TPDES PERMIT NO. WQ0004359000
[For TCEQ office use only -
EPA I.D. No. TX0124419]

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

This major amendment replaces TPDES Permit No. WQ0004359000 issued on December 14, 2012.

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

FPLE Forney, LLC

whose mailing address is

13770 West U.S. Highway 80
Forney, Texas 75126

is authorized to treat and discharge wastes from the Forney Energy Center, a combined cycle steam electric power generating facility (SIC 4911)

located at 13770 West U.S. Highway 80, on the south side of U.S. Highway 80, 1.3 miles northwest of the intersection of Farm-to-Market Road 740 and U.S. Highway 80, northwest of the City of Forney, Kaufman County, Texas 75126

via Outfall 001 directly to the East Fork Trinity River in Segment No. 0819 of the Trinity River Basin and via Outfall 002 to Buffalo Creek; thence to East Fork Trinity River in Segment No. 0819 of the Trinity 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 October 1, 2016.

ISSUED DATE:

For the Commission

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS — Outfall Number 001

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

The daily average flow of effluent shall not exceed 4.0 million gallons per day (MGD). The total volume discharged during any 24-hour period shall not exceed 6.0 MGD.

Effluent Characteristics	Discharge Limitations					Minimum Self-Monitoring Requirements	
	Daily Average		Daily Maximum		Single Grab	Report Daily Average and Daily Maximum	
	lbs/day	mg/L	lbs/day	mg/L	mg/L	Measurement Frequency	Sample Type
Flow	4.0 MGD		6.0 MGD		N/A	Continuous	Meter
Temperature	Report, °F		Report, °F		N/A	1/day	In Situ
Carbonaceous Biochemical Oxygen Demand (5-day)	334	Report	668	Report	30	1/week	Composite
Ammonia as N							
April – November	67	Report	234	Report	15	1/week	Composite
December - March	167	Report	334	Report	15	1/week	Composite
Dissolved Oxygen (*1)	N/A	4.0 (*1)	N/A	N/A	N/A	1/week	Grab
Total Residual Chlorine (*2)	N/A	N/A	N/A	<0.1 (*2)	<0.1 (*2)	1/week	Grab
Total Dissolved Solids	70,437	Report	149,016	Report	18,087	1/week	Composite
Sulfate	Report	Report	Report	Report	N/A	1/week	Composite
Chloride	Report	Report	Report	Report	N/A	1/week	Composite
Total Chromium	4.09	0.2	4.09	0.2	0.2	1/week	Composite
Total Zinc	20.45	1.0	20.45	1.0	1.0	1/week	Composite
Total Copper	Report	Report	Report	Report	N/A	1/week	Composite

(*1) Effluent limit is a minimum concentration.
(*2) See Other Requirement No. 7.

2. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 1/week by grab sample.

3. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.

4. Effluent monitoring samples shall be taken at the following location: At Outfall 001, at the effluent meter located downstream of the forwarding sump and prior to pumping to the East Fork Trinity River.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Outfall Number 101

1. During the period beginning upon the date of issuance and lasting through the date of expiration, the permittee is authorized to discharge low volume waste including reverse osmosis (RO) reject water subject to the following effluent limitations:

Volume: Flow-variable.

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

2. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 1/week by grab sample.

3. Effluent monitoring samples shall be taken at the following location: At Outfall 101, where RO reject water is discharged prior to commingling with cooling water.

1. During the period beginning upon the date of issuance and lasting through the date of expiration, the permittee is authorized to discharge low volume waste including Heat Recovery Steam Generator (HRSG) blowdown subject to the following effluent limitations:

   Volume: Flow-variable.

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

2. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 1/week by grab sample.

3. Effluent monitoring samples shall be taken at the following location: At Outfall 201, where HRSG blowdown is discharged prior to commingling with cooling water.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Outfall Number 002

1. During the period beginning upon the date of permit issuance and lasting through the date of permit expiration, the permittee is authorized to discharge stormwater (commingled with dilute concentrations of low volume waste) from the South Stormwater Pond 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/week (*1)	Instantaneous
Total Suspended Solids	N/A	100	100	1/week (*1)	Grab
Chemical Oxygen Demand	N/A	150	150	1/week (*1)	Grab
Oil and Grease	N/A	15	15	1/week (*1)	Grab

(*1) When discharging

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 (*1) 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 002, at the gate/culvert on the northeast side of the South Stormwater Pond.

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 nth 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 and/or disposal of domestic sewage, industrial wastes, agricultural wastes, recreational wastes, or other wastes including sludge handling or disposal facilities under the jurisdiction of the Commission.

5. The term "sewage sludge" is defined as solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in 30 TAC Chapter 312. This includes the solids 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 and/or other treatment unit regulated by this permit.

4. The permittee is responsible for installing prior to plant start-up, and subsequently maintaining, adequate safeguards to prevent the discharge of untreated or inadequately treated wastes during electrical power failures by means of alternate power sources, standby generators, and/or retention of inadequately treated wastewater.

5. Unless otherwise specified, the permittee shall provide a readily accessible sampling point and, where applicable, an effluent flow measuring device or other acceptable means by which effluent flow may be determined.

6. The permittee shall remit an annual water quality fee to the Commission as required by 30 TAC Chapter 21. Failure to pay the fee may result in revocation of this permit under 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 and/or upgrading of the domestic wastewater treatment and/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 and/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.

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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):

Parameter	MAL (mg/L)
Chromium (Total)	0.010
Zinc (Total)	0.005

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.

Parameter	MAL (mg/L)
Copper (Total)	0.010

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. This provision supersedes and replaces Provision 1, Paragraph 1 of Monitoring and Reporting Requirements found on Page 4 of this permit.

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 location(s) specified on the reporting form or the instruction sheet, 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. Monitoring results must be reported on the approved TPDES self-report form, Discharge Monitoring Report (DMR) Form EPA No. 3320-1, signed and certified as required by Monitoring and Reporting Requirements No. 10.

3. There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid.

4. The term "metal cleaning waste" means any wastewater resulting from cleaning (with or without chemical compounds) any metal process equipment including, but not limited to, boiler tube cleaning, boiler fireside cleaning, and air preheater cleaning.

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

   This permit does not authorize the discharge of metal cleaning wastes or chemical metal cleaning wastes. These wastes must be routed off-site for disposal.

5. The term "low volume waste sources" means, taken collectively as if from one source, wastewater from all sources except those for which specific limitations are otherwise established in 40 CFR Part 423. Low volume waste sources include, but not are limited to: wastewaters from wet scrubber air pollution control systems, water treatment evaporator blowdown, laboratory and sampling streams, boiler blowdown, floor drains, cooling tower basin cleaning wastes, and recirculating house service water systems. Sanitary and air conditioning wastes are not included.

   This permit does not authorize the discharge of filter backwash or water from the oil/water separator. These wastes must be routed to a permitted facility for treatment and disposal.

6. The term "blowdown" means the minimum discharge of recirculating water for the purpose of discharging materials contained in the water, the further buildup of which would cause concentration in amounts exceeding limits established by best engineering practices.

7. The term "total residual chlorine" (or total residual oxidants for intake water with bromides) means the value obtained using any of the "chlorine—total residual" methods in Table IB in 40 CFR Part 136.3(a), or other methods approved by the permitting authority.

   a. The permittee shall dechlorinate continuously during the periods of chlorination exceeding two hours on any day.

   b. The permittee shall dechlorinate the chlorinated effluent to a non-detectable level (defined as less than 0.1 mg/L of total residual chlorine in a single grab sample).

   c. When chlorinating for periods more than two hours on any day, the permittee shall continuously monitor the Oxidation Reduction Potential (ORP) or other suitable parameter for total residual chlorine and the effectiveness of dechlorination.

8. This permit does not authorize the discharge of domestic sewage generated at the Forney Energy Center. All domestic wastewater must be disposed of in an approved manner such as routing to an approved on-site septic tank and drainfield system or to an authorized third party for treatment and disposal.

9. The 126 priority pollutants (Appendix A to Part 423) contained in chemicals added for cooling tower maintenance, except total chromium and total zinc, shall be limited in the discharge to "no detectable amount." The permittee shall be responsible for determining the composition of maintenance chemicals. The permittee shall report the proposed usage of any chemical which contains any of the 126 priority pollutants and provide written notification to the permitting authority prior to usage of such chemicals.

10. The mixing zone is defined as 300 feet downstream and 100 feet upstream from the point of discharge. Chronic toxic criteria apply at the edge of the mixing zone.

11. The facility receives wastewater from the City of Garland Wastewater Treatment Plant, (Duck Creek WWTP), TPDES Permit No. WQ0010090001 for reuse at the Forney Power Station. This permit does not grant or deny the Forney Power Project to accept the reclaimed water; however, if the facility is required to obtain authorization to accept the reclaimed water from Duck Creek WWTP, authorization must be obtained as required.

12. The permittee is hereby placed on notice that this permit may be reviewed by the TCEQ after the completion of any new intensive water quality survey on Segment No. 0819 of the Trinity River Basin, and any subsequent updating of the water quality model for Segment No. 0819, in order to determine if the limitations and conditions contained herein are consistent with any such revised model. The permit may be amended, pursuant to 30 TAC Section 305.62, as a result of such review.

