
	A	B	C	D	E	24h	48h	7 day	
0%									
32%									
42%									
56%									
75%									
100%									

* Coefficient of Variation = standard deviation x 100/mean

2. Dunnett's Procedure or Steel's Many-One Rank Test or Wilcoxon Rank Sum Test (with Bonferroni adjustment) or t-test (with Bonferroni adjustment) as appropriate:

Is the mean survival at 7 days significantly less ($p=0.05$) than the control survival for the % effluent corresponding to lethality?

CRITICAL DILUTION (100%): _____ YES _____ NO

3. Enter percent effluent corresponding to each NOEC/LOEC below:

a.) NOEC survival = _____ % effluent

b.) LOEC survival = _____ % effluent

c.) NOEC growth = _____ % effluent

d.) LOEC growth = _____ % effluent

24-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 lethality in accordance with the provisions in this Section. Such testing will determine compliance with the Surface Water Quality Standard, 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 its most recent update:
 - 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. The control and dilution water shall consist of standard, synthetic, moderately hard, reconstituted water.
- d. This permit may be amended to require a WET limit, a Best Management Practice (BMP), Chemical-Specific (CS) limits, or other appropriate actions to address toxicity. The permittee may be required to conduct a Toxicity Reduction Evaluation after multiple toxic events.
- e. As the dilution series specified in the Chronic Biomonitoring Requirements includes a 100% effluent concentration, the results from those tests may fulfill the requirements of this Section; any tests performed in the proper time interval may be substituted. Compliance will be evaluated as specified in item a. The 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 dilution water shall consist of standard, synthetic, moderately hard, reconstituted water.
- c. Samples and Composites
 - 1) The permittee shall collect one composite sample from Outfall 001.
 - 2) The permittee shall collect the 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 composite sample. Samples shall be maintained at a temperature of 0-6 degrees Centigrade during collection, shipping, and storage.
 - 4) If Outfall 001 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 Standards Implementation Team (MC 150) of the Water Quality Division.

- a. The permittee shall prepare a full report of the results of all tests conducted pursuant to this permit in accordance with the manual referenced above, or its most recent update, for every valid and invalid toxicity test initiated.
- b. The permittee shall routinely report the results of each biomonitoring test on the Table 2 forms provided with 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 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 "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 "1."
- d. Enter the following codes 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 "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 "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 2 additional tests (retests) for each species that demonstrates significant lethality. The two retests shall be conducted once per week for 2 weeks. Five effluent dilution concentrations in addition to an appropriate control shall be used in the retests. These additional effluent concentrations are 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.
- 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 Toxicity Reduction Evaluation (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 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 TRE 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 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 source(s) of effluent toxicity, the permittee shall conduct, concurrent with toxicity testing, chemical-specific analyses for the identified and suspected pollutant(s) and 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, 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 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 substantiating documentation which identifies the pollutant(s) and 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 accommodates 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 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 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 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 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 to specify a CS limit.

TABLE 2 (SHEET 1 OF 2)

WATER FLEA SURVIVAL

GENERAL INFORMATION

	Time	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

TABLE 2 (SHEET 2 OF 2)
 FATHEAD MINNOW SURVIVAL

GENERAL INFORMATION

	Time	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

FACT SHEET AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

For draft Texas Pollutant Discharge Elimination System TPDES Permit No. WQ0001481000, EPA ID No. TX0046400 to discharge to water in the state.

Issuing Office: Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

Applicant: DeCordova Power Company; and
Luminant Generation Company LLC
1601 Bryan Street 24-072
Dallas, TX 75201

Prepared By: Merrit McKelvy
Wastewater Permitting Section
Water Quality Division
(512) 239-4742

Date: September 17, 2014

Permit Action: Renewal; TPDES Permit No. WQ0001481000

I. EXECUTIVE DIRECTOR RECOMMENDATION

The Executive Director has made a preliminary decision that this permit, if issued, meets all statutory and regulatory requirements. It is proposed the permit be issued to expire on May 1, 2019 following the requirements of 30 Texas Administrative Code (TAC) §305.71.

II. APPLICANT ACTIVITY

The applicant currently operates DeCordova Steam Electric Station.

III. DISCHARGE LOCATION

As described in the application, the plant site is located at 4950 Power Plant Court, Granbury Texas, on the southwest shore of Lake Granbury along County Road 312, approximately seven miles southeast of the intersection of U.S. Highway 377 and State Highway 144 in the City of Granbury, Hood County, Texas. Discharge is directly to in Segment No. 1205 of the Brazos River.

IV. RECEIVING STREAM USES

The designated uses for Segment No. 1205 are high aquatic life use, primary contact recreation, and public water supply.

V. STREAM STANDARDS

The general criteria and numerical criteria that make up the stream standards are provided in 30 TAC §§307.1 - 307.10, effective July 22, 2010.

FACT SHEET AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

VI. DISCHARGE DESCRIPTION

The following is a quantitative description of the discharge described in the Monthly Effluent Report data for the period December 2008 through December 2013. The "Average of Daily Avg." values presented in the following table are the average of all daily average values for the reporting period for each parameter. The "Maximum of Daily Max." values presented in the following table are the individual maximum values for the reporting period for each parameter.

A. Flow (MGD)

<u>Outfall</u>	<u>Frequency</u>	<u>Average of Daily Avg.</u>	<u>Maximum of Daily Max</u>
001	Continuous	429.5	612
101	Intermittent	1.989	200
201	Intermittent	No Discharge	No Discharge

B. Temperature (degrees F)

<u>Outfall</u>	<u>Daily Avg.</u>	<u>Daily Max</u>
001	81.7	96

C. Effluent Characteristics

<u>Outfall</u>	<u>Parameter</u>	<u>Average of Daily Avg</u>	<u>Maximum of Daily Max</u>
001	Total Residual Chlorine	N/A	0.06 mg/L (15 lbs/day)
101	Total Suspended Solids	2.54 mg/L	37 mg/L
	Oil and Grease	<5 mg/L	<5 mg/L
	pH, standard units (s.u.)	6.0	9.1
201	Total Iron	No discharge	No discharge
	Total Copper	No discharge	No discharge
	pH, standard units (s.u.)	No discharge	No discharge

Summary of Effluent Limitation Exceedances

A pH excursion of 9.1 was reported in the month of December 2008. This event was isolated and does not indicate a continuing trend of non-compliance. No other effluent limitation exceedances were reported for the duration of the existing permit; therefore, no additional permit action has been deemed necessary in response to compliance at this time.

VII. DRAFT EFFLUENT LIMITATIONS

Final effluent limitations are established in the draft permit as follows:

<u>Outfall</u>	<u>Parameter</u>	<u>Daily Average</u>	<u>Daily Maximum</u>
001	Flow	1,041.48 MGD	1041.48 MGD
	Temperature	105°F	110°F
	Total Residual Chlorine	N/A	145 lbs/day (0.2 mg/L)
101	Flow	Report MGD	Report MGD
	Total Suspended Solids	30	100

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Outfall	Parameter	Daily Average	Daily Maximum
101	Oil and Grease	15	20
	pH, standard units (s.u.)	6.0	9.0
201	Flow	Report MGD	Report MGD
	Total Iron	1.0 mg/L	1.0 mg/L
	Total Copper	0.5 mg/L	1.0 mg/L
	pH, standard units (s.u.)	6.0	9.0

VIII. SUMMARY OF CHANGES FROM APPLICATION

No changes were made from the application.

See the next section for additional changes to the existing permit.

IX. SUMMARY OF CHANGES FROM EXISTING PERMIT

- A. Other Requirements, No. 11 has been modified based on comments from Luminant Generation Company LLC, received January 30, 2014 via email correspondence. Other Requirements, No. 11 now includes specific 316(b) requirements for operation and maintenance of cooling water intake equipment. An existing provision that required an impingement mortality study has been removed from Other Requirements, No. 11, as the study was completed and submitted to the TCEQ in January of 2010.
- B. Existing temperature limits have been continued in the draft permit. However, Other Requirement No. 13 has been added to the draft permit in accordance with the agreement reached by the TCEQ and the EPA in their April 29, 2014 and May 12, 2014 letters, respectively. Temperature limits may be revised at a future date.

X. DRAFT PERMIT RATIONALE

The following section sets forth the statutory and regulatory requirements considered in preparing the draft permit. Also set forth are any calculations or other necessary explanations of the derivation of specific effluent limitations and conditions, including a citation to the applicable effluent limitation guidelines and water quality standards.

A. REASON FOR PERMIT ISSUANCE

The applicant has applied to the Texas Commission on Environmental Quality (TCEQ) for a renewal of Permit No. WQ0001481000, which authorizes the discharge of once-through cooling water and previously monitored effluent (low volume wastes, stormwater runoff from yard drains and the diked oil storage area, and metal cleaning wastes) at a daily average flow not to exceed 1,041,480,000 gallons per day.

