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September 4, 2019

VIA HAND DELIVERY AND ELECTRONIC FILING

Hon. Robin L. Morrison, Chairman
c/o Ectory Lawless, Docket Room Manager
Tennessee Public Utilities Commission
502 Deaderick Street, 4th Floor
Nashville, TN 37243

RE: ***Expedited Petition of Sontara Old Hickory, Inc. for Approval of an Asset Purchase Agreement and for the Issuance of a Certificate of Convenience and Necessity***
TPUC Docket No. 19-00071

Dear Chairman Morrison:

At the time of filing the above referenced petition, a component of Exhibit J was inadvertently omitted. A courtesy copy of the omitted portion of Exhibit J has been provided to TPUC staff, as well as to General Karen Stachowski with the Consumer Advocate. The same is attached for filing and as required, an original, along with four (4) hard copies, will be hand delivered. Should you have any questions concerning this filing, or require additional information, please do not hesitate to contact me.

Sincerely,

BUTLER SNOW LLP

Melvin Malone

MJM:mcb

cc: Nashville Metro Water Services
Daniel Whitaker, Consumer Protection and Advocate Division
Patsy Fulton, TPUC Staff

Suite 1600
150 3rd Avenue South
Nashville, Tennessee 37201

MELVIN MALONE
615-651-6705
Melvin.Malone@butlersnow.com

T 615.651.6700
F 615.651.6701
www.butlersnow.com

STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES
William R. Snodgrass - Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor
Nashville, Tennessee 37243-1102

February 5, 2016

Mr. Nathaniel Chambers
Site Services Manager/Plant Manager
e-copy: Nathaniel.W.Chambers-1@DuPont.com
DuPont - Old Hickory - DuPont Protection Technologies
1002 Industrial Road
Old Hickory, TN 37138

Subject: **NPDES Permit No. TN0002259**
E. I. DuPont De Nemours, Inc.
Old Hickory, Davidson County, Tennessee

Dear Mr. Chambers:

In accordance with the provisions of the Tennessee Water Quality Control Act, Tennessee Code Annotated (T.C.A.), Sections 69-3-101 through 69-3-120, the Division of Water Resources hereby issues the enclosed NPDES Permit. The continuance and/or reissuance of this NPDES Permit is contingent upon your meeting the conditions and requirements as stated therein.

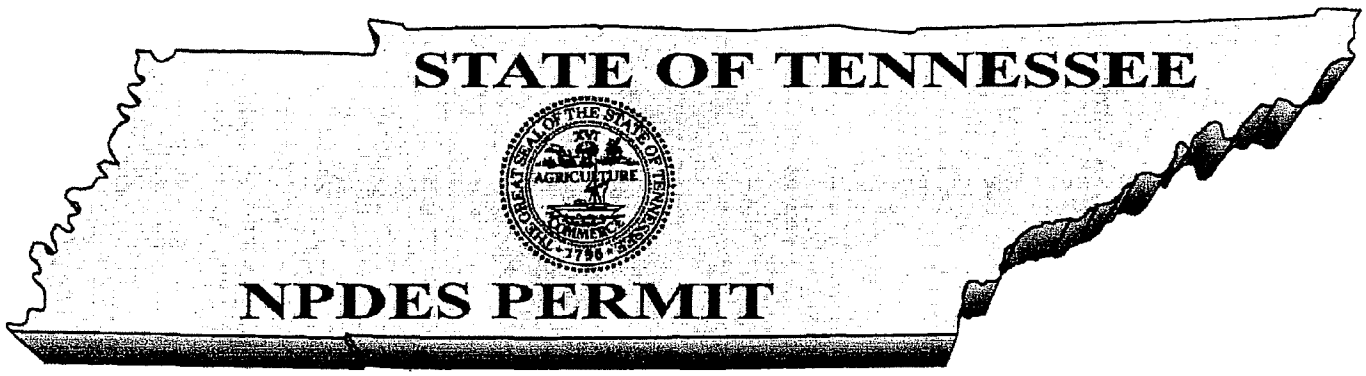
Please be advised that a petition for permit appeal may be filed, pursuant to T.C.A. Section 69-3-105, subsection (i), by the permit applicant or by any aggrieved person who participated in the public comment period or gave testimony at a formal public hearing whose appeal is based upon any of the issues that were provided to the commissioner in writing during the public comment period or in testimony at a formal public hearing on the permit application. Additionally, for those permits for which the department gives public notice of a draft permit, any permit applicant or aggrieved person may base a permit appeal on any material change to conditions in the final permit from those in the draft, unless the material change has been subject to additional opportunity for public comment. Any petition for permit appeal under this subsection (i) shall be filed with the Technical Secretary of the Water Quality, Oil and Gas Board within thirty (30) days after public notice of the commissioner's decision to issue or deny the permit. A copy of the filing should also be sent to TDEC's Office of General Counsel.

If you have questions, please contact the Nashville Environmental Field Office at 1-888-891-TDEC; or, at this office, please contact Mr. Bob Alexander at (615) 532-0659 or by E-mail at *Robert.Alexander@tn.gov*.

Sincerely,

Vojin Janjić
Manager, Water-Based Systems

cc: Permit File & Nashville Environmental Field Office
NPDES Permit Section, EPA Region IV, r4npdespermits@epa.gov
Mr. Ken W. Cook, P.E., Senior Consultant, E. I. DuPont De Nemours & Co., Inc., ken.w.cook-1@usa.dupont.com
Mr. Pete Kebaugh, E. I. DuPont De Nemours & Co., Inc. - Old Hickory, pete.k.kebaugh@dupont.com
Mr. Kenneth P. Klein, Plant Manager, E.I. DuPont De Nemours and Company, kenneth.p.klein@dupont.com
Mr. Steven R. Alexander, Ecologist, U.S. Fish and Wildlife Service (USFWS), steven_alexander@fws.gov



No. TN0002259

Authorization to discharge under the
National Pollutant Discharge Elimination System (NPDES)

Issued By

Tennessee Department of Environment and Conservation
Division of Water Resources
312 Rosa L. Parks Blvd.
Nashville, Tennessee 37243-1534

Under authority of the Tennessee Water Quality Control Act of 1977 (T.C.A. 69-3-101 et seq.) and the delegation of authority from the United States Environmental Protection Agency under the Federal Water Pollution Control Act, as amended by the Clean Water Act of 1977 (33 U.S.C. 1251, et seq.)

Discharger:	**E. I. DuPont De Nemours & Co., Inc. - Old Hickory**
is authorized to discharge:	**treated process wastewater (via internal monitoring points 01A and 01B), miscellaneous cooling and non-process wastewaters and storm water runoff from Outfall 001**
from a facility located:	**in Old Hickory, Davidson County, Tennessee**
to receiving waters named:	**Cumberland River (Old Hickory Lake) at mile 218.4**

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective on:	**March 1, 2016**
This permit shall expire on:	**December 31, 2020**
Issuance date:	**February 1, 2016**

Tisha Calabrese Benton, Director
Division of Water Resources

TABLE OF CONTENTS

PART III

PART IV

ADDENDUM TO RATIONALE – JANUARY 2016

RATIONALE SEPTEMBER 2015

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

E. I. DuPont De Nemours & Co., Inc. - Old Hickory is authorized to discharge treated process wastewater (via internal monitoring points 01A and 01B), miscellaneous cooling and non-process wastewaters and storm water runoff from Outfall 001 to Cumberland River (Old Hickory Lake) at mile 218.4.

These discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT LIMITS – IMP 01A

Parameter	Qualifier	Value	Unit	Sample Type	Frequency	Statistical Base
BOD5	<=	258.2	lb/d	Composite	Weekly	Daily Maximum
BOD5	<=	114.3	lb/d	Composite	Weekly	Monthly Average
Flow	Report	-	MGD	Instantaneous	Weekly	Daily Maximum
Flow	Report	-	MGD	Instantaneous	Weekly	Monthly Average
Total Suspended Solids (TSS)	<=	1,173.3	lb/d	Composite	Weekly	Daily Maximum
Total Suspended Solids (TSS)	<=	506.6	lb/d	Composite	Weekly	Monthly Average
pH	>=	6.0	SU	Grab	Weekly	Minimum
pH	<=	9.0	SU	Grab	Weekly	Maximum
COD	Report	-	Mg/l	Composite	Monthly	Daily Maximum
COD	Report	-	Mg/l	Composite	Monthly	Monthly Average

Monitoring Waived for Priority Pollutants– IMP 01A

In 2010, E. I. DuPont De Nemours & Co., Inc. - Old Hickory submitted the effluent certification and requested a waiver of sampling requirements for guideline listed pollutants. Based on the review of available data, the Division approved the sampling waiver for priority pollutants, and this permit retains that waiver.

The permittee shall notify the Division of Water Resources as soon as it knows or has reason to believe that any activity has occurred or will occur which would result in the discharge on a routine or frequent basis, or non-routine or infrequent basis, of any pollutants which presence in the effluent would invalidate effluent certification dated December 3, 2004, submitted by DuPont as a waiver of sampling requirements for guideline-listed pollutants. Any changes to facility operations that may result in discharges above the levels reported as a part of the certification should be reported according to 40 CFR 122.41(l)(2).

EFFLUENT LIMITS – IMP 01B

Parameter	Qualifier	Value	Unit	Sample Type	Frequency	Statistical Base
BOD5	<=	3389.5	lb/d	Composite	Weekly	Daily Maximum
BOD5	<=	1857.7	lb/d	Composite	Weekly	Monthly Average
Flow	Report	-	MGD	Instantaneous	Weekly	Daily Maximum
Flow	Report	-	MGD	Instantaneous	Weekly	Monthly Average
Total Suspended Solids (TSS)	<=	1870	lb/d	Composite	Weekly	Daily Maximum
Total Suspended Solids (TSS)	<=	915.6	lb/d	Composite	Weekly	Monthly Average
pH	>=	6.0	SU	Grab	Weekly	Minimum
pH	<=	9.0	SU	Grab	Weekly	Maximum
COD	<=	6400.8	lb/d	Composite	Weekly	Daily Maximum
COD	<=	3475.2	lb/d	Composite	Weekly	Monthly Average

EFFLUENT LIMITS – OUTFALL 001

Parameter	Qualifier	Value	Unit	Sample Type	Frequency	Statistical Base
Carbon, Total Organic (TOC)	Report	-	mg/L	grab	Weekly	Daily Maximum
Carbon, Total Organic (TOC)	Report	-	mg/L	grab	Weekly	Monthly Average
Flow	Report	-	MGD	Recorder	Continuous	Monthly Average
Flow	Report	-	MGD	Recorder	Continuous	Daily Maximum
Total Suspended Solids (TSS)	Report	-	mg/L	grab	Monthly	Monthly Average
pH	>=	6.0	SU	Grab	Weekly	Minimum
pH	<=	9.0	SU	Grab	Weekly	Maximum
IC25 Static Renewal 7 Day Chronic Ceriodaphnia	>=	1.5	%	Composite	Once/Permit	Minimum
IC25 Static Renewal 7 Day Chronic Pimephales	>=	1.5	%	Composite	Once/Permit	Minimum

TDEC has determined that the cooling water intake structure used by the DuPont represents the best technology available (BTA) to minimize adverse environmental impact in accordance with Section 316(b) of the federal Clean Water Act (33 U.S.C. section 1326).

Additional monitoring requirements and conditions applicable to Outfall 001 include:

There shall be no distinctly visible floating scum, oil or other matter contained in the wastewater discharge. The wastewater discharge must not cause an objectionable color contrast in the receiving stream.

The wastewater discharge shall not contain pollutants in quantities that will be hazardous or otherwise detrimental to humans, livestock, wildlife, plant life, or fish and aquatic life in the receiving stream.

Sludge or any other material removed by any treatment works must be disposed of in a manner which prevents its entrance into or pollution of any surface or subsurface waters. Additionally, the disposal of such sludge or other material must be in compliance with the Tennessee Solid Waste Disposal Act, TCA 68-31-101 et seq. and the Tennessee Hazardous Waste Management Act, TCA 68-46-101 et seq.

B. MONITORING PROCEDURES

1. Representative Sampling

Samples and measurements taken in compliance with the monitoring requirements specified herein shall be representative of the volume and nature of the monitored discharge, and shall be taken after treatment and prior to mixing with uncontaminated storm water runoff or the receiving stream.

2. Sampling Frequency

If there is a discharge from a permitted outfall on any given day during the monitoring period, the permittee must sample and report the results of analyses accordingly, and the permittee should not mark the 'No Discharge' box on the Discharge Monitoring Report form.

3. Test Procedures

a. Test procedures for the analysis of pollutants shall conform to regulations published pursuant to Section 304 (h) of the Clean Water Act (the "Act"), as amended, under which such procedures may be required.

b. Unless otherwise noted in the permit, all pollutant parameters shall be determined according to methods prescribed in Title 40, CFR, Part 136, as amended, promulgated pursuant to Section 304 (h) of the Act.

4. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

a. The exact place, date and time of sampling;
b. The exact person(s) collecting samples;
c. The dates and times the analyses were performed;
d. The person(s) or laboratory who performed the analyses;
e. The analytical techniques or methods used, and;
f. The results of all required analyses.

5. Records Retention

All records and information resulting from the monitoring activities required by this permit including all records of analyses performed and calibration and maintenance of instrumentation shall be retained for a minimum of three (3) years, or longer, if requested by the Division of Water Resources.

C. DEFINITIONS

The ***Daily Maximum Concentration*** is a limitation on the average concentration, in milligrams per liter (mg/L), of the discharge during any calendar day. When a proportional-to-flow composite sampling device is used, the daily concentration is the concentration of that 24-hour composite; when other sampling means are used, the daily concentration is the arithmetic mean of the concentrations of equal volume samples collected during any calendar day or sampling period.

The ***Monthly Average Concentration***, a limitation on the discharge concentration, in milligrams per liter (mg/L), is the arithmetic mean of all daily concentrations determined in a one-month period. For the purpose of this definition, a frequency of 2/Month is representative of 2 separate daily samples, each sample having been collected on a separate day during the monitoring period.

The ***Monthly Average Amount***, a discharge limitation measured in pounds per day (lb/day), is the total amount of any pollutant in the discharge by weight during a calendar month divided by the number of days in the month that the production or commercial facility was operating. Where less than daily sampling is required by a permit, the monthly average amount shall be determined by the summation of all the measured daily discharges by weight divided by the number of days during the calendar month when the measurements were made. For the purpose of this definition, a frequency of 2/Month is representative of 2 separate daily samples, each sample having been collected on a separate day during the monitoring period.

The ***Daily Maximum Amount***, is a limitation measured in pounds per day (lb/day), on the total amount of any pollutant in the discharge by weight during any calendar day.

The ***Instantaneous Concentration*** is a limitation on the concentration, in milligrams per liter (mg/L), of any pollutant contained in the discharge determined from a grab sample taken at any point in time.

A ***Composite Sample***, for the purposes of this permit, is a sample collected continuously over a period of 24-hours at a rate proportional to the flow. Composite sample should be a

combination of at least 8 sample aliquots of at least 100 milliliters, collected at periodic intervals during the operating hours of a facility over a 24-hour period.