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

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

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

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

14. This permit acknowledges the use of stormwater commingled with dilute concentrations of process wastewater from the North and South Stormwater Ponds as cooling tower makeup water. This permit does not authorize the direct discharge of stormwater from the North Stormwater Pond to surface water.

15. PERMIT EXPIRATION AND APPLICATION FOR RENEWAL

Except as provided in item B below, the expiration of this permit occurs at midnight between September 30, 2016 and October 1, 2016.

A. In accordance with 30 TAC §305.65, the permittee shall submit an application for permit renewal a minimum of 180 days before the expiration date specified on the cover page of this permit, except when written permission for a later date has been granted by the Executive Director. Under no circumstances will an initial application for renewal be accepted on or after October 1, 2016.

B. In accordance with 30 TAC §305.65, if renewal procedures have been initiated before the permit expiration date (i.e., on or before September 30, 2016), the existing permit will remain in full force and effect and will not expire until Commission action on the application for renewal is final.

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 5%, 6%, 8%, 11%, and 15% effluent. The critical dilution, defined as 11% 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 Evaluation after multiple toxic events.

e. Testing Frequency Reduction

1) If none of the first four consecutive quarterly tests performed after December 14, 2012, 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 performed after December 14, 2012, 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 in between replicates for the young of surviving females in the water flea; 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 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 at the 95% confidence level 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 at a point upstream of the discharge as close as possible to the discharge point, but unaffected by the discharge. Where the toxicity tests are conducted on effluent discharges to receiving waters that are classified as intermittent streams, or where the toxicity tests are conducted on effluent discharges where no receiving water is available due to zero flow conditions, the permittee shall; (a) substitute a synthetic dilution water that has a pH, hardness, and alkalinity similar to that of the closest downstream perennial water unaffected by the discharge, or (b) utilize the closest downstream perennial water unaffected by the discharge.

2) Where the receiving water proves unsatisfactory as a result of 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, at the 95% confidence level, 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

Date Time Date Time

No. 1 FROM: _____ TO: _____

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%	5%	6%	8%	11%	15%
A						
B						
C						
D						
E						
F						
G						
H						
I						
J						
Survival Mean						
Total Mean						
CV%*						
PMSD						

*Coefficient of Variation = standard deviation × 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 (11%): _____ YES _____ NO

PERCENT SURVIVAL

	Percent effluent					
Time of Reading	0%	5%	6%	8%	11%	15%
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 (11%): _____ 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

Date Time Date Time

No. 1 FROM: _____ TO: _____

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 replicate chambers					Mean Dry Weight	CV%*
	A	B	C	D	E		
0%							
5%							
6%							
8%							
11%							
15%							
PMSD							

* Coefficient of Variation = standard deviation × 100/mean

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 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 (11%): _____ 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%									
5%									
6%									
8%									
11%									
15%									

* Coefficient of Variation = standard deviation × 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 than the control survival for the % effluent corresponding to lethality?

   CRITICAL DILUTION (11%): _____ 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 (WET) testing.

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 Texas Surface Water Quality Standards, 30 TAC §307.6(e)(2)(B), of greater than 50% survival of the appropriate test organisms in 100% effluent for a 24-hour period.

b. The toxicity tests specified shall be conducted once per six months. The permittee shall conduct the following toxicity tests utilizing the test organisms, procedures, and quality assurance requirements specified in this section of the permit and in accordance with "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition" (EPA-821-R-02-012), or 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.

A valid test result must be submitted for each reporting period. The permittee must report, and then repeat, an invalid test during the same reporting period. The repeat test shall include the control and the 100% effluent dilution and use the appropriate number of organisms and replicates, as specified above. 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.

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.

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.

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.

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 a "1."

2) For the fathead minnow, Parameter TIE6C, enter a "0" if the mean survival at 24-hours is greater than 50% in the 100% effluent dilution; if the mean survival is less than or equal to 50%, enter a "1."

d. Enter the following codes for retests only:

1) For retest number 1, Parameter 22415, enter a "0" if the mean survival at 24-hours is greater than 50% in the 100% effluent dilution; if the mean survival is less than or equal to 50%, enter a "1."

2) For retest number 2, Parameter 22416, enter a "0" if the mean survival at 24-hours is greater than 50% in the 100% effluent dilution; if the mean survival is less than or equal to 50%, enter a "1."

4. Persistent Mortality

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

a. The permittee shall conduct 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, project manager, consulting engineering services (where applicable), consulting analytical and toxicological services, etc.

c. Within 30 days of submittal of the TRE Action Plan and Schedule, the permittee shall implement the TRE with due diligence.

d. The permittee shall submit quarterly TRE Activities Reports concerning the progress of the TRE. The quarterly TRE Activities Reports are due on or before April 20th, July 20th, October 20th, and January 20th. The report shall detail information regarding the TRE activities including:

1) results and interpretation of any chemical-specific analyses for the identified and 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 30 TAC §307.6(e)(2)(B), which requires greater than 50% survival of the test organism in 100% effluent at the end of 24-hours. The permittee may petition the Executive Director (in writing) for an extension of the 3-year limit. However, to warrant an extension the permittee must have demonstrated due diligence in their pursuit of the TIE/TRE and must prove that circumstances beyond their control stalled the TIE/TRE.

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

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

STATEMENT OF BASIS/TECHNICAL SUMMARY AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

DESCRIPTION OF APPLICATION

Applicant:	FPLE Forney, LLC; Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0004359000 (TX0124419)
Regulated Activity:	Industrial Wastewater Permit
Type of Application:	Major Amendment
Request:	Major Amendment without Renewal to remove or increase ammonia limits at Outfall 001 and to add new Outfall 002 to allow discharge from the South Stormwater Pond during wet weather
Authority:	Federal Clean Water Act §402; Texas Water Code §26.027; 30 Texas Administrative Code (TAC) Chapter 305, Subchapters C-F, Chapters 307 and 319; Commission Policies; and Environmental Protection Agency (EPA) Guidelines

EXECUTIVE DIRECTOR RECOMMENDATION

The Executive Director has made a preliminary decision that this permit, if issued, meets all statutory and regulatory requirements. The draft permit will be issued to retain the current expiration date of October 1, 2016.

The applicant has applied to the Texas Commission on Environmental Quality (TCEQ) for an amendment of its existing permit to remove or increase ammonia limits at Outfall 001 and to add new Outfall 002 to allow discharge from the South Stormwater Pond during wet weather.

PROJECT DESCRIPTION AND LOCATION

The applicant operates Forney Energy Center, a combined cycle steam electric power generating facility with a generating capacity of 1789 megawatts (MW).

The Forney Energy Center receives approximately 12-18 million gallons per day (MGD) of treated domestic wastewater (reclaimed water) from the City of Garland's Duck Creek Wastewater Treatment Plant (Duck Creek WWTP), TPDES Permit No. WQ0010090001, for use as cooling water and for other process-related functions such as steam generation. The wastewater is routed from the Duck Creek WWTP after all biological treatment has occurred but prior to dechlorination. Once the reclaimed water is received at the raw water storage pond the Forney Energy Center, sulfuric acid, bleach, or a biocide may be added to the pond in order to control biological growth within the pond. In addition, stormwater is collected through all storm drains on the site and routed to the North and South Stormwater Ponds for subsequent use as raw water supply. These ponds may also receive leaks or spills of process wastewater (for example, water pipe drips or leaks from the Heat Recovery Steam Generators).

Water from the raw water storage pond is pumped directly to the cooling towers at the site. As the water circulates through the cooling towers, a sidestream (roughly ten percent of the flow) is withdrawn and subjected to further treatment in the Sidestream Unit. This unit uses a cold lime softening/clarification process that includes the addition of caustic soda, lime, and ferric chloride to remove particulates and precipitate calcium and magnesium. Later in the process, sulphuric acid is added for pH control, and small amounts of dispersants/antiscalants such as polyacrylates and acrylamides are added. The treated water is then sent back to the cooling towers.

The steam generation loop that supplies the Heat Recovery Steam Generators (HRSGs) is first treated in the Demineralizer Unit by filtration and reverse osmosis (RO) with final polishing using a mixed-bed demineralization process. The ultrapure water is sent to the HRSGs. RO reject water is sent directly to the cooling towers after being monitored via internal Outfall 101. Blowdown from the HRSGs is also sent directly to the cooling towers after being monitored via internal Outfall 201. Stormwater (commingled with dilute concentrations of process wastewater) collected in the North Stormwater Pond is sent to the sidestream treatment clarifier; stormwater (commingled with dilute concentrations of low volume waste) collected in the South Stormwater Pond is sent to the cooling towers or discharged via Outfall 002. Cooling tower blowdown is discharged via Outfall 001 or routed back to the Duck Creek WWTP.

Sanitary wastewater, water from the oil/water separator, and filter backwash are routed to the City of Forney wastewater collection system and then to the North Texas Municipal Water District South Mesquite Creek Wastewater Treatment Plant, TPDES Permit No. WQ0010221001, for treatment and disposal. Metal cleaning wastes, which may be generated intermittently, are disposed of off-site. Stormwater discharges associated with this facility that are not collected in the North or South Stormwater Ponds are authorized under the Multi-Sector General Permit (MSGP) for Storm Water Discharges Associated with Industrial Activities, TPDES Permit No. TXR050000.