B. WATER QUALITY SUMMARY

The discharge route is directly to Segment No. 1205 of the Brazos River. The designated uses for Segment No. 1205 are high aquatic life use, primary contact recreation, and

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public water supply. Effluent limitations and conditions established in the draft permit are in compliance with state water quality standards and the applicable water quality management plan. The effluent limits in the draft permit will maintain and protect the existing instream uses. Additional discussion of the water quality aspects of the draft permit are found at Section X.D. of this fact sheet.

The discharge from this permit is not expected to have an effect on any federal endangered or threatened aquatic or aquatic-dependent species or proposed species or their critical habitat. This determination is based on the United States Fish and Wildlife Service's (USFWS) biological opinion on the State of Texas authorization of the TPDES (September 14, 1998; October 21, 1998 update). To make this determination for TPDES permits, TCEQ and EPA only considered aquatic or aquatic dependent species occurring in watersheds of critical concern or high priority as listed in Appendix A of the USFWS biological opinion. The determination is subject to reevaluation due to subsequent updates or amendments to the biological opinion. The permit does not require EPA review with respect to the presence of endangered or threatened species.

Segment No. 1205 is not currently listed on the State's inventory of impaired and threatened waters, Texas 2012 Clean Water Act Section 303(d) list.

C. TECHNOLOGY-BASED EFFLUENT LIMITATIONS/CONDITIONS

1. GENERAL COMMENTS

Regulations promulgated in Title 40 of the Code of Federal Regulations (40 CFR) require technology-based limitations to be placed in wastewater discharge permits based on effluent limitations guidelines, where applicable, or on best professional judgment (BPJ) in the absence of guidelines.

The draft permit authorizes the discharge of once-through cooling water and previously monitored effluent (low volume wastes, stormwater runoff from yard drains and the diked oil storage area, and metal cleaning wastes) at a daily average flow not to exceed 1,041,480,000 gallons per day via Outfall 001.

The discharge of once-through cooling water, low volume wastes, and metal cleaning wastes via Outfall 001 from this facility is subject to federal effluent limitation guidelines at 40 CFR Part 423. A new source determination was performed and the discharge of once-through cooling water, low volume wastes, and metal cleaning wastes is not a new source as defined at 40 CFR §122.2. Therefore new source performance standards (NSPS) are not required for this discharge.

The discharge of stormwater runoff from yard drains and the diked oil storage area via Outfall 001 is not subject to federal effluent limitation guidelines and any technology-based effluent limitations are continued from the existing permit.

The wastewater system at this facility consists of once-through cooling water treated by temperature dissipation via the discharge canal prior to discharge via Outfall 001; low volume wastes and storm water runoff from yard drains and

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diked oil storage areas treated by chemical neutralization and/or oil/water separation and discharged via Outfall 101; and metal cleaning wastes and low volume wastes are routed to the east evaporation pond and discharged via Outfall 201. From Outfall 201, these wastewaters are routed to the north yard drains prior to monitoring and discharge via internal Outfall 101 prior to final discharge via Outfall 001. All sewage shall be hauled by Gilbert Environmental Inc. (Registration No. 22634) to Michael Lee Gilbert Beneficial Land Use (BLU) site, Registration No. 710312, or by any appropriately authorized hauler to any appropriately authorized BLU site.

2. CALCULATIONS

See Appendix A of this fact sheet for calculations and further discussion of technology-based effluent limitations proposed in the draft permit.

Technology-based effluent limitations for flow, temperature, and total residual chlorine, and pH at Outfall 001; flow, total suspended solids, oil and grease, and pH at Outfall 101, and flow, total iron, total copper, and pH at Outfall 201 are continued from the existing permit.

The following technology-based effluent limitations are proposed in the draft permit:

Outfall	Parameter	Daily Average	Daily Maximum
001	Flow	1,041.48 MGD	1041.48 MGD
	Temperature	105°F	110°F
	Total Residual Chlorine	N/A	145 lbs/day (0.2 mg/L)
101	Flow	Report MGD	Report MGD
	Total Suspended Solids	30	100
	Oil and Grease	15	20
	pH, standard units (s.u.)	6.0	9.0
201	Flow	Report MGD	Report MGD
	Total Iron	1.0 mg/L	1.0 mg/L
	Total Copper	0.5 mg/L	1.0 mg/L
	pH, standard units (s.u.)	6.0	9.0

D. WATER QUALITY-BASED EFFLUENT LIMITATIONS/CONDITIONS

1. GENERAL COMMENTS

The Texas Surface Water Quality Standards found at 30 TAC Chapter 307 state that "surface waters will not be toxic to man from ingestion of water, consumption of aquatic organisms, or contact with the skin, or to terrestrial or aquatic life." The methodology outlined in the TCEQ guidance document *Procedures to Implement the Texas Surface Water Quality Standards (IP)* is designed to ensure compliance with 30 TAC Chapter 307. Specifically, the

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methodology is designed to insure that no source will be allowed to discharge any wastewater that: (1) results in instream aquatic toxicity; (2) causes a violation of an applicable narrative or numerical state water quality standard; (3) results in the endangerment of a drinking water supply; or (4) results in aquatic bioaccumulation that threatens human health. **Calculated water quality-based effluent limits can be found in Appendix B of this fact sheet.**

TPDES permits contain technology-based effluent limits reflecting the best controls available. Where these technology-based permit limits do not protect water quality or the designated uses, additional water quality-based effluent limitations or conditions are included. State narrative and numerical water quality standards are used in conjunction with EPA criteria and other toxicity databases to determine the adequacy of technology-based permit limits and the need for additional water quality-based controls. **A comparison of technology-based effluent limits and calculated water quality-based effluent limits can be found in Appendix C of this fact sheet.**

2. AQUATIC LIFE CRITERIA

a. SCREENING

Water quality-based effluent limitations are calculated from freshwater aquatic life criteria found in Table 1 of the Texas Surface Water Quality Standards (30 TAC Chapter 307).

Acute freshwater criteria are applied at the edge of the zone of initial dilution (ZID) and chronic freshwater criteria are applied at the edge of the aquatic life mixing zone. The ZID for this discharge is defined as radius of 19,375 feet from the point where the discharge enters Lake Granbury. The aquatic life mixing zone for this discharge is defined as a radius of 77.5 feet from the point where the discharge enters Lake Granbury.

TCEQ uses the EPA horizontal jet plume model to estimate dilution at the edges of the ZID and aquatic life mixing zone for discharges greater than 10 MGD into lakes or reservoirs or discharges into sections of lakes or reservoirs that are less than 200 feet wide. General assumptions used in the horizontal jet plume model are: a non-buoyant discharge, a submersed pipe, and no cross flow. Based on this analysis, the following critical effluent percentages are calculated based on the permitted flow of 1,041.48 MGD:

Acute Effluent %	100%	Chronic Effluent %	100%
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Wasteload allocations (WLAs) are calculated using the above estimated effluent percentages, criteria outlined in the Texas Surface Water Quality Standards, and partitioning coefficients for metals (when appropriate and designated in the implementation procedures). The WLA is the end-of-

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pipe effluent concentration that can be discharged when, after mixing in the receiving stream, the instream numerical criteria will not be exceeded. From the WLA, a long-term average (LTA) is calculated using a lognormal probability distribution, a given coefficient of variation (0.6), and a 99th percentile confidence level. The lower of the two LTAs (acute and chronic) is used to calculate a daily average and daily maximum effluent limitation for the protection of aquatic life using the same statistical considerations with the 99th percentile confidence level and a standard number of monthly effluent samples collected (12). Assumptions used in deriving the effluent limitations include segment values for hardness, chloride, pH, and total suspended solids (TSS), according to the segment-specific values contained in the *IP*. The segment values are 230 mg/L CaCO₃ for hardness, 893 mg/L for chloride, 7.9 standard units for pH, and 4.0 mg/L for TSS. For additional details on the calculation of water quality-based effluent limitations, refer to the *IP*.

TCEQ practice for determining significant potential is to compare the reported analytical data against percentages of the calculated daily average water quality-based effluent limitation. Permit limitations are required when analytical data reported in the application exceeds 85 percent of the calculated daily average water quality-based effluent limitation. Monitoring and reporting is required when analytical data reported in the application exceeds 70 percent of the calculated daily average water quality-based effluent limitation.

b. PERMIT ACTION

No analytical data is available for screening against water quality-based effluent limitations since the facility's primary unit is no longer in operation, and has not generated a sufficient volume of water for discharge from the heat dissipation canal. Additional provisions have been included in the draft permit to collect analytical data as discharge occurs. Upon the TCEQ's receipt of analytical data, the permit may be reopened to include additional effluent limitations and monitoring requirements based on a screening of the analytical data against the calculated water quality-based effluent limitations presented in Appendix B of this Fact Sheet.