A ***Grab Sample***, for the purposes of this permit, is defined as a single effluent sample of at least 100 milliliters (sample volumes <100 milliliters are allowed when specified per standard methods, latest edition) collected at a randomly selected time over a period not exceeding 15 minutes. The sample(s) shall be collected at the period(s) most representative of the total discharge.

For the purpose of this permit, a ***Calendar Day*** is defined as any 24-hour period.

For the purpose of this permit, a ***Quarter*** is defined as any one of the following three month periods: January 1 through March 31, April 1 through June 30, July 1 through September 30, or October 1 through December 31.

For the purpose of this permit, ***Semi-annually*** means the same as "once every six months." Measurements of the effluent characteristics concentrations may be made anytime during a 6 month period beginning from the issuance date of this permit so long as the second set of measurements for a given 12 month period are made approximately 6 months subsequent to that time, if feasible.

For the purpose of this permit, ***Annually*** is defined as a monitoring frequency of once every twelve (12) months beginning with the date of issuance of this permit so long as the following set of measurements for a given 12 month period are made approximately 12 months subsequent to that time.

Cooling water means water used for contact or non-contact cooling, including water used for equipment cooling, evaporative cooling tower makeup, and dilution of effluent heat content. The intended use of the cooling water is to absorb waste heat rejected from the process or processes used, or from auxiliary operations on the facility's premises.

Cooling water intake structure means the total physical structure and any associated constructed waterways used to withdraw cooling water from waters of the United States. The cooling water intake structure extends from the point at which water is first withdrawn from waters of the United States up to, and including the intake pumps.

Actual Intake Flow (AIF) means the average volume of water withdrawn on an annual basis by the cooling water intake structures over the past three years.

Design intake flow (DIF) means the value assigned during the cooling water intake structure design to the maximum instantaneous rate of flow of water the cooling water intake system is capable of withdrawing from a source waterbody.

Entrainment- means the incorporation of all life stages of fish and shellfish with intake water flow entering and passing through a cooling water intake structure and into a cooling water system.

Impingement- means the entrapment of all life stages of fish and shellfish on the outer part of an intake structure or against a screening device during periods of intake water withdrawal.

D. REPORTING

1. Monitoring Results

Monitoring results shall be recorded monthly and submitted monthly using Discharge Monitoring Report (DMR) forms supplied by the Division of Water Resources. Submittals shall be postmarked no later than 15 days after the completion of the reporting period. The top two copies of each report are to be submitted. A copy should be retained for the permittee's files. DMRs and any communication regarding compliance with the conditions of this permit must be sent to:

TENNESSEE DEPT. OF ENVIRONMENT & CONSERVATION
DIVISION OF WATER RESOURCES
COMPLIANCE REVIEW SECTION
312 Rosa L. Parks Blvd.
TN Tower, 11TH FLOOR
NASHVILLE TN 37243-1534

The first DMR is due on the fifteenth of the month following permit effectiveness.

DMRs and any other information or report must be signed and certified by a responsible corporate officer as defined in 40 CFR 122.22, a general partner or proprietor, or a principal municipal executive officer or ranking elected official, or his duly authorized representative. Such authorization must be submitted in writing and must explain the duties and responsibilities of the authorized representative.

The electronic submission of DMRs will be accepted only if approved in writing by the division. For purposes of determining compliance with this permit, data submitted in electronic format is legally equivalent to data submitted on signed and certified DMR forms.

2. Additional Monitoring by Permittee

If the permittee monitors any pollutant specifically limited by this permit more frequently than required at the location(s) designated, using approved analytical methods as specified herein, the results of such monitoring shall be included in the calculation and reporting of the values required in the DMR form. Such increased frequency shall also be indicated on the form.

3. Falsifying Results and/or Reports

Knowingly making any false statement on any report required by this permit or falsifying any result may result in the imposition of criminal penalties as provided for in Section 309 of the Federal Water Pollution Control Act, as amended, and in Section 69-3-115 of the Tennessee Water Quality Control Act.

4. Outlier Data

Outlier data include analytical results that are probably false. The validity of results is based on operational knowledge and a properly implemented quality assurance program. False

results may include laboratory artifacts, potential sample tampering, broken or suspect sample containers, sample contamination or similar demonstrated quality control flaw.

Outlier data are identified through a properly implemented quality assurance program, and according to ASTM standards (e.g. Grubbs Test, 'h' and 'k' statistics). Furthermore, outliers should be verified, corrected, or removed, based on further inquiries into the matter. If an outlier was verified (through repeated testing and/or analysis), it should remain in the preliminary data set. If an outlier resulted from a transcription or similar clerical error, it should be corrected and subsequently reported.

Therefore, only if an outlier was associated with problems in the collection or analysis of the samples and as such does not conform with the Guidelines Establishing Test Procedures for the Analysis of Pollutants (40 CFR §136), it can be removed from the data set and not reported on the Discharge Monitoring Report forms (DMRs). Otherwise, all results (including monitoring of pollutants more frequently than required at the location(s) designated, using approved analytical methods as specified in the permit) should be included in the calculation and reporting of the values required in the DMR form. You are encouraged to use "comment" section of the DMR form (or attach additional pages), in order to explain any potential outliers or dubious results.

E. SCHEDULE OF COMPLIANCE

Full compliance and operational levels shall be attained from the effective date of this permit.

PART II

A. GENERAL PROVISIONS

1. Duty to Reapply

Permittee is not authorized to discharge after the expiration date of this permit. In order to receive authorization to discharge beyond the expiration date, the permittee shall submit such information and forms as are required to the Director of Water Resources (the "Director") no later than 180 days prior to the expiration date. Such applications must be properly signed and certified.

2. Right of Entry

The permittee shall allow the Director, the Regional Administrator of the U.S. Environmental Protection Agency, or their authorized representatives, upon the presentation of credentials:

a. To enter upon the permittee's premises where an effluent source is located or where records are required to be kept under the terms and conditions of this permit, and at reasonable times to copy these records;

b. To inspect at reasonable times any monitoring equipment or method or any collection, treatment, pollution management, or discharge facilities required under this permit; and

c. To sample at reasonable times any discharge of pollutants.

3. Availability of Reports

Except for data determined to be confidential under Section 308 of the Federal Water Pollution Control Act, as amended, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Division of Water Resources. As required by the Federal Act, effluent data shall not be considered confidential.

4. Proper Operation and Maintenance

a. The permittee shall at all times properly operate and maintain all facilities and systems (and related appurtenances) for collection and treatment which are installed or used by the permittee to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance also includes adequate laboratory and process controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit. Backup continuous pH and flow monitoring equipment are not required.

b. Dilution water shall not be added to comply with effluent requirements to achieve BCT, BPT, BAT and or other technology-based effluent limitations such as those in State of Tennessee Rule 1200-4-5-.09.

5. Treatment Facility Failure

The permittee, in order to maintain compliance with this permit, shall control production, all discharges, or both, upon reduction, loss, or failure of the treatment facility, until the facility is restored or an alternative method of treatment is provided. This requirement applies in such situations as the reduction, loss, or failure of the primary source of power.

6. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State, or local laws or regulations.

7. Severability

The provisions of this permit are severable. If any provision of this permit due to any circumstance, is held invalid, then the application of such provision to other circumstances and to the remainder of this permit shall not be affected thereby.

8. Other Information

If the permittee becomes aware that he failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, then he shall promptly submit such facts or information.

B. CHANGES AFFECTING THE PERMIT

1. Planned Changes

The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

a. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or

b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42(a)(1).