The facility is located at 13770 West U.S. Highway 80, on the south side of U.S. Highway 80, 1.3 miles northwest of the intersection of Farm-to-Market Road 740 and U.S. Highway 80, northwest of the City of Forney, Kaufman County, Texas.

The effluent is discharged via Outfall 001 directly to the East Fork Trinity River in Segment No. 0819 of the Trinity River Basin and via Outfall 002 to Buffalo Creek; thence to East Fork Trinity River in Segment No. 0819 of the Trinity River Basin. The unclassified receiving water, Buffalo Creek, has limited aquatic life use. The designated uses for Segment No. 0819 are primary contact recreation and intermediate aquatic life use. The effluent limits in the draft permit will maintain and protect the existing instream uses. All determinations are preliminary and subject to additional review and revisions.

In accordance with 30 TAC §307.5 and the TCEQ implementation procedures (June 2010) for the Texas Surface Water Quality Standards, an antidegradation review of the receiving waters was performed. A Tier 1 antidegradation review has preliminarily determined that existing water quality uses will not be impaired by this permit action. Numerical and narrative criteria to protect existing uses will be maintained. A Tier 2 review has preliminarily determined that no significant degradation of water quality is expected in East Fork Trinity River, which has been identified as having intermediate aquatic life use. Existing uses will be maintained and protected. The preliminary determination can be reexamined and may be modified if new information is received.

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 Texas Pollutant Discharge Elimination System (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. 0819 is currently listed on the State's inventory of impaired and threatened waters (the 2012 Clean Water Act Section 303(d) list) for elevated levels of chloride, sulfate, and total dissolved

solids (AU 0819_01). The existing permit includes monitoring requirements for chloride and sulfate and mass limits for total dissolved solids (TDS). Screening was performed during the previous application review consistent with the *Procedures to Implement the Texas Surface Water Quality Standards* (January 2003), and no additional limits were determined to be necessary. The permit amendment request does not include any changes to existing chloride, sulfate, or TDS permit conditions; therefore, these parameters were not screened as part of this permit action. The monitoring and reporting requirements for chloride and sulfate and the mass limits for TDS are carried forward in the draft permit.

SUMMARY OF EFFLUENT DATA

The applicant has requested a major amendment without renewal; therefore, only the items in the amendment request were considered during the drafting of this permit and statement of basis. The information provided below is continued from the statement of basis for the permit issued on December 14, 2012.

The following is a quantitative description of the discharge described in the Monthly Effluent Report data for the period March 2007 through February 2012. The "Average of Daily Avg" values presented in the following tables 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 tables are the individual maximum values for the reporting period for each parameter:

Flow

Outfall	Frequency	Average of Daily Avg, MGD	Maximum of Daily Max, MGD
001	Continuous	1.46	4.23
101	1/day	0.313	2.35
201	1/day	0.030	1.602

Temperature

Outfall	Daily Avg, °F	Daily Max, °F
001	78.05	93.24

Effluent Characteristics

Outfall	Parameter	Average of Daily Avg, lbs/day	Average of Daily Avg, mg/L	Maximum of Daily Max, lbs/day	Maximum of Daily Max, mg/L
001	Carbonaceous Biochemical Oxygen Demand (5-day)	85.19	6.99	250.99	18
	Ammonia as N:				
	April – November	11.11	0.93	125.09	5.2
	December – March	13.30	1.19	99.85	9.98
	Free Available Chlorine	0.72	0.06	3.56	0.32
	Total Dissolved Solids	40,557	3,402	140,968	5,100
	Sulfate	16,196	1,360	54,563	3,400
	Chloride	7,180	594	28,494	2,300
	Total Zinc	2.71	0.22	13.84	1.3
	Total Copper	0.51	0.04	2.02	0.09
	Hexavalent Chromium	0.12	0.01	0.35	0.01
	pH (standard units, SU)	6.27 SU, min		8.31, SU max	

Outfall	Parameter	Average of Daily Avg, lbs/day	Average of Daily Avg, mg/L	Maximum of Daily Max, lbs/day	Maximum of Daily Max, mg/L
001	Dissolved Oxygen:				
	April – November	N/A	6.1 min	N/A	N/A
	December – March	N/A	6.2 min	N/A	N/A
101	Total Suspended Solids (TSS)	N/A	4.8	N/A	22
	Oil and Grease	N/A	1.44	N/A	4.0
201	TSS	N/A	7.7	N/A	28
	Oil and Grease	N/A	1.49	N/A	5.0

No violations of effluent limitations were reported during the period reviewed.

REASONABLE POTENTIAL (RP) DETERMINATION

The applicant has requested a major amendment without renewal; therefore, only the items in the amendment request were considered during the drafting of this permit and statement of basis. The information provided below is continued from the statement of basis for the permit issued on December 14, 2012.

During the period of record, the permittee performed 30 chronic tests with no demonstrations of significant toxicity (*i.e.*, failures) by the water flea or fathead minnow.

In the past five years, the permittee has performed twenty 24-hour acute tests with no demonstrations of significant mortality.

A reasonable potential determination was performed in accordance with 40 CFR §122.44(d)(1)(ii) to determine whether the discharge will reasonably be expected to cause or contribute to an exceedance of a state water quality standard or criterion within that standard. Each test species is evaluated separately. The RP determination is based on representative data from the previous five years of WET testing. The table below identifies the thresholds for the number of test failures required to necessitate that a WET limit be placed in the permit or the consideration of additional Best Professional Judgment (BPJ) factors, such as the duration and magnitude of the failures.

WET REASONABLE POTENTIAL DETERMINATION THRESHOLDS	
More than 3 failures in the past five years	= WET limit
3 failures with 2 or 3 occurring in the past 3 years	= WET limit
1 to 3 failures in the past five years but 1 or less in last 3 years	= BPJ
0 failures	= No limit

With no demonstrations of significant toxicity during the period of record for either test species, a determination of no reasonable potential was made.

All of the test results were used for this determination.

DRAFT PERMIT CONDITIONS

The draft permit authorizes a discharge of cooling tower blowdown and previously monitored effluent (low volume waste) at a daily average flow of 4,000,000 gallons per day via Outfall 001, low volume waste including reverse osmosis (RO) reject water via Outfall 101 on a flow-variable basis, low volume waste including heat recovery steam generator (HRSG) blowdown via Outfall 201 on a flow-variable basis, and stormwater (commingled with dilute concentrations of low volume waste) from the South Stormwater Pond via Outfall 002 on an intermittent and flow-variable basis.

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

Outfall	Parameter	Daily Avg, lbs/day	Daily Avg, mg/L	Daily Max, lbs/day	Daily Max, mg/L
001	Flow	4.0 MGD		6.0 MGD	
	Temperature	Report, °F		Report, °F	
	Carbonaceous Biochemical Oxygen Demand (5-day)	334	Report	668	Report
	Ammonia as N:				
	April – November	67	Report	234	Report
	December – March	167	Report	334	Report
	Dissolved Oxygen	N/A	4.0 min	N/A	N/A
	Total Residual Chlorine	N/A	N/A	N/A	<0.1
	Total Dissolved Solids	70,437	Report	149,016	Report
	Sulfate	Report	Report	Report	Report
	Chloride	Report	Report	Report	Report
	Total Chromium	4.09	0.2	4.09	0.2
	Total Zinc	20.45	1.0	20.45	1.0
	Total Copper	Report	Report	Report	Report
	pH	6.0 SU, min		9.0, SU max	
101	Flow	Report, MGD		Report, MGD	
	TSS	N/A	30	N/A	100
	Oil and Grease	N/A	15	N/A	20
	pH	6.0 SU, min		9.0, SU max	
201	Flow	Report, MGD		Report, MGD	
	TSS	N/A	30	N/A	100
	Oil and Grease	N/A	15	N/A	20
	pH	6.0 SU, min		9.0, SU max	
002	Flow	Report, MGD		Report, MGD	
	TSS	N/A	N/A	N/A	100
	Chemical Oxygen Demand	N/A	N/A	N/A	150
	Oil and Grease	N/A	N/A	N/A	15
	pH	6.0 SU, min		9.0, SU max	

The applicant has requested a major amendment without renewal; therefore, only the items in the amendment request were considered during the drafting of this permit and statement of basis. The information provided below is continued from the statement of basis for the permit issued on December 14, 2012.

Regulations promulgated in Title 40 of the Code of Federal Regulations (40 CFR) require technology-based limitations 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 applicant operates a combined cycle steam electric power generating facility that discharges wastewater containing cooling tower blowdown and low volume waste; therefore, 40 CFR Part 423 guidelines apply to this facility. Technology-based effluent limitations for cooling tower blowdown and low volume waste are applied to the discharges from this facility. Development of technology-based effluent limitations is presented in Appendix A.

The applicant has requested a major amendment without renewal; therefore, only the items in the amendment request were considered during the drafting of this permit and statement of basis. The information provided below is continued from the statement of basis for the permit issued on December 14, 2012.