3. AQUATIC ORGANISM TOXICITY CRITERIA (7-DAY CHRONIC)

a. SCREENING

The existing permit includes chronic freshwater biomonitoring requirements at Outfall 001. There have been no lethal or sublethal test failures reported in 3 tests performed in the last five years for the *Ceriodaphnia dubia* test species and no lethal or sublethal test failures reported in the three tests performed in the last five years for the *Pimephales promelas* test species. Analytical data submitted with the application does not indicate violation of any numerical water quality-based effluent limitation for aquatic life protection, therefore minimum chronic freshwater biomonitoring conditions required for EPA classified major facilities are proposed in the draft permit as outlined below.

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b. PERMIT ACTION

The provisions of this section apply to Outfall 001.

Based on information contained in the permit application, the TCEQ has determined that there may be pollutants present in the effluent(s) that may have the potential to cause toxic conditions in the receiving stream.

Whole effluent biomonitoring is the most direct measure of potential toxicity, which incorporates the effects of synergism of effluent components and receiving stream water quality characteristics. Biomonitoring of the effluent is, therefore, required as a condition of this permit to assess potential toxicity. The biomonitoring procedures stipulated as a condition of this permit are as follows:

- i) Chronic static renewal 7-day survival and reproduction test using the water flea (*Ceriodaphnia dubia*). The frequency of the testing is once per six quarter.
- ii) Chronic static renewal 7-day larval survival and growth test using the fathead minnow (*Pimephales promelas*). The frequency of testing shall be once per quarter.

Toxicity tests shall be performed in accordance with protocols described in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition* (EPA-821-R-02-013) or the latest revision. The stipulated test species are appropriate to measure the toxicity of the effluent consistent with the requirements of the state water quality standards. The biomonitoring frequency has been established to reflect the likelihood of ambient toxicity and to provide data representative of the toxic potential of the facility's discharge.

This permit may be reopened to require effluent limits, additional testing, or other appropriate actions to address toxicity if biomonitoring data show actual or potential ambient toxicity to be the result of the permittee's discharge to the receiving stream or water body.

c. DILUTION SERIES

The permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests. These additional effluent concentrations shall be 32%, 42%, 56%, 75%, and 100%. The low-flow effluent concentration (critical dilution) is defined as 100% effluent.

The dilution series outlined above was calculated using a 0.75 factor applied to the critical dilution. The critical dilution is the estimated effluent dilution at the edge of the aquatic life mixing zone, which is calculated in section X.D.2.a. of this fact sheet.

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4. AQUATIC ORGANISM TOXICITY CRITERIA (24-HOUR ACUTE)

a. SCREENING

The existing permit includes 24-hour acute freshwater biomonitoring language for Outfall 001. Minimum 24-hour acute freshwater biomonitoring requirements are continued from the existing permit, in the draft permit, as outlined below.

b. PERMIT ACTION

24-hour 100% acute biomonitoring tests are required at Outfall(s) 001 at a frequency of once per six months for the life of the permit.

The biomonitoring procedures stipulated as a condition of this permit are as follows:

- i) Acute 24-hour static toxicity test using the water flea (*Daphnia pulex* or *Ceriodaphnia pulex*). A minimum of five (5) replicates with eight (8) organisms per replicate shall be used for this test.
- ii) Acute 24-hour static toxicity test using the fathead minnow (*Pimephales promelas*). A minimum of five (5) replicates with eight (8) organisms per replicate shall be used for this test.

Toxicity tests shall be performed in accordance with protocols described in *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 latest revision.

5. AQUATIC ORGANISM BIOACCUMULATION CRITERIA

a. SCREENING

Water quality-based effluent limitations for the protection of human health are calculated using criteria for the consumption of fish tissue found in Table 2 of the Texas Surface Water Quality Standards (30 TAC Chapter 307). Fish tissue bioaccumulation criteria are applied at the edge of the human health mixing zone for discharges into lakes and reservoirs. The human health mixing zone for this discharge is defined as a 155-foot radius from the point where the discharge enters Lake Granbury. TCEQ uses the EPA horizontal jet plume model to estimate dilution at the edge of the human health mixing zone for discharges greater than 10 MGD into lakes or reservoirs or discharges into sections of lakes or reservoirs that are less than 200 feet wide. General assumptions used in the horizontal jet plume model are: a non-buoyant discharge, a submersed pipe, and no cross flow. Based on this analysis, the following critical effluent percentage is calculated based on an effluent flow greater than 100 MGD:

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Human health Effluent %: 100%

Water quality-based effluent limitations for human health protection against the consumption of fish tissue are calculated using the same procedure as outlined for calculation of water quality-based effluent limitations for aquatic life protection. A 99th percentile confidence level in the long-term average calculation is used with only one long-term average value being calculated.

Significant potential is again determined by comparing reported analytical data against 70 percent and 85 percent of the calculated daily average water quality-based effluent limitation.

b. PERMIT ACTION

No analytical data is available for screening against water quality-based effluent limitations since the facility's primary unit is no longer in operation, and has not generated a sufficient volume of water for discharge from the heat dissipation canal. Additional provisions have been included in the draft permit to collect analytical data as discharge occurs. Upon the TCEQ's receipt of analytical data, the permit may be reopened to include additional effluent limitations and monitoring requirements based on a screening of the analytical data against the calculated water quality-based effluent limitations presented in Appendix B of this Fact Sheet.

6. DRINKING WATER SUPPLY PROTECTION

a. SCREENING

Water Quality Segment No. 1205, which receives the discharge from this facility, is designated as a public water supply source. An identical screening procedure is used to calculate water quality-based effluent limitations and determine the need for effluent limitations or monitoring requirements as outlined in section X.D.5.a of this fact sheet. Criteria used in the calculation of water quality-based effluent limitations for the protection of a drinking water supply are outlined in Table 2 (Water and Fish) of the Texas Surface Water Quality Standards (30 TAC Chapter 307). These criteria are developed from either drinking water maximum contaminant level (MCL) criteria outlined in 30 TAC Chapter 290, or from the combined human health effects of exposure to consumption of fish tissue and ingestion of drinking water.

b. PERMIT ACTION

Criteria in the "Water and Fish" section of Table 2 do not distinguish if the criteria are based on the drinking water standard or the combined effects of ingestion of drinking water and fish tissue. Effluent limitations or monitoring requirements to protect the drinking water supply (and other human health effects) were previously calculated and outlined in section X.D.5.b of this fact sheet.

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XI. PRETREATMENT REQUIREMENTS

This facility is not defined as a publicly owned treatment works (POTW). Pretreatment requirements are not proposed in the draft permit.

XII. VARIANCE REQUESTS

No variance requests have been received.

XIII. PROCEDURES FOR FINAL DECISION

When an application is declared administratively complete, the Chief Clerk sends a letter to the applicant advising the applicant to publish the Notice of Receipt of Application and Intent to Obtain Permit in the newspaper. In addition, the Chief Clerk instructs the applicant to place a copy of the application in a public place for reviewing and copying in the county where the facility is or will be located. This application will be in a public place throughout the comment period. The Chief Clerk also mails this notice to any interested persons and, if required, to landowners identified in the permit application. This notice informs the public about the application, and provides that an interested person may file comments on the application or request a contested case hearing or a public meeting.

Once a draft permit is completed, it is sent, along with the Executive Director's preliminary decision, as contained in the technical summary or fact sheet, to the Chief Clerk. At that time, the Notice of Application and Preliminary Decision will be mailed to the same people and published in the same newspaper as the prior notice. This notice sets a deadline for making public comments. The applicant must place a copy of the Executive Director's preliminary decision and draft permit in the public place with the application.

Any interested person may request a public meeting on the application until the deadline for filing public comments. A public meeting is intended for the taking of public comment and is not a contested case proceeding.

After the public comment deadline, the Executive Director prepares a response to all significant public comments on the application or the draft permit raised during the public comment period. The Chief Clerk then mails the Executive Director's response to comments to people who have filed comments, requested a contested case hearing, or requested to be on the mailing list. This notice provides that if a person is not satisfied with the Executive Director's response and decision, they can request a contested case hearing or file a request to reconsider the Executive Director's decision within 30 days after the notice is mailed.

The Executive Director will issue the permit unless a written hearing request or request for reconsideration is filed within 30 days after the Executive Director's response to comments is mailed. If a hearing request or request for reconsideration is filed, the Executive Director will not issue the permit and will forward the application and request to the TCEQ Commissioners for their consideration at a scheduled Commission meeting. If a contested case hearing is held, it will be a legal proceeding similar to a civil trial in state district court.

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If the Executive Director calls a public meeting or the Commission grants a contested case hearing as described above, the Commission will give notice of the date, time, and place of the meeting or hearing. If a hearing request or request for reconsideration is made, the Commission will consider all public comments in making its decision and shall either adopt the Executive Director's response to public comments or prepare its own response.