2. Permit Modification, Revocation, or Termination

a. This permit may be modified, revoked and reissued, or terminated for cause as described in 40 CFR 122.62 and 122.64, Federal Register, Volume 49, No. 188 (Wednesday, September 26, 1984), as amended.

b. The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

c. If any applicable effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established for any toxic pollutant under Section 307(a) of the Federal Water Pollution Control Act, as amended, the Director shall modify or revoke and reissue the permit to conform to the prohibition or to the effluent standard, providing that the effluent standard is more stringent than the limitation in the permit on the toxic pollutant. The permittee shall comply with these effluent standards or prohibitions within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified or revoked and reissued to incorporate the requirement.

d. The filing of a request by the permittee for a modification, revocation, reissuance, termination, or notification of planned changes or anticipated noncompliance does not halt any permit condition.

3. Change of Ownership

This permit may be transferred to another party (provided there are neither modifications to the facility or its operations, nor any other changes which might affect the permit limits and conditions contained in the permit) by the permittee if:

a. The permittee notifies the Director of the proposed transfer at least 30 days in advance of the proposed transfer date;

b. The notice includes a written agreement between the existing and new permittees containing a specified date for transfer of permit responsibility, coverage, and liability between them; and

c. The Director, within 30 days, does not notify the current permittee and the new permittee of his intent to modify, revoke or reissue, or terminate the permit and to require that a new application be filed rather than agreeing to the transfer of the permit.

Pursuant to the requirements of 40 CFR 122.61, concerning transfer of ownership, the permittee must provide the following information to the division in their formal notice of intent to transfer ownership: 1) the NPDES permit number of the subject permit; 2) the effective date of the proposed transfer; 3) the name and address of the transferor; 4) the name and address of the transferee; 5) the names of the responsible parties for both the transferor and transferee; 6) a statement that the transferee assumes responsibility for the subject NPDES permit; 7) a statement that the transferor relinquishes responsibility for the subject NPDES permit; 8) the signatures of the responsible parties for both the transferor and transferee pursuant to the requirements of 40 CFR 122.22(a), "Signatories to permit applications"; and, 9) a statement regarding any proposed modifications to the facility, its operations, or any other changes which might affect the permit limits and conditions contained in the permit.

4. Change of Mailing Address

The permittee shall promptly provide to the Director written notice of any change of mailing address. In the absence of such notice the original address of the permittee will be assumed to be correct.

C. NONCOMPLIANCE

1. Effect of Noncompliance

All discharges shall be consistent with the terms and conditions of this permit. Any permit noncompliance constitutes a violation of applicable State and Federal laws and is grounds for enforcement action, permit termination, permit modification, or denial of permit reissuance.

2. Reporting of Noncompliance

a. 24-Hour Reporting

In the case of any noncompliance which could cause a threat to public drinking supplies, or any other discharge which could constitute a threat to human health or the environment, the required notice of non-compliance shall be provided to the Division of Water Resources in the appropriate Environmental Field office within 24-hours from the time the permittee becomes aware of the circumstances. (The Environmental Field office should be contacted for names and phone numbers of environmental response personnel).

A written submission must be provided within five days of the time the permittee becomes aware of the circumstances unless this requirement is waived by the Director on a case-by-case basis. The permittee shall provide the Director with the following information:

i. A description of the discharge and cause of noncompliance;

ii. The period of noncompliance, including exact dates and times or, if not corrected, the anticipated time the noncompliance is expected to continue; and

iii. The steps being taken to reduce, eliminate, and prevent recurrence of the noncomplying discharge.

b. Scheduled Reporting

For instances of noncompliance which are not reported under subparagraph 2.a. above, the permittee shall report the noncompliance on the Discharge Monitoring Report. The report shall contain all information concerning the steps taken, or planned, to reduce, eliminate, and prevent recurrence of the violation and the anticipated time the violation is expected to continue.

3. Sanitary Sewer Overflow

a. "***Sanitary Sewer Overflow***" means the discharge to land or water of wastes from any portion of the collection, transmission, or treatment system other than through permitted outfalls.

b. Sanitary Sewer Overflows are prohibited.

c. The permittee shall operate the collection system so as to avoid sanitary sewer overflows. No new or additional flows shall be added upstream of any point in the collection system, which experiences chronic sanitary sewer overflows (greater than 5 events per year) or would otherwise overload any portion of the system.

d. Unless there is specific enforcement action to the contrary, the permittee is relieved of this requirement after: 1) an authorized representative of the Commissioner of the Department of Environment and Conservation has approved an engineering report and construction plans and specifications prepared in accordance with accepted engineering practices for correction of the problem; 2) the correction work is underway; and 3) the cumulative, peak-design, flows potentially added from new connections and line extensions upstream of any chronic overflow point are less than or proportional to the amount of inflow and infiltration removal documented upstream of that point. The inflow and infiltration reduction must be measured by the permittee using practices that are customary in the environmental engineering field and reported in an attachment to a Monthly Operating Report submitted to the local TDEC Environmental Field office. The data measurement period shall be sufficient to account for seasonal rainfall patterns and seasonal groundwater table elevations.

e. In the event that more than five (5) sanitary sewer overflows have occurred from a single point in the collection system for reasons that may not warrant the self-imposed moratorium or completion of the actions identified in this paragraph, the permittee may request a meeting with the Division of Water Resources EAC staff to petition for a waiver based on mitigating evidence.

4. Upset

a. "***Upset***" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

b. An upset shall constitute an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the permittee demonstrates, through properly signed, contemporaneous operating logs, or other relevant evidence that:

i. An upset occurred and that the permittee can identify the cause(s) of the upset;

ii. The permitted facility was at the time being operated in a prudent and workman-like manner and in compliance with proper operation and maintenance procedures;

iii. The permittee submitted information required under "Reporting of Noncompliance" within 24-hours of becoming aware of the upset (if this information is provided orally, a written submission must be provided within five days); and

iv. The permittee complied with any remedial measures required under "Adverse Impact."

5. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to the waters of Tennessee resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge. It shall not be a defense for the 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 this permit.

6. Bypass

a. "***Bypass***" is the intentional diversion of wastewater away from any portion of a treatment facility. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Bypasses are prohibited unless the following 3 conditions are met:

i. The bypass is unavoidable to prevent loss of life, personal injury, or severe property damage;

ii. There are not feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment down-time. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment down-time or preventative maintenance;

iii. The permittee submits notice of an unanticipated bypass to the Division of Water Resources in the appropriate environmental field office within 24-hours of becoming aware of the bypass (if this information is provided orally, a written submission must be provided within five days). When the need for the bypass is foreseeable, prior notification shall be submitted to the Director, if possible, at least 10 days before the date of the bypass.

c. Bypasses not exceeding limitations are allowed **only** if the bypass is necessary for essential maintenance to assure efficient operation. All other bypasses are

prohibited. Allowable bypasses not exceeding limitations are not subject to the reporting requirements of 6.b.iii, above.

D. LIABILITIES

1. Civil and Criminal Liability

Except as provided in permit conditions for **"Bypassing,"** **"Overflow,"** and **"Upset,"** nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. Notwithstanding this permit, the permittee shall remain liable for any damages sustained by the State of Tennessee, including but not limited to fish kills and losses of aquatic life and/or wildlife, as a result of the discharge of wastewater to any surface or subsurface waters. Additionally, notwithstanding this Permit, it shall be the responsibility of the permittee to conduct its wastewater treatment and/or discharge activities in a manner such that public or private nuisances or health hazards will not be created.

2. Liability Under State Law

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or the Federal Water Pollution Control Act, as amended.

PART III

OTHER REQUIREMENTS

A. TOXIC POLLUTANTS

The permittee shall notify the Division of Water Resources as soon as it knows or has reason to believe:

1. That any activity has occurred or will occur which would result in the discharge on a routine or frequent basis, of any toxic substance(s) (listed at 40 CFR 122, Appendix D, Table II and III) which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

   a. One hundred micrograms per liter (100 ug/l);

   b. Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;

   c. Five (5) times the maximum concentration value reported for that pollutant(s) in the permit application in accordance with 122.21(g)(7); or

   d. The level established by the Director in accordance with 122.44(f).

2. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

   a. Five hundred micrograms per liter (500 ug/l);

   b. One milligram per liter (1 mg/L) for antimony;

   c. Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 122.21(g)(7); or

   d. The level established by the Director in accordance with 122.44(f).

B. REOPENER CLAUSE

If an applicable standard or limitation is promulgated under Sections 301(b)(2)(C) and (D), 304(B)(2), and 307(a)(2) and that effluent standard or limitation is more stringent than any effluent limitation in the permit or controls a pollutant not limited in the permit, the permit shall be promptly modified or revoked and reissued to conform to that effluent standard or limitation.

C. PLACEMENT OF SIGNS

Within sixty (60) days of the effective date of this permit, the permittee shall place and maintain a sign(s) at each outfall and any bypass/overflow point in the collection system. For the purposes of this requirement, any bypass/overflow point that has discharged five (5) or more times in the last year must be so posted. The sign(s) should be clearly visible to the public from the bank and the receiving stream or from the nearest public property/right-of-way, if applicable. The minimum sign size should be two feet by two feet (2' x 2') with one inch (1") letters. The sign should be made of durable material and have a white background with black letters.

The sign(s) are to provide notice to the public as to the nature of the discharge and, in the case of the permitted outfalls, that the discharge is regulated by the Tennessee Department of Environment and Conservation, Division of Water Resources. The following is given as an example of the minimal amount of information that must be included on the sign:

TREATED INDUSTRIAL WASTEWATER
E. I. DuPont De Nemours & Co., Inc. - Old Hickory
(Permittee's Phone Number)
NPDES Permit NO. TN0002259
TENNESSEE DIVISION OF WATER RESOURCES
1-888-891-8332 ENVIRONMENTAL FIELD OFFICE - NASHVILLE

INDUSTRIAL STORM WATER RUNOFF
E. I. DuPont De Nemours & Co., Inc. - Old Hickory
(Permittee's Phone Number)
NPDES Permit NO. TN0002259
TENNESSEE DIVISION OF WATER RESOURCES
1-888-891-8332 ENVIRONMENTAL FIELD OFFICE - NASHVILLE

D. ANTIDEGRADATION

Pursuant to the Rules of the Tennessee Department of Environment and Conservation, Chapter 1200-4-3-.06, titled "Tennessee Antidegradation Statement," and in consideration of the Department's directive in attaining the greatest degree of effluent reduction achievable in municipal, industrial, and other wastes, the permittee shall further be required, pursuant to the terms and conditions of this permit, to comply with the effluent limitations and schedules of compliance required to implement applicable water quality standards, to comply with a State Water Quality Plan or other State or Federal laws or regulations, or where practicable, to comply with a standard permitting no discharge of pollutants.

E. BIOMONITORING REQUIREMENTS, CHRONIC

The permittee shall conduct a 3-Brood *Ceriodaphnia dubia* Survival and Reproduction Test and a 7-Day Fathead Minnow *(Pimephales promelas)* Larval Survival and Growth Test on the same samples of final effluent from Outfall 001.

The measured endpoint for toxicity will be the inhibition concentration causing 25% reduction (IC25) in survival, reproduction, or growth of the test organisms. The IC25 shall be determined based on a 25% reduction as compared to the controls. The average reproduction and growth responses will be determined based on the number of *Ceriodaphnia dubia* or *Pimephales promelas* larvae used to initiate the test.

Test shall be conducted and its results reported based on appropriate replicates of a total of five serial dilutions and a control, using the percent effluent dilutions as presented in the following table:

Serial Dilutions for Whole Effluent Toxicity (WET) Testing					
4 X PL	**2 X PL**	**Permit Limit (PL)**	**0.50 X PL**	**0.25 X PL**	**Control**
% effluent					
6	**3**	**1.5**	**0.7**	**0.3**	**0**

The dilution/control water used will be a moderately hard water as described in Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, EPA-821-R-02-013 (or the most current edition). Results from a chronic standard reference toxicant quality assurance test for each species tested shall be submitted with the discharge monitoring report. Reference toxicant tests shall be conducted as required in EPA-821-R-02-013 (or the most current edition). Additionally, the analysis of this multi-concentration test shall include review of the concentration-response relationship to ensure that calculated test results are interpreted appropriately.

Toxicity will be demonstrated if the IC25 is less than or equal to the permit limit indicated for each outfall in the above table(s). Toxicity demonstrated by the tests specified herein constitutes a violation of this permit.

All tests will be conducted using a minimum of three 24-hour flow-proportionate composite samples of final effluent (e.g., collected on days 1, 3 and 5). If, in any control more than 20% of the test organisms die in 7 days, the test (control and effluent) is considered invalid and the test shall be repeated within 30 days of the date the initial test is invalidated. Furthermore, if the results do not meet the acceptability criteria of section 4.9.1, EPA-821-R-02-013 (or the most current edition), or if the required concentration-response review fails to yield a valid relationship per guidance contained in Method Guidance and Recommendations for Whole Effluent Toxicity (WET) Testing, EPA-821-B-00-004 (or the most current edition), that test shall be repeated. Any test initiated but terminated before completion must also be reported along with a complete explanation for the termination.

The toxicity tests specified herein shall be conducted once during the permit cycle (1/permit) for Outfall 001 and can be submitted 180 days from the expiration date of this permit.

In the event of a test failure, the permittee must start a follow-up test within 2 weeks and submit results from a follow-up test within 30 days from obtaining initial WET testing results. The follow-up test must be conducted using the same serial dilutions as presented in the corresponding table(s) above. **The follow-up test will not negate an initial failed test. In addition, the failure of a follow-up test will constitute a separate permit violation which must also be reported.**

In the event of 2 consecutive test failures or 3 test failures within a 12 month period for the same outfall, the permittee must initiate a Toxicity Identification Evaluation/Toxicity Reduction Evaluation (TIE/TRE) study within 30 days and so notify the division by letter. This notification shall include a schedule of activities for the initial investigation of that outfall. **During the term of the TIE/TRE study, the frequency of biomonitoring shall be once every three months.** Additionally, the permittee shall submit progress reports once every three months throughout the term of the TIE/TRE study. The toxicity must be reduced to allowable limits for that outfall within 2 years of initiation of the TIE/TRE study. Subsequent to the results obtained from the TIE/TRE studies, the permittee may request an extension of the TIE/TRE study period if necessary to conduct further analyses. The final determination of any extension period will be made at the discretion of the division.

The TIE/TRE study may be terminated at any time upon the completion and submission of 2 consecutive tests (for the same outfall) demonstrating compliance. Following the completion of TIE/TRE study, the frequency of monitoring will return to a regular schedule, as defined previously in this section as well in Part I of the permit. **During the course of the TIE/TRE study, the permittee will continue to conduct toxicity testing of the outfall being investigated at the frequency of once every three months but will not be required to perform follow-up tests for that outfall during the period of TIE/TRE study.**

Test procedures, quality assurance practices, determinations of effluent survival/reproduction and survival/growth values, and report formats will be made in accordance with Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, EPA-821-R-02-013, or the most current edition.

Results of all tests, reference toxicant information, copies of raw data sheets, statistical analysis and chemical analyses shall be compiled in a report. The report will be written in accordance with Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, EPA-821-R-02-013, or the most current edition.