Water quality-based effluent limitations for the protection of aquatic life are presented at Appendix A. Aquatic life criteria established in Table 1 and human health criteria established in Table 3 of 30 TAC Chapter 307 are incorporated into the calculations as well as recommendations by the Water Quality Assessment Team memorandum dated June 6, 2012. TCEQ practice for determining significant potential is to compare the reported analytical data from the facility 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 are required when analytical data reported in the application exceeds 70 percent of the calculated daily average water quality-based effluent limitation. Data submitted with the application were screened and no additional effluent limitations are required. Monitoring and reporting requirements for temperature and total copper are continued in the draft permit. Monitoring and reporting requirements for hexavalent chromium are removed as requested by the permittee because application screening data and five years of self-reported data show no reasonable potential to exceed water quality screening levels for either monitoring or effluent limitations. In addition, technology-based effluent limitations for total chromium have been added to the draft permit. See Appendix B for water quality-based effluent screening.

Screening of effluent chloride, sulfate, and total dissolved solids (TDS) concentrations was performed consistent with the *Procedures to Implement the Texas Surface Water Quality Standards* (January 2003), and no additional effluent limitations were determined to be necessary. The monitoring requirements for chloride and sulfate and the mass limits for TDS are carried forward in the draft permit.

Dissolved Oxygen Modeling - updated

The permittee is proposing to amend its permit to increase or remove ammonia nitrogen limits at Outfall 001 and to establish new final Outfall 002 for discharge from the South Stormwater Pond. Only Outfall 001 is expected to discharge wastewater with significant concentrations of oxygen-demanding constituents. The daily average limitations in the existing permit for Outfall 001 are expected to remain unchanged. A dissolved oxygen analysis of the discharge from Outfall 001 was previously conducted (August 23, 2012) using seasonal versions of the calibrated QUAL-TX model of the East Fork Trinity River (Segment No. 0819). The August 2012 analysis is still valid. Based on model results, the existing permitted effluent set (daily average) for Outfall 001 is predicted to be adequate to ensure that the dissolved oxygen level in the receiving stream will be maintained above the criterion (4 mg/L). More specifically, these limits include: 4.0 MGD, 334 lbs/day BOD_5, 67 lbs/day ammonia nitrogen (April-November), 167 lbs/day ammonia nitrogen (December-March), and 4 mg/L dissolved oxygen.

Biomonitoring requirements are continued in the draft permit at Outfall 001.

SUMMARY OF CHANGES FROM APPLICATION

No changes were made from the application.

See the next section for changes to the existing permit.

SUMMARY OF CHANGES FROM EXISTING PERMIT

The permittee requested the following changes in its amendment request that the Executive Director has recommended granting.

1. Add new Outfall 002 to allow discharge from the South Stormwater Pond during wet weather.
2. Increase or remove ammonia nitrogen limits at Outfall 001 to account for periodic upset conditions at the Duck Creek WWTP that result in high ammonia nitrogen levels in the incoming reclaimed water that is used for cooling tower makeup water. The Executive Director recommends increasing the daily maximum and single grab ammonia nitrogen limits to match those in the Duck Creek WWTP permit.

Anti-backsliding

The draft permit authorizes the increase of the summer-season daily maximum and single grab ammonia nitrogen limits at Outfall 001. The Forney Energy Center (FEC) obtains reclaimed water from the City of Garland Duck Creek WWTP, mainly for use in its cooling towers. There is no other primary source of cooling water available to the FEC; if the reclaimed water were not available for use, the plant would have to shut down. The summer-season daily maximum and single grab limits for ammonia nitrogen in the FEC permit are more stringent than those in the Duck Creek WWTP permit. Two times in 2013, reclaimed water from the Duck Creek WWTP contained elevated concentrations of ammonia nitrogen. One of these occurrences caused the FEC to exceed its daily maximum ammonia nitrogen loading limit; the FEC ramped down during the other occurrence to avoid exceeding its ammonia nitrogen limits.

These upset conditions at the Duck Creek WWTP are beyond the control of the FEC, and the FEC has no reasonable remedy to the situation. This qualifies as an exception to anti-backsliding, consistent with 40 CFR §122.44(l)(2)(i)(C). In addition, the occurrence of these upsets was not anticipated by the TCEQ when it drafted previous permits for the FEC, nor were these upsets anticipated by the FEC when it accepted the lower summer-season ammonia nitrogen limits in previous permits. This qualifies as new information, consistent with the exception to anti-backsliding in 40 CFR §122.44(l)(2)(i)(B)(1). Furthermore, a comparison of the ammonia nitrogen mass loadings discharged from the Duck Creek WWTP and the FEC show that, on average, the loadings from the Duck Creek WWTP are decreased by 85% as the reclaimed water passes through the FEC's cooling system. It is assumed that this reduction is due to evaporation in the cooling towers and chemical reaction with bleach. This also qualifies as new information, consistent with the exception to anti-backsliding at 40 CFR §122.44(l)(2)(i)(B)(1).

Based on these two exceptions to anti-backsliding, the summer-season daily maximum and single grab ammonia nitrogen limits at Outfall 001 have been increased to be consistent with the limits in the Duck Creek WWTP permit. Specifically, the daily maximum ammonia nitrogen loading has been recalculated to be 234 lbs/day using a daily maximum ammonia nitrogen concentration of 7 mg/L, which is the summer-season daily maximum ammonia nitrogen limit in the Duck Creek WWTP permit (and 7 mg/L × 4.0 MGD × 8.345 = 234 lbs/day); and the single grab ammonia concentration limit has been revised to 15 mg/L. These revisions should be adequate to prevent FEC from violating the new limits because the concentrations of ammonia nitrogen in the reclaimed water are reduced in the cooling towers.

The following additional changes have been made to the draft permit.

1. The physical address has been updated in the facility location description on page 1.
2. Other Requirement No. 5, the definition of low volume waste sources, has been updated to match the current language in 40 CFR §423.11(b).
3. Other Requirement No. 7, the definition of total residual chlorine, has been updated to match the current language in 40 CFR §423.11(a).
4. Other Requirement No. 8, which prohibits the discharge of domestic wastewater, has been updated to be consistent with current TCEQ language.
5. Other Requirement No. 14 has been revised to specify that the permit does not authorize the direct discharge of stormwater from the North Stormwater Pond to surface water. The addition of Outfall 002 to the permit authorizes discharge of stormwater (commingled with dilute concentrations of low volume waste) from the South Stormwater Pond to surface water.
6. New Other Requirement No. 15 has been added to provide further explanation of the permit expiration date.
7. Chronic Biomonitoring Requirements, Provision 1.e (Testing Frequency Reduction) has been modified to specify that the first four consecutive quarterly tests are those performed after the original permit issue date of December 14, 2012.

BASIS FOR DRAFT PERMIT

The following items were considered in developing the draft permit:

1. Application received on January 13, 2014 and additional information received on January 27, 2014, and February 13, 2014.
2. Existing permits: TPDES Permit No. WQ0004359000 issued December 14, 2012.
3. TCEQ Rules.
4. Texas Surface Water Quality Standards – 30 TAC §§307.1-307.10, effective July 22, 2010, as approved by EPA Region 6.
5. Texas Surface Water Quality Standards - 30 TAC §§307.1-307.10, effective August 17, 2000, and Appendix E, effective February 27, 2002, for portions of the 2010 Standards not approved by EPA Region 6.
6. *Procedures to Implement the Texas Surface Water Quality Standards* (IP), Texas Commission on Environmental Quality, June 2010, as approved by EPA Region 6.
7. *Procedures to Implement the Texas Surface Water Quality Standards*, Texas Commission on Environmental Quality, January 2003, for portions of the 2010 IP not approved by EPA Region 6.
8. Memos from the Water Quality Standards Implementation Team and the Water Quality Assessment Team of the Water Quality Assessment Section of the TCEQ.
9. "Guidance Document for Establishing Monitoring Frequencies for Domestic and Industrial Wastewater Discharge Permits," TCEQ Document No. 98-001.000-OWR-WQ, May 1998.
10. EPA Effluent Guidelines: 40 CFR Part 423 (NSPS). A new source determination was performed and the discharge of cooling tower blowdown and low volume waste is a new source as defined at 40 CFR §122.2.
11. Consistency with the Coastal Management Plan: N/A

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.

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 Karen Holligan at (512) 239-4589.

Karen Holligan
Karen Holligan

April 14, 2014
Date

Appendix A
Calculated Technology-Based Effluent Limits

The applicant has requested a major amendment without renewal; therefore, only the items in the amendment request were considered during the drafting of this permit and statement of basis. The information provided below is continued from the statement of basis for the permit issued on December 14, 2012. New information is provided to address development of effluent limits at new Outfall 002.

Construction of the Forney Energy Center began in 2002; therefore, the discharge is subject to new source performance standards at 40 CFR Part 423.15.

Outfall 001

For new sources, cooling tower blowdown is regulated at 40 CFR §423.15(j)(1), (2), and (3). New source performance standards (NSPS) specify effluent limitation guidelines (ELGs) for free available chlorine of a daily average of 0.2 mg/L and a daily maximum of 0.5 mg/L. The NSPS also specify that free available chlorine may not be discharged from any unit for more than two hours in any one day and that not more than one unit in any plant may discharge free available chlorine at any one time unless the facility can demonstrate that the units in a particular location cannot operate at or below this level of chlorination.