For additional information about this application contact Merrit McKelvy at (512) 239-4742.

XIV. ADMINISTRATIVE RECORD

The following section is a list of the fact sheet citations to applicable statutory or regulatory provisions and appropriate supporting references.

A. PERMIT(S)

TCEQ Permit No. WQ0001481000 issued on June 30, 2009.

B. APPLICATION

TPDES wastewater permit application received on November 5, 2013.

C. 40 CFR CITATION(S)

§ 122.44(i)(1)

§ 122.44 (l)

§ 423.12(b)(3)

§ 423.13(b)(1)

§ 423.13(b)(2)

§ 423.13(e)

D. LETTERS/MEMORANDA/RECORDS OF COMMUNICATION

E. MISCELLANEOUS

The State of Texas 2012 Integrated Report – Texas 303(d) List (Category 5), TCEQ, May 9, 2013.

Texas Surface Water Quality Standards, 30 TAC §§307.1 - 307.10, TCEQ, effective July 22, 2012, as approved by EPA Region 6.

Texas Surface Water Quality Standards, 30 TAC §§307.1 - 307.10, TCEQ, effective August 17, 2000, and Appendix E, effective February 27, 2002, for portions of the 2010 Standards not yet approved by EPA Region 6.

Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition (EPA-821-R-02-013)

Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, (EPA-821-R-02-012)

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Procedures to Implement the Texas Surface Water Quality Standards, TCEQ, June 2010, as approved by EPA

Procedures to Implement the Texas Surface Water Quality Standards, TCEQ, January 2003, for portions of the 2010 IP not approved by EPA

Guidance Document for Establishing Monitoring Frequencies for Domestic and Industrial Wastewater Discharge Permits, TCEQ Document No. 98-001.000-OWR-WQ, May 1998.

TCEQ proposed development strategy for thermal evaluation procedures, Letter to Bill Honker, U.S. EPA, Water Quality Protection Division, April 29, 2014

TCEQ proposed development strategy for thermal evaluation procedures, Letter to L'Oreal Stepney, TCEQ, Office of Water, May 12, 2014

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Appendix A
Calculated Technology-Based Effluent Limits

Effluent limitations for flow at Outfalls 001, 101, and 201 are continued from the existing permit and are based upon regulations in 40 CFR § 122.44(i)(1), which requires the volume of effluent discharged be monitored for each Outfall.

Effluent Limitations Guidelines (ELGs) in 40 CFR Part 423 were used in the development of effluent limitations in the draft permit, and are continued from the existing permit. These effluent limitations include total residual chlorine, total suspended solids, oil and grease, total iron, total copper, and pH. The following tables present the ELGs included on an outfall-by-outfall basis, and present any calculations used in the development of effluent limitations.

Outfall 001

Source: 40 CFR § 423.13(b)(1), Once-through cooling water discharges

Parameter	Daily Average ELG	Daily Maximum ELG	Daily Average Effluent Limit	Daily Maximum Effluent Limit
Total Residual Chlorine	N/A	0.20 mg/L	N/A	145 lbs/day

40 CFR § 423.13(b)(1) states "For any plant with a total rated electric generating capacity of 25 or more megawatts, the quantity of pollutants discharged in once-through cooling water from each discharge point shall not exceed the quantity determined by multiplying the flow of once-through cooling water from each discharge point times the concentration listed [above]."

Since 40 CFR §423.13(b)(2) prohibits chlorination periods over two hours, the following calculations were used to determine the allowable mass of Total Residual Chlorine to be discharged:

Permitted Flow (1,041.48 MGD) ÷ 24 hours = 43.395 MGD per hour
43.395 MGD per hour multiplied by 2 = 86.79 MGD per 2 hours

86.79 MGD/2 hours × 8.345 (conversion factor) × 0.2 mg/L (Total Residual Chlorine) = 144.85 lbs/day (Effluent Limitation).

Parameter	Daily Average ELG	Daily Maximum ELG	Daily Average Effluent Limit	Daily Maximum Effluent Limit
Temperature	N/A	N/A	105°F	110°F

Effluent limitations for Temperature are not included in 40 CFR Part 423. The existing effluent limitations for Temperature are continued in the draft permit in accordance with anti-backsliding regulations in 40 CFR §122.44(l).

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Outfall 101

Source: 40 CFR §423.12(b)(3), Low volume waste sources

Parameter	Daily Average ELG	Daily Maximum ELG	Daily Average Effluent Limit	Daily Maximum Effluent Limit
Total Suspended Solids	30 mg/L	100 mg/L	30 mg/L	100 mg/L
Oil and Grease	15 mg/L	20 mg/L	15 mg/L	20 mg/L
pH (standard units)	6.0 minimum	9.0 maximum	6.0 minimum	9.0 maximum

The above effluent limitations are identical to the ELGs provided in 40 CFR § 423.12, and are not converted to mass units in accordance with 40 CFR §423.12(b)(11), which states, "At the permitting authority's discretion, the quantity of pollutant allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitations specified in paragraphs (b)(3) through (b)(7) of this section. Concentration limitations shall be those concentrations specified in this section."

Outfall 201

Source: 40 CFR § 423.13(e)

Parameter	Daily Average ELG	Daily Maximum ELG	Daily Average Effluent Limit	Daily Maximum Effluent Limit
Total Iron	1.0	1.0	1.0	1.0
Total Copper	1.0	1.0	0.5	1.0
pH	6.0 minimum	9.0 maximum	6.0 minimum	6.0 minimum

The above effluent limitations are identical to the ELGs provided in 40 CFR § 423.13(e), with the exception of daily average total copper, which is a more stringent effluent limitation that is continued from the existing permit in accordance with anti-backsliding regulations in 40 CFR § 122.44(l). The effluent limitations are in concentration form in accordance with 40 CFR § 423.13(g), which states, "At the permitting authority's discretion, the quantity of pollutant allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitations specified in paragraphs (b) through (e) of this section. Concentration limitations shall be those concentrations specified in this section."

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Appendix B
Calculated Water Quality-Based Effluent Limits

TEXTTOX MENU #4 - LAKE OR RESERVOIR

The water quality-based effluent limitations developed below are calculated using:

Table 1, 2010 Texas Surface Water Quality Standards (30 TAC 307) for Freshwater Aquatic Life

Table 2, 2010 Texas Surface Water Quality Standards for Human Health (except Mercury)

Table 3, 2000 Texas Surface Water Quality Standards for Human Health (Mercury)

"Procedures to Implement the Texas Surface Water Quality Standards," Texas Commission on Environmental Quality, June 2010

PERMIT INFORMATION

Permittee Name:	Decordova Power Company LLC and Luminant Generation Company LLC
TPDES Permit No:	WQ0001481000
Outfall No:	001
Prepared by:	Merrit McKelvy
Date:	1/2/14

DISCHARGE INFORMATION

Receiving Waterbody:	Lake Granbury
Segment No.:	1205
TSS (mg/L):	4
pH (Standard Units):	7.9
Hardness (mg/L as CaCO ₃):	230
Chloride (mg/L):	893
Effluent Flow for Aquatic Life (MGD):	>100
Percent Effluent for Mixing Zone:	100
Percent Effluent for Zone of Initial Dilution:	100
Effluent Flow for Human Health (MGD):	>100
Percent Effluent for Human Health:	100
Public Water Supply Use?:	yes

CALCULATE DISSOLVED FRACTION (AND ENTER WATER EFFECT RATIO IF APPLICABLE):

Lake Metal	Intercept		Slope		Partition Coefficient (Kp)	Dissolved Fraction (Cd/Ct)	Water Effect Ratio (WER)		
	(b)	(m)	(n)	(p)					
Aluminum	N/A	N/A			N/A	1.00	Assumed	1.00	Assumed
Arsenic	5.68	-0.73			173978.75	0.59		1.00	Assumed
Cadmium	6.55	-0.92			991071.09	0.20		1.00	Assumed
Chromium (Total)	6.34	-0.27			1504679	0.14		1.00	Assumed
Chromium (+3)	6.34	-0.27			1504679	0.14		1.00	Assumed
Chromium (+6)	N/A	N/A			N/A	1.00	Assumed	1.00	Assumed
Copper	6.45	-0.90			809367.96	0.24		1.00	Assumed
Lead	6.31	-0.53			979282.98	0.20		1.00	Assumed
Mercury	N/A	N/A			N/A	1.00	Assumed	1.00	Assumed
Nickel	6.34	-0.76			762841.67	0.25		1.00	Assumed
Selenium	N/A	N/A			N/A	1.00	Assumed	1.00	Assumed
Silver	6.38	-1.03			575278.59	0.30		1.00	Assumed
Zinc	6.52	-0.68			1290028.21	0.16		1.00	Assumed