Two copies of biomonitoring reports (including follow-up reports) shall be submitted to the division. One copy of the report shall be submitted along with the discharge monitoring report (DMR). The second copy shall be submitted to the local Division of Water Resources office address:

Environmental Field office- Nashville
Division of Water Resources
711 R.S. Gass Boulevard
Nashville, TN 37243-1550

PART IV

STORM WATER POLLUTION PREVENTION PLAN

Storm water runoff at E. I. DuPont De Nemours & Co., Inc. - Old Hickory plant that is not discharged through permitted outfalls as described in Part I.A. of this permit is authorized under the Tennessee Storm Water Multi Sector General Permit for Industrial Activities (TMSP), Permit Number TNR053980. The TMSP requires the permittee to prepare and implement a storm water pollution prevention plan (SWPPP) prior to November 30, 1997. The permittee shall ensure that the facility SWPPP incorporates appropriate pollution prevention measures that minimize the discharge of pollutants in stormwater routed through permitted outfalls. Any necessary plan modifications shall be completed within 180 days after the effective date of this permit

ADDENDUM TO RATIONALE – JANUARY 2016

with

Record of Comments and Responses

E. I. DuPont De Nemours & Co., Inc. - Old Hickory

NPDES Permit TN0002259

I. Background and Introduction

On April 20, 2015, DuPont submitted an application for an NPDES Permit for the discharge of industrial wastewater. The TN Department of Environment and Conservation (TDEC), Division of Water Resources (the division) published a draft permit TN0002259 for the facility on November 30, 20154. Also, the division issued a public notice on the availability of the draft permit for public review and was followed by a comment period through January 4, 2016.

This Addendum to Rationale addresses comments submitted during the public notice period. It also presents TDEC's decision regarding the permit and rationale for that decision.

USDOE submitted minor administrative editing suggestions which are addressed below with TDECs response and proposed permit changes, as applicable. Comments are shown in plain text with responses shown in bold text.

II. Clarification of Technology-Based (TBELs) and Water Quality-based Effluent Limits (WQBELs)

As noted during review of the draft permit by EPA Region 4, the TBELs calculated from production rates allowed greater discharge quantities of BOD and TSS than the previous permit limits. However, the previous permit limits were retained as described in the draft permit.

III. Comments on Draft Permit and TDEC Responses

Comment by EPAR4: Why was monitoring of COD removed from 01A? In addition, should there be limits? I'm basing this question on statement (b) under the COD in IMP01B section of the Rationale (Page R-5). That statement points out that the oxygen demanding substance for 40 CFR 430.122 Subpart L occurs in the form of COD, rather than BOD5. On the other hand, Subpart L does not require limits for COD.

Response: Reporting of COD has been included for Outfall 01A in the final permit. To be consistent with parameter of BOD as published in EPA ELGs rather than COD, the reporting of oxygen-demanding characteristics is based on BOD. The 2-to-1 conversion of COD to BOD is discussed in the Rationale.

Comment by EPAR4: Was an RPA for WQS conducted? I didn't see anything in the draft permit/rationale and I was wondering if it was inadvertently left off.

Response: A Reasonable Potential Analysis or RPA spreadsheet is attached to this Addendum, which indicates no metals concentrations are likely to cause WQ exceedances in the receiving waters.

Comment by EPAR4: While TSS and COD limits remained the same, BOD5 load was increased. I was wondering if an analysis was done to check that this would not cause any problems in the receiving waterbody. There is an anti-deg statement in the rationale so I'm assuming this was considered.

Response: The nominal increase in BOD5 loading is considered de minimis and is similar to the loadings established in previous permits. For the previous ten years, actual effluent loading has remained approximately 10-20% of the permit limits for deoxygenating wastes.

Comment by USFWS:

1) For adequate FWS review for all 316(b) permits, it would be beneficial to have as much information related to water withdrawal appurtenances, withdrawal rates and velocities, cooling water balances, and modeling conducted by either the permittee or TDEC. We have not received detailed information on the cooling water intake appurtenances (e.g. type/size/# of pumps, screen size/types, velocities). The FWS cannot process these nor provide any comments under the ESA until we have that information.

Response 1): DuPont provided supplemental information to the permit renewal application and the Division included this information in the draft permit Rationale. TDEC has requested that DuPont provide any further available information on the intake and will provide it to USFWS. We will also make the data available on the DWR Permits Dataviewer.

2) The permit should note that the presence of Lake Sturgeon should be considered.

Response 2): USFWS indicates the Lake Sturgeon, a fish species declared by the TN Wildlife Resources Commission as endangered, is known to be present throughout Old Hickory Lake following restocking activities in recent years.

- **The Division's Dataviewer website for Exceptional Waters indicates "the State Endangered Lake Sturgeon [is] found near Cordell Hull Dam" – see http://environment-online.tn.gov:8080/pls/enf_reports/f?p=9034:34304:0::NO. .**
- **The rare species database maintained by TDEC Division of Natural Area does not contain records of Lake Sturgeon with 6 miles of the Dam..**
- **Old Hickory Lake has not been designated by USFWS as Critical Habitat for Lake Sturgeon.**

Information provided by the TN Wildlife Resources Agency indicates that, due to the large size of the species, the DuPont intake is unlikely to affect adult fish. No information exists on the presence of immature species which might be affected or on reproduction in waters near the intake.

WATER QUALITY BASED EFFLUENT CALCULATIONS - OUTFALL 001

FACILITY: E. I. DuPont De Nemours & Co., Inc. - Old Hickory PERMIT #: TN0002259

Stream (1Q10) [MGD]	Stream (30Q2) [MGD]	Waste Flow [MGD]	Tll. Susp. Solids [mg/l]	Hardness (as CaCO3) [mg/l]	Stream Allocation [%]
4961	4961	11.3	10	50	50

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
	Stream	Fish/Aqua. Life		Effluent	Fish & Aquatic Life Water Quality Criteria (1Q10				Human Health Water Quality Criteria (30Q2)					
	Bckgrnd. Conc.	Water Quality Criteria		Fraction Dissolved	In-Stream Allowable		Calc. Effluent Concentratio		In-Stream Criteria			Calc. Effluent Concentration		
EFFLUENT CHARACTERISTIC		Chronic	Acute		Chronic	Acute	Chronic	Acute	Organisms	Organisms	DWS	Organisms	Water / Organisms	DWS
	[ug/l]	[ug/l]	[ug/l]	[Fraction]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]
Chromium (T) **	0.5	100.0	NA	1.000	100.0	N/A	**21891.6**	N/A	NA	NA	100	NA	NA	**21891.6**
Copper *	1.0	6.3	8.9	0.348	18.1	25.5	**3753.9**	**5385.8**	NA	N/A	NA	NA	NA	NA
Cyanide (T) **	0.9	5.2	22.0	1.000	5.2	22.0	**946.5**	**4642.7**	220000	700	200	4.8E+07	**153811.7**	**43805.1**
Lead *	4.40	1.2	30.1	0.184	6.4	163.9	**439.1**	**35087.7**	NA	NA	5.0	NA	NA	**134.2**
Nickel *	1.5	87.4	787.4	0.432	202.3	1821.4	**44175.0**	**400400.9**	4600	610	100	1.0E+06	**133878.8**	**21672.1**
Zinc *	3.9	58.1	63.6	0.288	201.7	220.9	**43520.9**	**47741.6**	NA	NA	NA	NA	NA	NA

* Denotes metals for which Fish & Aquatic Life Criteria are expressed as a function of total hardness.
The Fish & Aquatic Life criteria for this metal are in the dissolved form at laboratory conditions.
The in-stream allowable criteria and calculated effluent concentrations are in the total recoverable form.

** The criteria for these parameters are in the total form.

Background concentration from USACE data 2012-2014 at Old Hickory Lake Station 3OLD2002, located in forebay of dam.