The permittee has provided information to demonstrate, as allowed under 40 CFR 423.15(j)(2), that its units cannot operate at or below this level of chlorination. The permittee states that the plant uses reclaimed water in the cooling towers and that experience has proven that biological growth cannot be controlled unless continuous chlorination is provided. In lieu of the two-hour chlorination restriction, the Executive Director recommends, as suggested by the permittee, replacing the free available chlorine limitations with a daily maximum limitation on total residual chlorine of < 0.1 mg/L. This change is warranted for the following reasons:

a. This change is determined to make the draft permit conditions more stringent than those in the existing permit. Limiting total residual chlorine to a daily maximum of less than 0.1 mg/L is more stringent than limiting free available chlorine to a daily average of 0.2 mg/L and a daily maximum of 0.5 mg/L.

b. The permittee has proposed to dechlorinate the effluent prior to its discharge via Outfall 001. Other Requirement No. 7 (renumbered) has been amended to require the permittee to dechlorinate continuously during periods of chlorination exceeding two hours per day.

c. Other Requirement No. 7 (renumbered) of the draft permit requires the permittee to continuously monitor the Oxidation Reduction Potential (ORP) or other suitable parameter for total residual chlorine and the effectiveness of dechlorination at Outfall 001.

d. A similar request was made for the Calpine – Magic Valley Generating Station (TPDES Permit No. WQ0004040000, EPA ID No. TX0116751), and both TCEQ and EPA approved the request.

e. The permittee is required to conduct 7-day chronic and 24-hour acute biomonitoring, which serves as an additional monitoring parameter for any increase in toxicity of the effluent due to excessive chlorine residual.

f. The permittee has had no self-reported violations of its free available chlorine limitations during the period March 2007 – February 2012.

Total residual chlorine concentrations below 0.1 mg/L will be considered as non-detects even though an MAL has not been established for total residual chlorine because TCEQ, in its domestic wastewater permits, considers treated domestic wastewater to be sufficiently dechlorinated when total residual chlorine concentrations are below 0.1 mg/L.

The NSPS also specify effluent limitation guidelines (ELGs) for total chromium and total zinc as follows:

Total chromium:
Daily average = 0.2 mg/L
Daily maximum = 0.2 mg/L

Total zinc:
Daily average = 1.0 mg/L
Daily maximum = 1.0 mg/L

These limits are also applied on a mass basis using the following conversion:

Mass Limit (lbs/day) = ELG (mg/L) × Flow (MGD) × 8.345

Using 2.45 MGD (the five-year maximum of the self-reported daily average flows) and the ELGs from 40 CFR Part 423.15(j)(1), the following mass limits are included in the draft permit:

Total chromium:

Daily average = (0.2 mg/L) × (2.45 MGD) × 8.345 = 4.09 lbs/day
Daily maximum = (0.2 mg/L) × (2.45 MGD) × 8.345 = 4.09 lbs/day

Total zinc:

Daily average = (1.0 mg/L) × (2.45 MGD) × 8.345 = 20.45 lbs/day
Daily maximum = (1.0 mg/L) × (2.45 MGD) × 8.345 = 20.45 lbs/day

Outfall 101
Low volume waste, including reverse osmosis (RO) reject water, discharges via Outfall 101.

The term "low volume waste" means wastewaters from, but not limited to: wet scrubber air pollution control systems, ion exchange water treatment system, water treatment evaporator blowdown, boiler blowdown, laboratory and sampling streams, floor drains, cooling tower basin cleaning wastes, and recirculating house service water systems. Sanitary and air conditioning wastes are not included.

Low volume wastes are subject to NSPS at 40 CFR §423.15. The existing limitations for total suspended solids and oil and grease are consistent with the ELGs and are continued from the existing permit. Effluent limitations for pH (minimum of 6.0 standard units, maximum of 9.0 standard units) are added based on 40 CFR Part 423.15(a).

Outfall 201
Low volume waste, including Heat Recovery Steam Generator (HRSG) blowdown, discharges via Outfall 201.

The term "low volume waste" means wastewaters from, but not limited to: wet scrubber air pollution control systems, ion exchange water treatment system, water treatment evaporator blowdown, boiler blowdown, laboratory and sampling streams, floor drains, cooling tower basin cleaning wastes, and recirculating house service water systems. Sanitary and air conditioning wastes are not included.

Low volume wastes are subject to the NSPS at 40 CFR §423.15. The existing limitations for total suspended solids and oil and grease are consistent with the ELGs and are continued from the existing permit. Effluent limitations for pH (minimum of 6.0 standard units, maximum of 9.0 standard units) are added based on 40 CFR Part 423.15(a).

Outfall 002

Stormwater (commingled with dilute concentrations of low volume waste) from the South Stormwater Pond, will discharge via Outfall 002.

Stormwater is not subject to any ELGs. Typical limits applied to stormwater discharges from settling ponds include the following:

Chemical oxygen demand
Daily maximum = 150 mg/L

Oil and grease
Daily maximum = 15 mg/L

pH
6.0 – 9.0 SU

Low volume wastes are subject to the NSPS at 40 CFR §423.15, which include:

TSS
Daily average = 30 mg/L
Daily maximum = 100 mg/L

Oil and grease
Daily average = 15 mg/L
Daily maximum = 20 mg/L

pH
6.0 – 9.0 SU

The relative volume of low volume waste and stormwater is unknown, and the discharges will be intermittent and stormwater driven; therefore, the more stringent of the daily maximum effluent limitations above have been applied as follows:

TSS
Daily maximum = 100 mg/L

Chemical oxygen demand
Daily maximum = 150 mg/L

Oil and grease
Daily maximum = 15 mg/L

pH
6.0 – 9.0 SU

Appendix B
Calculated Water Quality-Based Effluent Limits

The applicant has requested a major amendment without renewal; therefore, only the items in the amendment request were considered during the drafting of this permit and statement of basis. The information provided below is continued from the statement of basis for the permit issued on December 14, 2012.

TEXTOX MENU #3 - PERENNIAL STREAM OR RIVER

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

Table 1, 2000 Texas Surface Water Quality Standards (30 TAC 307) for Freshwater Aquatic Life
Table 3, 2000 Texas Surface Water Quality Standards for Human Health
"Procedures to Implement the Texas Surface Water Quality Standards," Texas Commission on Environmental Quality, January 2003
"Procedures to Implement the Texas Surface Water Quality Standards," Appendix D, Texas Commission on Environmental Quality, June 2010

PERMITTEE INFORMATION

Permittee Name:	FPLE Forney, LLC
TPDES Permit No.:	WQ0004359000
Outfall No.:	001
Prepared by:	Karen Holligan
Date	July 2, 2012

DISCHARGE INFORMATION

Receiving Waterbody:	East Fork Trinity River
Segment No.:	0819
TSS (mg/L):	16
pH (Standard Units):	7.3
Hardness (mg/L as $CaCO_3$):	119
Chloride (mg/L):	45
Effluent Flow for Aquatic Life (MGD):	1.95
Critical Low Flow [7Q2] (cfs):	24
Chronic Effluent % for Aquatic Life:	11.17
Acute Effluent % for Aquatic Life:	33.46
Effluent Flow for Human Health (MGD):	1.36
Harmonic Mean Flow (cfs):	51.68
Human Health Effluent %:	3.91
Public Water Supply Use?:	**No**

CALCULATE DISSOLVED FRACTION:

Stream/River Metal	*Intercept (b)*	*Slope (m)*	*Partition Coefficient (Kp)*	*Dissolved Fraction (Cd/Ct)*		*Water Effect Ratio (WER)*	
Aluminum	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Arsenic	5.68	-0.73	63240.08	0.50		1.00	Assumed
Cadmium	6.60	-1.13	173517.95	0.26		1.00	Assumed
Chromium (Total)	6.52	-0.93	251286.07	0.20		1.00	Assumed
Chromium (+3)	6.52	-0.93	251286.07	0.20		1.00	Assumed
Chromium (+6)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Copper	6.02	-0.74	134570.92	0.32		1.00	Assumed
Lead	6.45	-0.80	306693.11	0.17		1.00	Assumed
Mercury	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Nickel	5.69	-0.57	100844.36	0.38		1.00	Assumed

CALCULATE DISSOLVED FRACTION:

Stream/River Metal	Intercept (b)	Slope (m)	Partition Coefficient (Kp)	Dissolved Fraction (Cd/Ct)		Water Effect Ratio (WER)	
Selenium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Silver	6.38	-1.03	137961.03	0.31		1.00	Assumed
Zinc	6.10	-0.70	180765.69	0.26		1.00	Assumed