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CONVERT TISSUE-BASED CRITERIA TO WATER COLUMN CRITERIA:

Parameter	Water and Fish Criterion (ug/kg)	Fish Only Criterion (ug/kg)	BCF (l/kg)	Water and Fish Criterion (ug/L)	Fish Only Criterion (ug/L)
4,4'-DDD	166.16	166.16	53600	0.0031	0.0031
4,4'-DDE	214.4	214.4	53600	0.004	0.004
4,4'-DDT	209.04	209.04	53600	0.0039	0.0039
Dioxins/Furans	0.0004	0.0004	5000	8.00E-08	8.00E-08
Mercury					
Polychlorinated Biphenyls (PCBs)	19.96	19.96	31200	6.40E-04	6.40E-04

AQUATIC LIFE

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

Parameter	FW		WLAa	WLAc	LTAa	LTAc	Daily Avg. (ug/L)	Daily Max. (ug/L)
	FW Acute Criterion (ug/L)	Chronic Criterion (ug/L)						
Aldrin	3	N/A	3.00	N/A	0.96	N/A	1.41	2.99
Aluminum	991	N/A	991.00	N/A	317.12	N/A	466.17	986.24
Arsenic	340	150	576.61	254.39	184.52	155.18	228.11	482.60
Cadmium	19.275026	0.438487	95.69	2.18	30.62	1.33	1.95	4.13
Carbaryl	2	N/A	2.00	N/A	0.64	N/A	0.94	1.99
Chlordane	2.4	0.004	2.40	0.00	0.77	0.00	0.00	0.01
Chlorpyrifos	0.083	0.041	0.08	0.04	0.03	0.03	0.04	0.08
Chromium (+3)	1127.0669	146.6083	7910.56	1029.00	2531.38	627.69	922.71	1952.12
Chromium (+6)	15.7	10.6	15.70	10.60	5.02	6.47	7.39	15.62
Copper	31.12889	19.29251	131.91	81.75	42.21	49.87	62.05	131.27
Cyanide (free)	45.8	10.7	45.80	10.70	14.66	6.53	9.59	20.30
4,4'-DDT	1.1	0.001	1.10	0.00	0.35	0.00	0.00	0.00
Demeton	N/A	0.1	N/A	0.10	N/A	0.06	0.09	0.19
Diazinon	0.17	0.17	0.17	0.17	0.05	0.10	0.08	0.17
Dicofol	59.3	19.8	59.30	19.80	18.98	12.08	17.75	37.56
Dieldrin	0.24	0.002	0.24	0.00	0.08	0.00	0.00	0.00
Diuron	210	70	210.00	70.00	67.20	42.70	62.77	132.80
Endosulfan I (alpha)	0.22	0.056	0.22	0.06	0.07	0.03	0.05	0.11
Endosulfan II (beta)	0.22	0.056	0.22	0.06	0.07	0.03	0.05	0.11
Endosulfan sulfate	0.22	0.056	0.22	0.06	0.07	0.03	0.05	0.11
Endrin	0.086	0.002	0.09	0.00	0.03	0.00	0.00	0.00
Guthion	N/A	0.01	N/A	0.01	N/A	0.01	0.01	0.02
Heptachlor	0.52	0.004	0.52	0.00	0.17	0.00	0.00	0.01
Hexachlorocyclohexane (Lindane)	1.126	0.08	1.13	0.08	0.36	0.05	0.07	0.15
Lead	157.85152	6.151247	776.18	30.25	248.38	18.45	27.12	57.38
Malathion	N/A	0.01	N/A	0.01	N/A	0.01	0.01	0.02
Mercury	2.4	1.3	2.40	1.30	0.77	0.79	1.13	2.39
Methoxychlor	N/A	0.03	N/A	0.03	N/A	0.02	0.03	0.06
Mirex	N/A	0.001	N/A	0.00	N/A	0.00	0.00	0.00
Nickel	947.2974	105.2155	3837.85	426.27	1228.11	260.02	382.23	808.67
Nonylphenol	28	6.6	28.00	6.60	8.96	4.03	5.92	12.52
Parathion (ethyl)	0.065	0.013	0.07	0.01	0.02	0.01	0.01	0.02
Pentachlorophenol	21.553	16.535	21.55	16.54	6.90	10.09	10.14	21.45
Phenanthrene	30	30	30.00	30.00	9.60	18.30	14.11	29.86
Polychlorinated Biphenyls (PCBs)	2	0.014	2.00	0.01	0.64	0.01	0.01	0.03

FACT SHEET AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

AQUATIC LIFE

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

Parameter	FW		WLA _a	WLA _c	LTA _a	LTA _c	Daily Avg. (ug/L)	Daily Max. (ug/L)
	FW Acute Criterion (ug/L)	Chronic Criterion (ug/L)						
Selenium	20	5	20.00	5.00	6.40	3.05	4.48	9.49
Silver	0.8	N/A	29.41	N/A	9.41	N/A	13.83	29.26
Toxaphene	0.78	0.0002	0.78	0.00	0.25	0.00	0.00	0.00
Tributyltin (TBT)	0.13	0.024	0.13	0.02	0.04	0.01	0.02	0.05
2,4,5 Trichlorophenol	136	64	136.00	64.00	43.52	39.04	57.39	121.41
Zinc	237.32701	239.2683	1461.96	1473.92	467.83	899.09	687.71	1454.94

HUMAN HEALTH

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

Parameter	Water and Fish		WLA _h	LTA _h	Daily Avg. (ug/L)	Daily Max. (ug/L)
	Fish Criterion (ug/L)	Fish Only Criterion (ug/L)				
Acrylonitrile	0.8	3.8	0.80	0.74	1.09	2.31
Aldrin	0.00094	0.001	0.00	0.00	0.00	0.00
Anthracene	5569	N/A	5569.00	5179.17	7613.38	16107.22
Antimony	6	1071	6.00	5.58	8.20	17.35
Arsenic	10	N/A	16.96	15.77	23.18	49.05
Barium	2000	N/A	2000.00	1860.00	2734.20	5784.60
Benzene	5	51.3	5.00	4.65	6.84	14.46
Benzidine	0.00086	0.002	0.00	0.00	0.00	0.00
Benzo(a)anthracene	0.068	0.33	0.07	0.06	0.09	0.20
Benzo(a)pyrene	0.068	0.33	0.07	0.06	0.09	0.20
Bis(chloromethyl)ether	0.0024	0.44	0.00	0.00	0.00	0.01
Bis(2-chloroethyl)ether	0.3	5.27	0.30	0.28	0.41	0.87
Bis(2-ethylhexyl)phthalate	6	41	6.00	5.58	8.20	17.35
Bromodichloromethane	10.2	322	10.20	9.49	13.94	29.50
Bromoform	69.1	2175	69.10	64.26	94.47	199.86
Cadmium	5	N/A	24.82	23.08	33.93	71.79
Carbon Tetrachloride	4.1	29	4.10	3.81	5.61	11.86
Chlordane	0.008	0.0081	0.01	0.01	0.01	0.02
Chlorobenzene	100	5201	100.00	93.00	136.71	289.23
Chlorodibromomethane (Dibromochloromethane)	7.6	239	7.60	7.07	10.39	21.98
Chloroform	70	7143	70.00	65.10	95.70	202.46
Chromium (+6)	62	502	62.00	57.66	84.76	179
Chrysene	68.13	327	68.13	63.36	93.14	197.05
Cresols	736	1981	736.00	684.48	1006.19	2128.73
Cyanide (free)	200	N/A	200.00	186.00	273.42	578.46
4,4'-DDD	0.0031	0.0031	0.00	0.00	0.00	0.01
4,4'-DDE	0.004	0.004	0.00	0.00	0.01	0.01
4,4'-DDT	0.0039	0.0039	0.00	0.00	0.01	0.01
2,4'-D	70	N/A	70.00	65.10	95.70	202.46
Danitrol	5.39	5.44	5.39	5.01	7.37	15.59
1,2-Dibromoethane	0.16	2.13	0.16	0.15	0.22	0.46
m-Dichlorobenzene	473	1445	473.00	439.89	646.64	1368.06
o-Dichlorobenzene	600	4336	600.00	558.00	820.26	1735.38
p-Dichlorobenzene	75	N/A	75.00	69.75	102.53	216.92
3,3'-Dichlorobenzidine	0.32	0.44	0.32	0.30	0.44	0.93