RATIONALE SEPTEMBER 2015

E. I. DuPont De Nemours & Co., Inc. - Old Hickory

NPDES PERMIT NO. TN0002259

Old Hickory, Davidson County, Tennessee

Permit Writer: Bob Alexander[1]

I. DISCHARGER

E. I. DuPont De Nemours & Co., Inc. - Old Hickory
1002 Industrial Road
Old Hickory, Davidson County, Tennessee

Official Contact Person:
Mr. Kenneth Klein
Plant Manager
(615) 847-6500

Nature of Business:
Manufacture of spunbonded polypropylene and/or polypropylene fibers by melt-blown process, and spunlaced fiber by hydro-consolidating natural & synthetic fibers

SIC Code(s):	**2297**
Industrial Classification:	**Primary**
Discharger Rating:	**Major**

PRIMARY INDUSTRY CATEGORY means any industry category listed in the NRDC Settlement Agreement (Natural Resources Defense Council v. Train, 8 ERC 2120 [D.D.C. 1976], modified 12 ERC 1833 [D.D.C. 1979]).

II. PERMIT STATUS

Issued April 30, 2011,
Expired September 30, 2015
Application for renewal received April 20, 2015

Watershed Scheduling

Environmental Field Office: Nashville
Primary Longitude: -86.64972 Primary Latitude: 36.27750
Hydrocode: 5130201 Watershed Group: 4
Watershed Identification: Cumberland-Old Hickory Lake
Target Reissuance Year: 2015

[1] Contact Robert.alexander@tn.gov, 615-532-0659

III. FACILITY DISCHARGES AND RECEIVING WATERS

Facility Discharges

During the previous permit cycle, the E. I. DuPont De Nemours & Co., Inc. - Old Hickory (DuPont) facility has continued downsizing with changes summarized below:

- Ownership changes of fiber production under SIC 2297:
  - Manufacture of spun-laced fiber by Sontara of Jacob-Holm Industries, formerly DuPont, by hydro-consolidating various natural and synthetic fibers.
  - Manufacture of spun-bonded polyester and/or propylene fibers by melt-bloom process by Polymer Group, Inc. or PGI, formerly Fiberweb.
- Retention of plant utilities by DuPont Site Services to include raw water withdrawal from Old Hickory Lake and treatment of utility water for site tenants, process wastewater treatment, compressed air supply, and NPDES permitting responsibilities;
- Closure of the DuPont coal-fired steam plant and cessation of steam production for site tenants. Steam supply to Sontara and the DuPont power house now provided by PGI/Constellation.
- Converting biological to non-biological treatment in the Process Waste Treatment Plant (PWTP) in response to very limited organic loading.
- Diverting stormwater from the former Crystar processing area formerly treated by the PWTP to the Site Retention Basin following closure and decontamination of the Crystar process.

E. I. DuPont De Nemours & Co., Inc. - Old Hickory (DuPont) discharges treated process wastewater, miscellaneous cooling and non-process wastewaters and storm water runoff from Outfall 001 to Cumberland River (Old Hickory Lake) at mile 218.4.

- Outfall 001 from the Site Retention Basin, includes treated process wastewater (via internal monitoring points 01A and 01B), non-contact cooling water, stormwater and "excess water". Treatment is provided by sedimentation and skimming in the Site Retention Basin with a flow of 4.947 MGD.

- Excess water is raw water withdrawn from Old Hickory Lake by the oversized potable water supply plant, but is excess to the needs of the industrial site;

- Internal Monitoring Point (IMP) 01A represents:
  - Process wastewater from PGI,
  - Boiler blowdown from PGI/Constellation,
  - Process wastewater from Sontara Line 1, and
  - Process wastewater from DuPont Site Services Compressed Air Station.
  - Groundwater from onsite monitoring wells,
  - Filtered water from raw water supply, and
  - Stormwater

- Treatment of 0.660 MGD consists of physical/chemical treatment involving equalization/sedimentation, coagulation and clarification, neutralization, and sludge discharge to POTW.

- IMP 01B represents:
  - Process wastewater from Sontara Lines 2 and 3.

DuPont discharges sanitary wastewater plus process wastewater solids to the Metro Nashville sanitary sewer.

Storm water discharges associated with the industrial activity of this facility are covered by the Tennessee Multi-Sector General Storm Water Permit TNR053980. Storm water concerns associated with this facility are covered in this general permit and will, therefore, not be addressed in the new permit. The effluent discharged through Outfall 001 does contain a storm water component. However, since process wastewater, non-process wastewater, and storm water combine in the site retention basin before discharge through Outfall 001, separate monitoring requirements for storm water will not be imposed on this outfall.

Receiving Stream

Appendix 1 summarizes facility discharges and the receiving stream information for Outfall 001. The division has made a determination that this portion of Old Hickory Lake on the Cumberland River is considered "available conditions" waters. Available conditions exist where water quality is better than the applicable criterion for a specific parameter.

No Federally-listed threatened and endangered species or designated critical habitat are known to exist in the vicinity of the DuPont cooling water intake. This statement is based on:

- Review by the TN Natural Heritage Program, TDEC Div. of Natural Areas[2];
- Communications with USFWS and TN Wildlife Resources Agency.

IV. APPLICABLE EFFLUENT LIMITATIONS GUIDELINES (ELGS)

IMP01A

Process wastewaters discharged through the internal monitoring point 01A are regulated by applicable best practicable control technology (BPT) ELGs for facilities classified under Organic Chemicals, Plastics, and Synthetic Fibers (OCPSF):

- Jacob-Holm (Sontara) Line 3: 40 CFR Part 410.82, Subpart H, Nonwoven Manufacturing subcategory -
  - Parameters limited include BOD5, COD, TSS, Sulfide, Phenol, Total Chromium, and pH.

- PGI (formerly Fiberweb): 40 CFR Part 414.31, Subpart C – Other Fibers
  - Parameters limited include BOD5, TSS, and pH.

Waiver of parameters no longer applicable

Process wastewaters discharged through the internal monitoring point 01A have previously been regulated by 40 CFR Part 414 - Organic Chemicals, Plastics, and Synthetic Fibers (OCPSF) effluent limitations guidelines (ELGs). The applicable best practicable control technology (BPT) guidelines at 40 CFR Part 414.31, Subpart C applies to the manufacture of polypropylene and polyester fibers, i.e., Fiberweb production.

The existing permit identifies the rules at 40 CFR Part 414.91, Subpart I - Direct Discharge Point Sources That Use End-of-Pipe Biological Treatment dealing with for limitations of VOC's. In that permit, BAT ELGs were presented and effluent limitations were calculated for those VOCs.

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[2] Div. of Natural Areas letter, Stephanie Williams to R.E. Alexander, DWR, 12 Oct 2015.

The renewed permit does not apply the 40 CFR Part 414.91, Subpart I requirements based on the following:

- DuPont's most recent application states that the biological treatment process is no longer in operation;
- The VOCs listed under this ELG were not detectable during laboratory analyses conducted for the 2015 renewal application; and,
- The current permit already waived reporting of these parameters as discussed in the March 2011 Rationale, page R-11.

IMP01B

Process wastewaters discharged through the internal monitoring point 01B are regulated by applicable best practicable control technology (BPT) ELGs:

- Sontara Lines 1 & 2: 40 CFR Part 430.122, Subpart L - Tissue, Filter, Non-Woven, and Paperboard From Purchased Pulp Subcategory for Non-Integrated Mills where Filter and Non-woven Papers are produced from purchased pulp with a continuous discharge.
    - Parameters limited include BOD5, TSS, and pH.

Outfall 001

There are currently no effluent limitations guidelines for the discharge of cooling waters, storm water runoff, or miscellaneous non-storm flows from OCPSF facilities. Applicable ELGs are provided in Appendix 2, and remain applicable from the previous permit. The only change is that the provisions applicable to the non-biological treatment of wastewaters are no longer relevant.