AQUATIC LIFE
CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS

Parameter	FW Acute Criterion (ug/L)	FW Chronic Criterion (ug/L)	WLAa	WLAc	LTAa	LTAc	Daily Avg. (ug/L)	Daily Max. (ug/L)
Aldrin	3.000	N/A	8.97	N/A	5.14	N/A	7.55	16.0
Aluminum	991.000	N/A	2962	N/A	1697	N/A	2495	5278
Arsenic	360.000	190.000	2165	3423	1240	2636	1823	3857
Cadmium	39.888	1.182	450	40.0	258	30.8	45.2	95.7
Carbaryl	2.000	N/A	5.98	N/A	3.43	N/A	5.03	10.7
Chlordane	2.400	0.004	7.17	0.039	4.11	0.030	0.044	0.092
Chlorpyrifos	0.083	0.041	0.248	0.367	0.142	0.283	0.209	0.442
Chromium (+3)	632.759	205.260	9494	9228	5440	7106	7997	16919
Chromium (+6)	15.700	10.600	46.9	94.9	26.9	73.1	39.5	83.6
Copper	21.708	14.253	205	402	117	310	172	365
Cyanide	45.800	10.690	137	95.7	78.4	73.7	108	229
4,4'-DDT	1.100	0.001	3.29	0.009	1.88	0.007	0.010	0.021
Demeton	N/A	0.100	N/A	0.895	N/A	0.690	1.01	2.14
Dicofol	59.300	19.800	177	177	102	137	149	316
Dieldrin	2.500	0.002	7.47	0.017	4.28	0.013	0.019	0.041
Diuron	210.000	70.000	628	627	360	483	529	1118
Endosulfan I (alpha)	0.220	0.056	0.658	0.501	0.377	0.386	0.554	1.17
Endosulfan II (beta)	0.220	0.056	0.658	0.501	0.377	0.386	0.554	1.17
Endosulfan sulfate	0.220	0.056	0.658	0.501	0.377	0.386	0.554	1.17
Endrin	0.180	0.002	0.538	0.021	0.308	0.016	0.023	0.049
Guthion	N/A	0.010	N/A	0.090	N/A	0.069	0.101	0.214
Heptachlor	0.520	0.004	1.55	0.034	0.891	0.026	0.039	0.081
Hexachlorocyclohexane (Lindane)	2.000	0.080	5.98	0.716	3.43	0.552	0.811	1.72
Lead	90.574	3.144	1599	166	916	128	188	398
Malathion	N/A	0.010	N/A	0.090	N/A	0.069	0.101	0.214
Mercury	2.400	1.300	7.17	11.6	4.11	8.96	6.04	12.8
Methoxychlor	N/A	0.030	N/A	0.269	N/A	0.207	0.304	0.643
Mirex	N/A	0.001	N/A	0.009	N/A	0.007	0.010	0.021
Nickel	1639.811	182.114	12808	4262	7339	3282	4824	10206
Parathion (ethyl)	0.065	0.013	0.194	0.116	0.111	0.090	0.132	0.279
Pentachlorophenol	12.262	7.741	36.6	69.3	21.0	53.4	30.9	65.3
Phenanthrene	30.000	30.000	89.7	269	51.4	207	75.5	160
Polychlorinated Biphenyls (PCBs)	2.000	0.014	5.98	0.13	3.43	0.10	0.14	0.30
Selenium	20.000	5.000	59.8	44.8	34.3	34.5	50.3	107
Silver (free ion)	0.800	N/A	30.5	N/A	17.5	N/A	25.7	54.3
Toxaphene	0.7800	0.0002	2.33	0.0018	1.34	0.0014	0.0020	0.0043
Tributyltin (TBT)	0.130	0.024	0.389	0.215	0.223	0.165	0.243	0.515
2,4,5 Trichlorophenol	136.000	64.000	406	573	233	441	342	724
Zinc	132.622	121.104	1543	4221	884	3250	1299	2749

HUMAN HEALTH

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS

Parameter	*Water and FW Fish Criterion (ug/L)*	*FW Fish Only Criterion (ug/L)*	*WLAh*	*LTAh*	*Daily Avg. (ug/L)*	*Daily Max. (ug/L)*
Acrylonitrile	1.28	10.9	279	259	381	806
Aldrin	0.00408	0.00426	0.109	0.101	0.149	0.315
Arsenic	50	N/A	N/A	N/A	N/A	N/A
Barium	2000	N/A	N/A	N/A	N/A	N/A
Benzene	5	106	2709	2520	3704	7836
Benzidine	0.00106	0.00347	0.089	0.082	0.121	0.257
Benzo(a)anthracene	0.099	0.81	20.7	19.3	28.3	59.9
Benzo(a)pyrene	0.099	0.81	20.7	19.3	28.3	59.9
Bis(chloromethyl)ether	0.00462	0.0193	0.493	0.459	0.674	1.43
Cadmium	5	N/A	N/A	N/A	N/A	N/A
Carbon Tetrachloride	3.76	8.4	215	200	294	621
Chlordane	0.021	0.0213	0.544	0.506	0.744	1.57
Chlorobenzene	776	1380	35273	32804	48222	102020
Chloroform	100	1292	33024	30712	45147	95515
Chromium (+6)	100	3320	84860	78920	116012	245440
Chrysene	0.417	8.1	207	193	283	599
Cresols	3313	13116	335247	311780	458316	969635
Cyanide	200	N/A	N/A	N/A	N/A	N/A
4,4'-DDD	0.0103	0.01	0.256	0.238	0.349	0.739
4,4'-DDE	0.0073	0.007	0.179	0.166	0.245	0.517
4,4'-DDT	0.0073	0.007	0.179	0.166	0.245	0.517
2,4'-D	70	N/A	N/A	N/A	N/A	N/A
Danitol	0.709	0.721	18.4	17.1	25.2	53.3
Dibromochloromethane	9.2	71.6	1830	1702	2502	5293
1,2-Dibromoethane	0.014	0.335	8.56	7.96	11.7	24.8
1,3-Dichloropropene (1,3- Dichloropropylene)	22.8	161	4115	3827	5626	11902
Dieldrin	0.00171	0.002	0.051	0.048	0.070	0.148
p-Dichlorobenzene	75	N/A	N/A	N/A	N/A	N/A
1,2-Dichloroethane	5	73.9	1889	1757	2582	5463
1,1-Dichloroethylene	1.63	5.84	149	139	204	432
Dicofol	0.215	0.217	5.55	5.16	7.58	16.0
Dioxins/Furans (TCDD Equivalents)	1.34E-07	1.40E-07	3.58E-06	3.33E-06	4.89E-06	1.03E-05
Endrin	1.27	1.34	34.3	31.9	46.8	99.1
Fluoride	4000	N/A	N/A	N/A	N/A	N/A
Heptachlor	0.0026	0.00265	0.068	0.063	0.093	0.196
Heptachlor Epoxide	0.159	1.1	28.1	26.1	38.4	81.3
Hexachlorobenzene	0.0194	0.0198	0.506	0.471	0.692	1.46
Hexachlorobutadiene	2.99	3.6	92.0	85.6	126	266
Hexachlorocyclohexane (alpha)	0.163	0.413	10.6	9.82	14.4	30.5
Hexachlorocyclohexane (beta)	0.57	1.45	37.1	34.5	50.7	107
Hexachlorocyclohexane (gamma) (Lindane)	0.2	2	51.1	47.5	69.9	148
Hexachloroethane	84.2	278	7106	6608	9714	20552
Hexachlorophene	0.0531	0.053	1.35	1.26	1.85	3.92
Lead	4.98	25.3	3820	3553	5222	11048
Mercury	0.0122	0.0122	0.312	0.290	0.426	0.902
Methoxychlor	2.21	2.22	56.7	52.8	77.6	164
Methyl Ethyl Ketone	5.29E+04	9.94E+06	2.54E+08	2.36E+08	3.47E+08	7.35E+08
Nitrate-Nitrogen (as Total Nitrogen)	10000	N/A	N/A	N/A	N/A	N/A

HUMAN HEALTH

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS

Parameter	*Water and FW Fish Criterion (ug/L)*	*FW Fish Only Criterion (ug/L)*	*WLAh*	*LTAh*	*Daily Avg. (ug/L)*	*Daily Max. (ug/L)*
Nitrobenzene	37.3	233	5956	5539	8142	17225
N-Nitrosodiethylamine	0.0382	7.68	196	183	268	568
N-Nitroso-di-n-Butylamine	1.84	13.5	345	321	472	998
PCBs (Polychlorinated Biphenyls)	0.0013	0.0013	0.033	0.031	0.045	0.096
Pentachlorobenzene	6.1	6.68	171	159	233	494
Pentachlorophenol	1	135	3451	3209	4717	9980
Pyridine	88.1	13333	340794	316938	465899	985677
Selenium	50	N/A	N/A	N/A	N/A	N/A
1,2,4,5-Tetrachlorobenzene	0.241	0.243	6.21	5.78	8.49	18.0
Tetrachloroethylene	5	323	8256	7678	11287	23879
Toxaphene	0.005	0.014	0.358	0.333	0.489	1.03
2,4,5-TP (Silvex)	47	50.3	1286	1196	1758	3719
2,4,5-Trichlorophenol	953	1069	27324	25411	37354	79029
Trichloroethylene	5	612	15643	14548	21385	45244
1,1,1-Trichloroethane	200	12586	321700	299181	439796	930453
TTHM (Sum of Total Trihalomethanes)	100	N/A	N/A	N/A	N/A	N/A
Vinyl Chloride	2	415	10607	9865	14501	30680