FACT SHEET AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

HUMAN HEALTH

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

Parameter	Water and		WLAh	LTAh	Daily Avg. (ug/L)	Daily Max. (ug/L)
	Fish Criterion (ug/L)	Fish Only Criterion (ug/L)				
1,2-Dichloroethane	5	553	5.00	4.65	6.84	14.46
1,1-Dichloroethylene	7	23916	7.00	6.51	9.57	20.25
Dichloromethane	5	5926	5.00	4.65	6.84	14.46
1,2-Dichloropropane	5	226	5.00	4.65	6.84	14.46
1,3-Dichloropropene (1,3- Dichloropropylene)	3.4	211	3.40	3.16	4.65	9.83
Dicofol	0.076	0.076	0.08	0.07	0.10	0.22
Dieldrin	0.0005	0.0005	0.00	0.00	0.00	0.00
2,4-Dimethylphenol	257	571	257.00	239.01	351.34	743.32
Di-n-Butyl Phthalate	1318	3010	1318.00	1225.74	1801.84	3812.05
Dioxins/Furans (TCDD Equivalents)	8.00E-08	8.00E-08	8.00E-08	7.44E-08	1.09E-07	2.31E-07
Endrin	0.2	0.2	0.20	0.19	0.27	0.58
Ethylbenzene	700	7143	700.00	651.00	956.97	2024.61
Fluoride	4000	N/A	4000.00	3720.00	5468.40	11569.20
Heptachlor	0.0015	0.0015	0.00	0.00	0.00	0.00
Heptachlor Epoxide	0.00074	0.00075	0.00	0.00	0.00	0.00
Hexachlorobenzene	0.0044	0.0045	0.00	0.00	0.01	0.01
Hexachlorobutadiene	6.5	274	6.50	6.05	8.89	18.80
Hexachlorocyclohexane (alpha)	0.05	0.093	0.05	0.05	0.07	0.14
Hexachlorocyclohexane (beta)	0.17	0.33	0.17	0.16	0.23	0.49
Hexachlorocyclohexane (gamma) (Lindane)	0.2	6.2	0.20	0.19	0.27	0.58
Hexachlorocyclopentadiene	50	N/A	50.00	46.50	68.36	144.62
Hexachloroethane	27	62	27.00	25.11	36.91	78.09
Hexachlorophene	0.008	0.008	0.01	0.01	0.01	0.02
Lead	1.15	3.83	5.65	5.26	7.73	16.36
Mercury	0.0122	0.0122	0.01	0.01	0.02	0.04
Methoxychlor	0.33	0.33	0.33	0.31	0.45	0.95
Methyl Ethyl Ketone	13932	1500000	1.39E+04	1.30E+04	1.90E+04	4.03E+04
Nickel	332	1140	1345.05	1250.90	1838.82	3890.30
Nitrate-Nitrogen (as Total Nitrogen)	10000	N/A	10000.00	9300.00	13671.00	28923.00
Nitrobenzene	11	463	11.00	10.23	15.04	31.82
N-Nitrosodiethylamine	0.0037	2.1	0.00	0.00	0.01	0.01
N-Nitroso-di-n-Butylamine	0.119	4.2	0.12	0.11	0.16	0.34
Pentachlorobenzene	1	1	1.00	0.93	1.37	2.89
Pentachlorophenol	1	57	1.00	0.93	1.37	2.89
Polychlorinated Biphenyls (PCBs)	6.40E-04	6.40E-04	0.00	0.00	0.00	0.00
Pyridine	23	2014	23.00	21.39	31.44	66.52
Selenium	50	N/A	50.00	46.50	68.36	144.62
1,2,4,5-Tetrachlorobenzene	0.65	0.71	0.65	0.60	0.89	1.88
1,1,2,2-Tetrachloroethane	3.2	76	3.20	2.98	4.37	9.26
Tetrachloroethylene	5	49	5.00	4.65	6.84	14.46
Thallium	0.75	1.5	0.75	0.70	1.03	2.17
Toluene	1000	N/A	1000.00	930.00	1367.10	2892.30
Toxaphene	0.0053	0.0053	0.01	0.00	0.01	0.02
2,4,5-TP (Silvex)	7.3	7.6	7.30	6.79	9.98	21.11
1,1,1-Trichloroethane	200	956663	200.00	186.00	273.42	578.46
1,1,2-Trichloroethane	5	295	5.00	4.65	6.84	14.46
Trichloroethylene	5	649	5.00	4.65	6.84	14.46

FACT SHEET AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

HUMAN HEALTH

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

Parameter	Water and		WLAh	LTAh	Daily Avg. (ug/L)	Daily Max. (ug/L)
	Fish Criterion (ug/L)	Fish Only Criterion (ug/L)				
2,4,5-Trichlorophenol	1194	2435	1194.00	1110.42	1632.32	3453.41
TTHM (Sum of Total Trihalomethanes)	80	N/A	80.00	74.40	109.37	231.38
Vinyl Chloride	0.25	24	0.25	0.23	0.34	0.72

CALCULATE 70% AND 85% OF DAILY AVERAGE EFFLUENT LIMITATIONS:

Parameter	70%	85%
Aldrin	0.988	1.200
Aluminum	326.316	396.241
Arsenic	159.676	193.893
Cadmium	1.366	1.659
Carbaryl	0.659	0.800
Chlordane	0.003	0.003
Chlorpyrifos	0.026	0.031
Chromium (+3)	645.89	784.30
Chromium (+6)	5.170	6.277
Copper	43.435	52.742
Cyanide (free)	6.716	8.155
4,4'-DDT	0.001	0.001
Demeton	0.063	0.076
Diazinon	0.056	0.068
Dicofol	12.428	15.091
Dieldrin	0.001	0.002
Diuron	43.938	53.354
Endosulfan (alpha)	0.035	0.043
Endosulfan (beta)	0.035	0.043
Endosulfan sulfate	0.035	0.043
Endrin	0.001	0.002
Guthion	0.006	0.008
Heptachlor	0.003	0.003
Hexachlorocyclohexane (Lindane)	0.050	0.061
Lead	18.985	23.054
Malathion	0.006	0.008
Mercury	0.790	0.960
Methoxychlor	0.019	0.023
Mirex	0.001	0.001
Nickel	267.563	324.898
Nonylphenol	4.143	5.030
Parathion (ethyl)	0.008	0.010
Pentachlorophenol	7.097	8.618
Phenanthrene	9.878	11.995
Polychlorinated Biphenyls (PCBs)	0.009	0.011
Selenium	3.138	3.811
Silver	9.683	11.758
Toxaphene	0.000	0.000
Tributyltin (TBT)	0.015	0.018

FACT SHEET AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

CALCULATE 70% AND 85% OF DAILY AVERAGE EFFLUENT LIMITATIONS:

Aquatic Life

<i>Parameter</i>	<i>70%</i>	<i>85%</i>
2,4,5 Trichlorophenol	40.172	48.780
Zinc	481.395	584.551

Human Health

<i>Parameter</i>	<i>70%</i>	<i>85%</i>
Acrylonitrile	0.766	0.930
Aldrin	0.001	0.001
Anthracene	5329.36	6471.37
Antimony	5.742	6.972
Arsenic	16.229	19.707
Barium	1913.94	2324.00
Benzene	4.785	5.810
Benidine	0.001	0.001
Benzo(a)anthracene	0.065	0.079
Benzo(a)pyrene	0.065	0.079
Bis(chloromethyl)ether	0.002	0.003
Bis(2-chloroethyl)ether	0.287	0.349
Bis(2-ethylhexyl)phthalate	5.742	6.972
Bromodichloromethane	9.761	11.853
Bromoform	66.127	80.297
Cadmium	23.753	28.843
Carbon Tetrachloride	3.924	4.764
Chlordane	0.008	0.009
Chlorobenzene	95.697	116.204
Chlorodibromomethane (Dibromochloromethane)	7.273	8.831
Chloroform	66.988	81.342
Chromium (+6)	59.33	72.05
Chrysene	65.198	79.169
Cresols	704	855
Cyanide (free)	191.394	232.407
4,4'-DDD	0.003	0.004
4,4'-DDE	0.004	0.005
4,4'-DDT	0.004	0.005
2,4'-D	66.988	81.342
Danitól	5.158	6.263
1,2-Dibromoethane	0.153	0.186
m-Dichlorobenzene	452.647	549.643
o-Dichlorobenzene	574.182	697.221
p-Dichlorobenzene	71.773	87.153
3,3'-Dichlorobenzidine	0.306	0.372
1,2-Dichloroethane	4.785	5.810
1,1-Dichloroethylene	6.699	8.134
Dichloromethane	4.785	5.810
1,2-Dichloropropane	4.785	5.810
1,3-Dichloropropene (1,3- Dichloropropylene)	3.254	3.951
Dicofol	0.073	0.088
Dieldrin	0.000	0.001

FACT SHEET AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

Human Health		
<i>Parameter</i>	<i>70%</i>	<i>85%</i>
2,4-Dimethylphenol	245.941	298.643
Di-n-Butyl Phthalate	1261.28	1531.56
Dioxins/Furans (TCDD Equivalents)	7.66E-08	9.30E-08
Endrin	0.191	0.232
Ethylbenzene	669.879	813.425
Fluoride	3827.88	4648.14
Heptachlor	0.001	0.002
Heptachlor Epoxide	0.001	0.001
Hexachlorobenzene	0.004	0.005
Hexachlorobutadiene	6.220	7.553
Hexachlorocyclohexane (alpha)	0.048	0.058
Hexachlorocyclohexane (beta)	0.163	0.198
Hexachlorocyclohexane (gamma) (Lindane)	0.191	0.232
Hexachlorocyclopentadiene	47.85	58.10
Hexachloroethane	25.838	31.375
Hexachlorophene	0.008	0.009
Lead	5.411	6.571
Mercury	0.012	0.014
Methoxychlor	0.316	0.383
Methyl Ethyl Ketone	1.33E+04	1.62E+04
Nickel	1287.17	1563.00
Nitrate-Nitrogen (as Total Nitrogen)	9569.7	11620.3
Nitrobenzene	10.527	12.782
N-Nitrosodiethylamine	0.004	0.004
N-Nitroso-di-n-Butylamine	0.114	0.138
Pentachlorobenzene	0.957	1.162
Pentachlorophenol	0.957	1.162
Polychlorinated Biphenyls (PCBs)	0.001	0.001
Pyridine	22	27
Selenium	47.849	58.102
1,2,4,5-Tetrachlorobenzene	0.622	0.755
1,1,2,2-Tetrachloroethane	3.062	3.719
Tetrachloroethylene	4.785	5.810
Thallium	0.718	0.872
Toluene	956.97	1162.03
Toxaphene	0.005	0.006
2,4,5-TP (Silvex)	6.986	8.483
1,1,1-Trichloroethane	191	232
1,1,2-Trichloroethane	4.785	5.810
Trichloroethylene	4.785	5.810
2,4,5-Trichlorophenol	1142.62	1387.47
TTHM (Sum of Total Trihalomethanes)	76.558	92.963
Vinyl Chloride	0.239	0.291

**Appendix C
Comparison of Technology-Based Effluent Limits and Water Quality-Based Effluent Limits**

The following table is a summary of technology-based effluent limitations calculated/assessed in the draft permit (Technology-Based), calculated/assessed water quality-based effluent limitations (Water Quality-Based), and effluent limitations in the existing permit (Existing Permit). Effluent limitations appearing in bold are the most stringent of the three and are included in the draft permit.

Outfall	Parameter	Technology-Based			Water Quality-Based			Existing Permit		
		Daily Avg mg/L	Daily Max lbs/day	Report MGD	Daily Avg mg/L	Daily Max lbs/day	Report MGD	Daily Avg mg/L	Daily Max lbs/day	Report MGD
001	Flow	1,041.48 MGD	1,041.48 MGD				1,041.48 MGD			
	Temperature	105° F	110° F				105° F			110° F
	Total Residual Chlorine		0.2	145						0.2
101	Flow			Report MGD						
	Total Suspended Solids	30		100			30		Report MGD	100
	Oil and Grease	15		20			15		20	
	pH (Standard Units)	6.0 minimum		9.0			6.0 minimum			9.0
201	Flow			Report MGD						
	Total Iron	1.0		1.0			1.0		Report MGD	1.0
	Total Copper	0.5		1.0			0.5		1.0	
	pH (Standard Units)	6.0 minimum		9.0			6.0 minimum			9.0

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Compliance History Report

PUBLISHED Compliance History Report for CN603256413, RN100664812, Rating Year 2014 which includes Compliance History (CH) components from September 1, 2009, through August 31, 2014.

Customer, Respondent, or Owner/Operator:	CN603256413, Luminant Generation Company LLC	Classification: HIGH	Rating: 0.02
Regulated Entity:	RN100664812, DECORDOVA STEAM ELECTRIC STATION	Classification: HIGH	Rating: 0.00
Complexity Points:	19	Repeat Violator: NO	
CH Group:	06 - Electric Power Generation		
Location:	4950 POWER PLANT CT GRANBURY, TX 76048-6658, HOOD COUNTY		
TCEQ Region:	REGION 04 - DFW METROPLEX		

ID Number(s):

INDUSTRIAL AND HAZARDOUS WASTE EPA ID TXD078539871
AIR NEW SOURCE PERMITS AFS NUM 4822100001
AIR NEW SOURCE PERMITS PERMIT 9664
AIR NEW SOURCE PERMITS EPA PERMIT PSDTX662M1
AIR NEW SOURCE PERMITS EPA PERMIT PSDTX1432
AIR NEW SOURCE PERMITS EPA PERMIT GHGPSDTX124
AIR OPERATING PERMITS ACCOUNT NUMBER HQ0012T
WASTEWATER PERMIT WQ0001481000
WATER LICENSING LICENSE 1110092

INDUSTRIAL AND HAZARDOUS WASTE SOLID WASTE REGISTRATION # (SWR) 32562
AIR NEW SOURCE PERMITS ACCOUNT NUMBER HQ0012T
AIR NEW SOURCE PERMITS REGISTRATION 72606
AIR NEW SOURCE PERMITS EPA PERMIT PSDTX662
AIR NEW SOURCE PERMITS PERMIT 107569
PUBLIC WATER SYSTEM/SUPPLY REGISTRATION 1110092
AIR OPERATING PERMITS PERMIT 47
WASTEWATER EPA ID TX0046400
AIR EMISSIONS INVENTORY ACCOUNT NUMBER HQ0012T

Compliance History Period: September 01, 2009 to August 31, 2014 **Rating Year:** 2014 **Rating Date:** 09/01/2014

Date Compliance History Report Prepared: March 03, 2015

Agency Decision Requiring Compliance History: Enforcement

Component Period Selected: February 26, 2010 to February 26, 2015

TCEQ Staff Member to Contact for Additional Information Regarding This Compliance History.

Name: Merritt McKelvy

Phone: (512) 239-4742

Site and Owner/Operator History:

- 1) Has the site been in existence and/or operation for the full five year compliance period? YES
- 2) Has there been a (known) change in ownership/operator of the site during the compliance period? NO
- 3) If YES for #2, who is the current owner/operator? N/A
- 4) If YES for #2, who was/were the prior owner(s)/operator(s)? N/A
- 5) If YES, when did the change(s) in owner or operator occur? N/A

Components (Multimedia) for the Site Are Listed in Sections A - J

A. Final Orders, court judgments, and consent decrees:
N/A

B. Criminal convictions:
N/A

C. Chronic excessive emissions events:
N/A

D. The approval dates of investigations (CCEDS Inv. Track. No.):

Item 1	March 16, 2010	(832381)
Item 2	April 20, 2010	(832382)
Item 3	May 20, 2010	(832383)
Item 4	June 18, 2010	(846731)
Item 5	July 20, 2010	(861259)
Item 6	August 19, 2010	(867404)
Item 7	August 27, 2010	(850217)
Item 8	September 20, 2010	(874430)
Item 9	October 20, 2010	(882010)
Item 10	November 19, 2010	(888486)
Item 11	November 23, 2010	(865543)
Item 12	December 16, 2010	(896811)
Item 13	December 30, 2010	(877913)
Item 14	January 19, 2011	(902778)
Item 15	February 20, 2011	(909615)
Item 16	March 21, 2011	(916839)
Item 17	April 20, 2011	(926480)
Item 18	May 18, 2011	(938551)
Item 19	June 19, 2011	(945921)
Item 20	July 05, 2011	(920017)
Item 21	July 20, 2011	(953178)
Item 22	August 19, 2011	(959819)
Item 23	August 29, 2011	(941859)
Item 24	September 02, 2011	(870527)
Item 25	September 20, 2011	(965860)
Item 26	October 18, 2011	(971902)
Item 27	November 20, 2011	(978069)
Item 28	December 16, 2011	(984838)
Item 29	January 20, 2012	(991128)
Item 30	February 20, 2012	(998491)
Item 31	March 13, 2012	(983594)
Item 32	March 20, 2012	(1004026)
Item 33	April 20, 2012	(1010588)
Item 34	May 18, 2012	(1016966)
Item 35	June 20, 2012	(1024724)
Item 36	July 19, 2012	(1032085)
Item 37	August 20, 2012	(1038512)
Item 38	August 21, 2012	(1023210)
Item 39	September 20, 2012	(1047330)
Item 40	October 19, 2012	(1063416)
Item 41	November 15, 2012	(1063417)
Item 42	November 16, 2012	(1035548)
Item 43	December 20, 2012	(1063418)
Item 44	December 21, 2012	(1051485)
Item 45	January 18, 2013	(1080111)
Item 46	February 20, 2013	(1080110)
Item 47	March 20, 2013	(1089848)
Item 48	April 12, 2013	(1078258)
Item 49	April 18, 2013	(1096241)
Item 50	May 20, 2013	(1107187)
Item 51	June 20, 2013	(1110834)
Item 52	July 19, 2013	(1117722)
Item 53	August 06, 2013	(1105238)
Item 54	August 20, 2013	(1125511)
Item 55	September 19, 2013	(1130079)
Item 56	October 18, 2013	(1135829)
Item 57	November 20, 2013	(1141222)
Item 58	December 20, 2013	(1147687)
Item 59	January 20, 2014	(1153738)