CALCULATE 70% AND 85% OF DAILY AVERAGE EFFLUENT LIMITATIONS

Aquatic Life

Parameter	*70%*	*85%*
Aldrin	5.29	6.42
Aluminum	1746	2121
Arsenic	1276	1550
Cadmium	31.7	38.5
Carbaryl	3.52	4.28
Chlordane	0.031	0.037
Chlorpyrifos	0.146	0.178
Chromium (+3)	5598	6798
Chromium (+6)	27.7	33.6
Copper	121	146
Cyanide	75.8	92.1
4,4'-DDT	0.0071	0.0086
Demeton	0.710	0.862
Dicofol	104	127
Dieldrin	0.013	0.016
Diuron	370	449
Endosulfan (alpha)	0.388	0.471
Endosulfan (beta)	0.388	0.471
Endosulfan sulfate	0.388	0.471
Endrin	0.016	0.020
Guthion	0.071	0.086
Heptachlor	0.027	0.033
Hexachlorocyclohexane (Lindane)	0.568	0.689
Lead	132	160
Malathion	0.071	0.086
Mercury	4.23	5.14

Aquatic Life

Parameter	*70%*	*85%*
Methoxychlor	0.213	0.258
Mirex	0.0071	0.0086
Nickel	3377	4101
Parathion (ethyl)	0.092	0.112
Pentachlorophenol	21.6	26.2
Phenanthrene	52.9	64.2
Polychlorinated Biphenyls (PCBs)	0.099	0.121
Selenium	35.2	42.8
Silver (free ion)	18.0	21.8
Toxaphene	0.0014	0.0017
Tributyltin (TBT)	0.170	0.207
2,4,5 Trichlorophenol	240	291
Zinc	910	1105

Human Health

Parameter	*70%*	*85%*
Acrylonitrile	267	324
Aldrin	0.104	0.127
Arsenic	N/A	N/A
Barium	N/A	N/A
Benzene	2593	3148
Benzidine	0.085	0.103
Benzo(a)anthracene	19.8	24.1
Benzo(a)pyrene	19.8	24.1
Bis(chloromethyl)ether	0.472	0.573
Cadmium	N/A	N/A
Carbon Tetrachloride	205	249
Chlordane	0.521	0.633
Chlorobenzene	33755	40988
Chloroform	31603	38375
Chromium (+6)	81208	98610
Chrysene	198	241
Cresols	320821	389569
Cyanide	N/A	N/A
4,4'-DDD	0.245	0.297
4,4'-DDE	0.171	0.208
4,4'-DDT	0.171	0.208
2,4'-D	N/A	N/A
Danitol	17.6	21.4
Dibromochloromethane	1751	2127
1,2-Dibromoethane	8.19	9.95
1,3-Dichloropropene (1,3- Dichloropropylene)	3938	4782
Dieldrin	0.049	0.059
p-Dichlorobenzene	N/A	N/A
1,2-Dichloroethane	1808	2195
1,1-Dichloroethylene	143	173
Dicofol	5.31	6.45
Dioxins/Furans (TCDD Equivalents)	3.42E-06	4.16E-06
Endrin	32.8	39.8
Fluoride	N/A	N/A
Heptachlor	0.065	0.079
Heptachlor Epoxide	26.9	32.7

Human Health

Parameter	*70%*	*85%*
Hexachlorobenzene	0.484	0.588
Hexachlorobutadiene	88.1	107
Hexachlorocyclohexane (alpha)	10.1	12.3
Hexachlorocyclohexane (beta)	35.5	43.1
Hexachlorocyclohexane (gamma) (Lindane)	48.9	59.4
Hexachloroethane	6800	8257
Hexachlorophene	1.30	1.57
Lead	3656	4439
Mercury	0.298	0.362
Methoxychlor	54.3	65.9
Methyl Ethyl Ketone	2.43E+08	2.95E+08
Nitrate-Nitrogen (as Total Nitrogen)	N/A	N/A
Nitrobenzene	5699	6921
N-Nitrosodiethylamine	188	228
N-Nitroso-di-n-Butylamine	330	401
PCBs (Polychlorinated Biphenyls)	0.032	0.039
Pentachlorobenzene	163	198
Pentachlorophenol	3302	4010
Pyridine	326129	396014
Selenium	N/A	N/A
1,2,4,5-Tetrachlorobenzene	5.94	7.22
Tetrachloroethylene	7901	9594
Toxaphene	0.342	0.416
2,4,5-TP (Silvex)	1230	1494
2,4,5-Trichlorophenol	26148	31751
Trichloroethylene	14970	18178
1,1,1-Trichloroethane	307857	373827
TTHM (Sum of Total Trihalomethanes)	N/A	N/A
Vinyl Chloride	10151	12326

Screening for Total Dissolved Solids, Chloride, and Sulfate
Perennial Stream

The applicant has requested a major amendment without renewal; therefore, only the items in the amendment request were considered during the drafting of this permit and statement of basis. The information provided below is continued from the statement of basis for the permit issued on December 14, 2012.

The following procedures are used to evaluate whether discharges to perennial streams may need effluent limitations or monitoring for total dissolved solids (TDS). These TDS screening guidelines for perennial streams are intended to protect livestock, wildlife, shoreline vegetation, and aquatic life. Screening procedures and effluent limitations are calculated using the methodology in the *Procedures to Implement the Texas Water Surface Water Quality Standards* (January 2003) and criteria in the Texas Surface Water Quality Standards (30 TAC Chapter 307, July 2010). These procedures may also be applied to chloride and sulfate.

TDS effluent concentrations are screened using the Equation 1:

Equation 1: $Cc \geq [QsCa + QeCe1] \div [Qe + Qs]$

Where:
Cc = Segment TDS criterion
Qs = Harmonic mean flow (cfs) of the perennial stream
Ca = Ambient TDS concentration for the segment (from the IP)
Qe = Average of the daily average effluent flow (cfs) over the last two years
Ce1 = Effluent TDS concentration

If Equation 1 is satisfied (that is, Cc is equal to or greater than the right side of the equation), no further action is required. If Equation 1 is not satisfied (Cc is less than the right side of the equation, effluent limits are calculated and the effluent concentration is compared to the limit. Permit limitations are required when analytical data reported in the application is equal to or exceeds 85% of the calculated daily average effluent limitation. Monitoring and reporting is required when analytical data reported in the application is equal to or exceeds 70% of the calculated daily average effluent limitation. The following values were used in the screening:

Total Dissolved Solids		
Cc =	500	mg/L
Qs =	51.68	cfs
Ca =	372	mg/L
Qe =	2.1	cfs
Ce1 =	3348	mg/L

Chloride		
Cc =	100	mg/L
Qs =	51.68	cfs
Ca =	45	mg/L
Qe =	2.1	cfs
Ce1 =	549	mg/L

Sulfate		
Cc =	100	mg/L
Qs =	51.68	cfs
Ca =	47	mg/L
Qe =	2.1	cfs
Ce1 =	1272	mg/L

[Note: ambient concentrations of TDS, chloride, and sulfate were taken from Appendix D of the *Procedures to Implement the Texas Water Surface Water Quality Standards* (June 2010).]

Are the following equations satisfied?

Total Dissolved Solids:

$$500 > \frac{[(51.68)(372) + (2.1)(3348)]}{[51.68 + 2.1]}$$

$$500 > 488$$

Yes, the equation is satisfied. TDS limits are not needed.

Chloride:

$$100 > \frac{[(51.68)(45) + (2.1)(549)]}{[51.68 + 2.1]}$$

$$100 > 95$$

Yes, the equation is satisfied. Chloride limits are not needed.

Sulfate:

$$100 > \frac{[(51.68)(47) + (2.1)(1272)]}{[51.68 + 2.1]}$$

$$100 > 95$$

Yes, the equation is satisfied. Sulfate limits are not needed.

Appendix C
Comparison of Effluent Limitations

Effluent Characteristics	Discharge Limitations - Daily Average & Daily Maximum							
	Existing permit		TBEL		WQBEL		Draft Permit	
	Avg.	Max.	Avg.	Max.	Avg.	Max.	Avg.	Max.
Outfall 001								
Flow (MGD)	**4.0**	**6.0**	—	—	—	—	4.0	6.0
Temperature (°F)	**Report**	**Report**	—	—	Report	Report	Report	Report
CBOD, 5-day (lbs/day)	**334**	**668**	—	—	334	668	334	668
CBOD, 5-day (mg/L)	**Report**	**Report**	—	—	Report	Report	Report	Report
Ammonia as N (lbs/day)								
April – November	**67**	134	—	—	67	—	67	**234***
December – March	**167**	**334**	—	—	167	—	167	334
Ammonia as N (mg/L)								
April – November	**Report**	**Report**	—	—	Report	Report	Report	Report
December – March	**Report**	**Report**	—	—	Report	Report	Report	Report
Total Residual Chlorine (mg/L)	—	**<0.1**	—	<0.1	—	—	—	<0.1
Total Dissolved Solids (lbs/day)	**70,437**	**149,016**	—	—	N/A	N/A	70,437	149,016
Total Dissolved Solids (mg/L)	**Report**	**Report**	—	—	N/A	N/A	Report	Report
Sulfate (lbs/day)	**Report**	**Report**	—	—	N/A	N/A	Report	Report
Sulfate (mg/L)	**Report**	**Report**	—	—	N/A	N/A	Report	Report
Chloride (lbs/day)	**Report**	**Report**	—	—	N/A	N/A	Report	Report
Chloride (mg/L)	**Report**	**Report**	—	—	N/A	N/A	Report	Report
Total Chromium (lbs/day)	**4.09**	**4.09**	4.09	4.09	—	—	4.09	4.09
Total Chromium (mg/L)	**0.2**	**0.2**	0.2	0.2	—	—	0.2	0.2
Total Zinc (lbs/day)	**20.45**	**20.45**	20.45	20.45	21.15	44.75	20.45	20.45
Total Zinc (mg/L)	**1.0**	**1.0**	1.0	1.0	1.30	2.75	1.0	1.0
Total Copper (lbs/day)	**Report**	**Report**	—	—	—	—	Report	Report
Total Copper (mg/L)	**Report**	**Report**	—	—	—	—	Report	Report
pH (standard units)	**6.0 min**	**9.0 max**	6.0 min	9.0 max	—	—	6.0 min	9.0 max
Dissolved Oxygen (mg/L)								
April – November	**4.0 min**	—	—	—	4.0 min	—	4.0 min	—
December – March	**4.0 min**	—	—	—	4.0 min	—	4.0 min	—
Outfall 101								
Flow (MGD)	**Report**	**Report**	Report	Report	—	—	Report	Report
Total Suspended Solids (mg/L)	**30**	**100**	30	100	—	—	30	100
Oil and Grease (mg/L)	**15**	**20**	15	20	—	—	15	20
pH (standard units)	**6.0 min**	**9.0 max**	6.0 min	9.0 max	—	—	6.0 min	9.0 max
Outfall 201								
Flow (MGD)	**Report**	**Report**	Report	Report	—	—	Report	Report
Total Suspended Solids (mg/L)	**30**	**100**	30	100	—	—	30	100
Oil and Grease (mg/L)	**15**	**20**	15	20	—	—	15	20
pH (standard units)	**6.0 min**	**9.0 max**	6.0 min	9.0 max	—	—	6.0 min	9.0 max
Outfall 002								
Flow (MGD)	—	—	**Report**	**Report**	—	—	Report	Report
Total Suspended Solids (mg/L)	—	—	—	**100**	—	—	—	100
Chemical Oxygen Demand (mg/L)	—	—	—	**150**	—	—	—	150
Oil and Grease (mg/L)	—	—	—	**15**	—	—	—	15
pH (standard units)	—	—	**6.0 min**	**9.0 max**	—	—	6.0 min	9.0 max

* This less stringent daily maximum ammonia nitrogen limit is established based on new information and through a major amendment to the existing permit.

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Compliance History Report

PUBLISHED Compliance History Report for CN603392911, RN100213420, Rating Year 2014 which includes Compliance History (CH) components from September 1, 2009, through August 31, 2014.

Customer, Respondent, or Owner/Operator: CN603392911, FPLE Forney, LLC **Classification:** SATISFACTORY **Rating:** 1.63

Regulated Entity: RN100213420, FORNEY POWER PLANT **Classification:** SATISFACTORY **Rating:** 1.63

Complexity Points: 21 **Repeat Violator:** NO

CH Group: 06 - Electric Power Generation

Location: 13770 W US HIGHWAY 80 FORNEY, TX 75126-9143, KAUFMAN COUNTY

TCEQ Region: REGION 04 - DFW METROPLEX

ID Number(s):

AIR OPERATING PERMITS ACCOUNT NUMBER KB0176S
AIR NEW SOURCE PERMITS PERMIT 41953
AIR NEW SOURCE PERMITS EPA PERMIT PSDTX951
AIR NEW SOURCE PERMITS AFS NUM 4825700680
INDUSTRIAL AND HAZARDOUS WASTE SOLID WASTE REGISTRATION # (SWR) 87156
WASTEWATER PERMIT WQ0004359000
AIR OPERATING PERMITS PERMIT 2402
AIR NEW SOURCE PERMITS ACCOUNT NUMBER KB0176S
AIR NEW SOURCE PERMITS REGISTRATION 100159
INDUSTRIAL AND HAZARDOUS WASTE EPA ID TXR000051490
AIR EMISSIONS INVENTORY ACCOUNT NUMBER KB0176S
WASTEWATER EPA ID TX0124419

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

Date Compliance History Report Prepared: April 27, 2015

Agency Decision Requiring Compliance History: Permit - Issuance, renewal, amendment, modification, denial, suspension, or revocation of a permit.

Component Period Selected: April 28, 2010 to April 27, 2015

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

Name: Karen Holligan **Phone:** (512) 239-4589

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	May 24, 2010	(836527)
Item 2	June 25, 2010	(847996)

Item 3	June 30, 2010	(862436)
Item 4	July 16, 2010	(824322)
Item 5	August 25, 2010	(869058)
Item 6	September 23, 2010	(875914)
Item 7	October 12, 2010	(850094)
Item 8	October 25, 2010	(883496)
Item 9	October 28, 2010	(863475)
Item 10	November 23, 2010	(889877)
Item 11	December 17, 2010	(898279)
Item 12	January 25, 2011	(931071)
Item 13	February 25, 2011	(911009)
Item 14	March 24, 2011	(918295)
Item 15	May 25, 2011	(940014)
Item 16	June 14, 2011	(922328)
Item 17	June 27, 2011	(947415)
Item 18	July 12, 2011	(933079)
Item 19	August 25, 2011	(961252)
Item 20	September 26, 2011	(967371)
Item 21	October 25, 2011	(973308)
Item 22	November 14, 2011	(962308)
Item 23	November 21, 2011	(979438)
Item 24	December 21, 2011	(986283)
Item 25	January 20, 2012	(992662)
Item 26	February 24, 2012	(1033523)
Item 27	March 27, 2012	(1005505)
Item 28	April 26, 2012	(1012065)
Item 29	May 25, 2012	(1018460)
Item 30	June 08, 2012	(1007745)
Item 31	June 25, 2012	(1026165)
Item 32	August 24, 2012	(1040047)
Item 33	September 26, 2012	(1049022)
Item 34	October 25, 2012	(1070239)
Item 35	November 21, 2012	(1070240)
Item 36	December 21, 2012	(1070241)
Item 37	January 25, 2013	(1083266)
Item 38	June 25, 2013	(1112316)
Item 39	July 12, 2013	(1101118)
Item 40	July 15, 2013	(1100536)
Item 41	July 24, 2014	(1201486)
Item 42	July 29, 2014	(1179991)
Item 43	August 25, 2014	(1201487)
Item 44	October 23, 2014	(1214186)
Item 45	November 20, 2014	(1220416)
Item 46	December 18, 2014	(1226249)
Item 47	January 23, 2015	(1233333)
Item 48	February 24, 2015	(1244235)

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.

1 Date: 04/30/2014 (1182598) CN603392911
Self Report? YES Classification: Moderate
Citation: 2D TWC Chapter 26, SubChapter A 26.121(a)
30 TAC Chapter 305, SubChapter F 305.125(1)
Description: Failure to meet the limit for one or more permit parameter

2 Date: 05/31/2014 (1189475) CN603392911
Self Report? YES Classification: Moderate
Citation: 2D TWC Chapter 26, SubChapter A 26.121(a)
30 TAC Chapter 305, SubChapter F 305.125(1)
Description: Failure to meet the limit for one or more permit parameter

Published *Compliance History Report for CN603392911, RN100213420, Rating Year 2014 which includes Compliance History (CH) components from April 28, 2010, through April 27, 2015.*

3 Date: 07/21/2014 (1183485) CN603392911
Self Report? NO Classification: Moderate
Citation: 30 TAC Chapter 305, SubChapter F 305.125(1)
Description: Failure to maintain compliance with permitted effluent limits.

4 Date: 08/31/2014 (1207783) CN603392911
Self Report? YES Classification: Moderate
Citation: 2D TWC Chapter 26, SubChapter A 26.121(a)
30 TAC Chapter 305, SubChapter F 305.125(1)
Description: Failure to meet the limit for one or more permit parameter

F. Environmental audits:

G. Type of environmental management systems (EMSs):

1	ENVIRONMENTAL MANAGEMENT SYSTEM	30 TAC CERTIFIED
2	ENVIRONMENTAL MANAGEMENT SYSTEM	30 TAC CERTIFIED
3	ENVIRONMENTAL MANAGEMENT SYSTEM	30 TAC CERTIFIED
4	ENVIRONMENTAL MANAGEMENT SYSTEM	30 TAC CERTIFIED

H. Voluntary on-site compliance assessment dates:
N/A

I. Participation in a voluntary pollution reduction program:

	Type	Tier	Certification Date
1	CLEAN TEXAS PROGRAM	LEADER	07/13/2010

J. Early compliance:
N/A

Sites Outside of Texas:
N/A