Item 60	February 20, 2014	(1161072)
Item 61	March 20, 2014	(1167728)
Item 62	April 18, 2014	(1174852)
Item 63	May 20, 2014	(1181051)
Item 64	June 20, 2014	(1187956)
Item 65	July 18, 2014	(1199436)
Item 66	July 31, 2014	(1185219)
Item 67	August 20, 2014	(1199437)
Item 68	September 18, 2014	(1206344)
Item 69	October 20, 2014	(1212752)
Item 70	November 20, 2014	(1219007)
Item 71	December 19, 2014	(1224789)
Item 72	January 23, 2015	(1209840)

E. Written notices of violations (NOV) (CCEDS Inv. Track. No.):

A notice of violation represents a written allegation of a violation of a specific regulatory requirement from the commission to a regulated entity. A notice of violation is not a final enforcement action, nor proof that a violation has actually occurred.

N/A

F. Environmental audits:

N/A

G. Type of environmental management systems (EMSs):

N/A

H. Voluntary on-site compliance assessment dates:

N/A

I. Participation in a voluntary pollution reduction program:

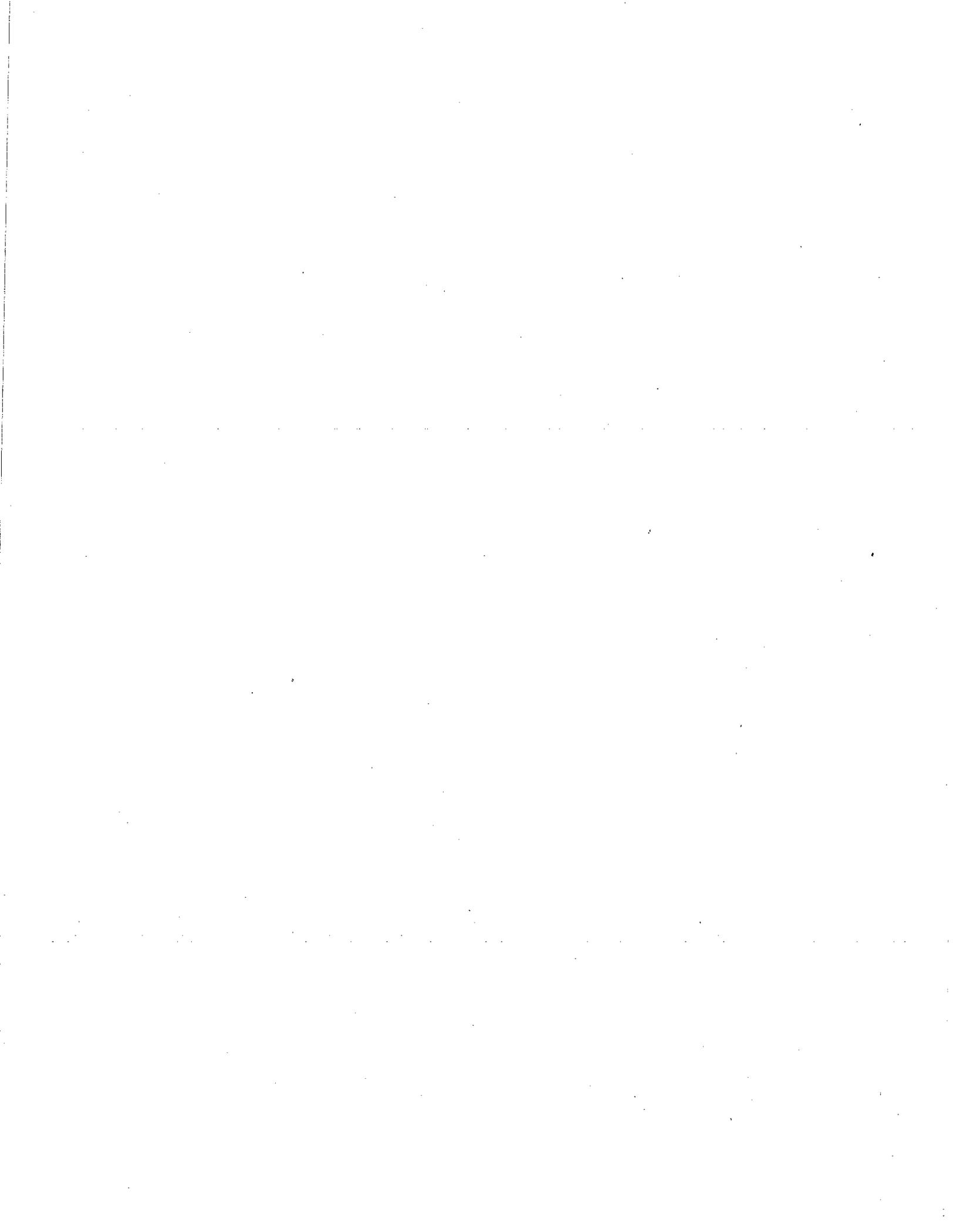
N/A

J. Early compliance:

N/A

Sites Outside of Texas:

N/A



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To request a more accessible version of this report, please contact the TCEQ Help Desk at (512) 239-4357.



Compliance History Report

PUBLISHED Compliance History Report for CN603264433, RN100664812, Rating Year 2014 which includes Compliance History (CH) components from September 1, 2009, through August 31, 2014.

Customer, Respondent, or Owner/Operator:	CN603264433, DeCordova Power Company LLC	Classification: HIGH	Rating: 0.00
Regulated Entity:	RN100664812, DECORDOVA STEAM ELECTRIC STATION	Classification: HIGH	Rating: 0.00
Complexity Points:	19	Repeat Violator: NO	
CH Group:	06 - Electric Power Generation		
Location:	4950 POWER PLANT CT GRANBURY, TX 76048-6658, HOOD COUNTY		
TCEQ Region:	REGION 04 - DFW METROPLEX		

ID Number(s):

INDUSTRIAL AND HAZARDOUS WASTE EPA ID TXD078539871	INDUSTRIAL AND HAZARDOUS WASTE SOLID WASTE REGISTRATION # (SWR) 32562
AIR NEW SOURCE PERMITS AFS NUM 4822100001	AIR NEW SOURCE PERMITS ACCOUNT NUMBER HQ0012T
AIR NEW SOURCE PERMITS PERMIT 9664	AIR NEW SOURCE PERMITS REGISTRATION 72606
AIR NEW SOURCE PERMITS EPA PERMIT PSDTX662M1	AIR NEW SOURCE PERMITS EPA PERMIT PSDTX662
AIR NEW SOURCE PERMITS EPA PERMIT PSDTX1432	AIR NEW SOURCE PERMITS PERMIT 107569
AIR NEW SOURCE PERMITS EPA PERMIT GHGPSDTX124	PUBLIC WATER SYSTEM/SUPPLY REGISTRATION 1110092
AIR OPERATING PERMITS ACCOUNT NUMBER HQ0012T	AIR OPERATING PERMITS PERMIT 47
WASTEWATER PERMIT WQ0001481000	WASTEWATER EPA ID TX0046400
WATER LICENSING LICENSE 1110092	AIR EMISSIONS INVENTORY ACCOUNT NUMBER HQ0012T

Compliance History Period: September 01, 2009 to August 31, 2014	Rating Year: 2014	Rating Date: 09/01/2014
Date Compliance History Report Prepared: March 03, 2015		
Agency Decision Requiring Compliance History: Enforcement		
Component Period Selected: February 26, 2010 to February 26, 2015		

TCEQ Staff Member to Contact for Additional Information Regarding This Compliance History.

Name: Merrit McKelvy **Phone:** (512) 239-4742

Site and Owner/Operator History:

- 1) Has the site been in existence and/or operation for the full five year compliance period? YES
- 2) Has there been a (known) change in ownership/operator of the site during the compliance period? NO
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- 4) If YES for #2, who was/were the prior owner(s)/operator(s)? N/A
- 5) If YES, when did the change(s) in owner or operator occur? N/A

Components (Multimedia) for the Site Are Listed in Sections A - J

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Item 19	August 19, 2011	(959819)
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Item 27	April 20, 2012	(1010588)
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N/A

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N/A

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N/A

H. Voluntary on-site compliance assessment dates:

N/A

I. Participation in a voluntary pollution reduction program:

N/A

J. Early compliance:

N/A

Sites Outside of Texas:

N/A