V. PREVIOUS PERMIT LIMITS AND MONITORING REQUIREMENTS

Appendix 3 lists the permit limitations and monitoring requirements as defined in the previous permit.

VI. HISTORICAL MONITORING AND INSPECTION

During the previous permit term, DuPont had little difficulty in meeting effluent limitations as outlined in the previous permit. A summary of the reported data during 2010 - 2015 is presented in the Appendix.

VII. NEW PERMIT LIMITS AND MONITORING REQUIREMENTS

Effluent limits are calculated below for Internal Monitoring Points 01A and 01B to establish compliance with ELGs prior to mixing with almost 6 MGD of non-process flows in the retention basin discharging to Outfall 001. Calculations are show below for each production process and Internal Monitoring Point to establish permit limits for each IMP and Outfall 001.

Technology-Based Effluent Limits

					01A			01B		
Outfall	40 CFR	Prod'n	Units	Fractions	Parameter	Rate	Load, lb/d	Parameter	Rate	Load, lb/d
						Mo. Ave			Mo. Ave	
01A & 01B	430-L	112	lb/klb	3% to 01A	BOD5	16.3	54.8	BOD5	16.3	1770.8
	430.122			Spunlace Line1	TSS	13	43.7	TSS	13	1412.3
				and		Daily Max			Daily Max	
				97% to 01B	BOD5	29.6	99.5	BOD5	29.6	3215.7
				Spunlace Line2	TSS	26.6	89.4	TSS	26.6	2889.8
01B	410-H	39.5	lb/klb						Mo. Ave	
	410.82	Spunlace						BOD5	2.2	86.9
		Line 3						TSS	3.1	122.45
								COD	20	790
								Sulfide	n/a	n/a
								Phenol	n/a	n/a
								Tot chromium	n/a	n/a
									Daily Max	
								BOD5	4.4	173.8
								TSS	6.2	244.9
								COD	40	1580
								Sulfide	n/a	n/a
								Phenol	n/a	n/a
								Tot chromium	n/a	n/a
01A & 01B	414-C	0.3966	MGD	equals flow		Mo. Ave				
	414.31			times	BOD5	18	59.5			
				concentration	TSS	36	119.1			
						Daily Max				
					BOD5	48	158.8			
					TSS	115	380.4			
						Mo. Ave			Mo. Ave	
PROPOSED PERMIT LIMITS						BOD5	114.3		BOD5	1857.7
						TSS	162.8		TSS	1534.8
						Daily Max			COD	490
						BOD5	258.2		Daily Max	
						TSS	469.8		BOD5	3389.5
									TSS	3134.7
									COD	980

The previous permit adjusted the effluent limit calculations for COD in IMP 01B and for TSS in both IMP 01A and 01B. These adjustments are shown below.

COD in IMP01B:

The previous permit imposed a COD limit, adjusted from the ELG calculations, of 6400.8 lb/day Daily Maximum and 3475.2 lb/day Monthly Average at IMP 01B using the same production rate of 24,500 lb/day.

a. The justification was that ELG's from 40CFR 410.122 Subpart L only contain limits for BOD5/TSS and do not limit COD. Operating experience for this process had determined the principal oxygen-demanding waste occurs in the form of COD rather than BOD5.
b. Using a ratio of 2:1 for COD:BOD5, based on plant data and literature values, the ELG loading for BOD5 from Subpart L of 2710.4 converts to COD load of 5420.8 lb/d. Adding the calculated COD load from Subpart H of 980 lb/day = 6400.8 lb/d Daily Maximum.
c. The same procedure would apply for the Monthly Average calculations: 1492.6 lb/day BOD converts to 2985.2 lb/day COD. Adding the COD load from Subpart H of 490 lb/day = 3475.2 lb/d Monthly Average.
d. The renewed permit will retain limits for COD in lb/day from the previous permit:

	Monthly Average	Daily Maximum
Outfall 01B	3475.2	6400.8

TSS in IMP01A and 01B:

The previous permit imposed a TSS limit, adjusted from the ELG calculations, to spread the TSS loading between the two Internal Monitoring points to more accurately represent the actual process. Both IMPs 01A and 01B are combined in the discharge at Outfall 001, but are individually monitored and have permit limits for TSS.

a. The justification is that, although 97% of the volume of flow for Lines 1 and 2 flows through 01B and 3% flows through 01A, the actual solids loading is 50-50 between both IMPs.
b. No increase or decrease in the total TSS loading from 01A and 01B is proposed.
c. The renewed permit retains the limits for TSS from the previous permit:

	Monthly Average	Daily Maximum
Outfall 01A	506.6	1173.3
Outfall 01B	915.6	1870

A. INTERNAL MONITORING POINT (IMP) 01A

IMP 01A discharges treated effluent from the physical/chemical wastewater treatment plant and other flows discussed above. The applicable limits at this IMP are based on 2 different regulated wastewater streams, PGI and Sontara as follows:

a. Process wastewaters generated from fiber production at PGI are regulated by 40 CFR Part 414.31, Subpart C for BOD5/TSS/pH.
b. Process wastewater from screw press and filter backwashes from Sontara are regulated by 40 CFR 430.122, Subpart L.

Mass limits at IMP 01A are calculated based on the process wastewater flow of 396,000 gpd and using the above-listed effluent limitations guidelines. The calculations and resulting limits at IMP 01A are shown below.

Proposed Effluent Limits – Outfall 01A

Parameter	Qualifier	Value	Unit	Sample Type	Frequency	Statistical Base
BOD5	<=	258.2	lb/d	Composite	Weekly	Daily Maximum
BOD5	<=	114.3	lb/d	Composite	Weekly	Monthly Average
Flow	Report	-	MGD	Instantaneous	Weekly	Daily Maximum
Flow	Report	-	MGD	Instantaneous	Weekly	Monthly Average
Total Suspended Solids (TSS)	<=	506.6	lb/d	Composite	Weekly	Daily Maximum
Total Suspended Solids (TSS)	<=	1173.3	lb/d	Composite	Weekly	Monthly Average
pH	>=	6.0	SU	Grab	Weekly	Minimum
pH	<=	9.0	SU	Grab	Weekly	Maximum

B. INTERNAL MONITORING POINT (IMP) 01B

Effluent discharged at IMP 01B with flow rate of 4.947 MGD originates from a manufacturing process of Sontara® spunlaced fabric prior to discharge through a retention basin and Outfall 001. .

With the permit renewal application, DuPont provided an updated Water Balance. PGI spunlaced production discharges of process wastewater from Lines 2 and 3 to 01B are shown as 4.947 MGD. Production estimates are shown at 112,000 lb/day of pulp/paper.

Per the permit application, wastewater from Sontara® manufacturing process is regulated at IMP 01B based on the ELGs listed in 40 CFR 410.82, Subpart L, Nonwoven Manufacturing. This rule has flow-based limits for COD, sulfide, phenols, and total chromium. Information provided in the renewal application states that no thermal or chemical bonding is used during the mechanical production process, thus no sources which could introduce sulfide, phenol, or chromium. These substances are reported as non-detectable in the 2015 permit application, thus, no permit limits are applicable.

This renewed permit finds that 40 CFR 430.122, Subpart L (BPT for non-integrated mills where filter and non-woven papers are produced from purchased pulp) is appropriate to regulate this waste stream.

Proposed effluent limits for Outfall 01B are based upon 112,000 pounds-per-day, for which a small portion, approx. 3%, is routed through IMP01A.

PROPOSED EFFLUENT LIMITS – IMP 01B

Parameter	Qualifier	Value	Unit	Sample Type	Frequency	Statistical Base
BOD5	<=	3389.5	lb/d	Composite	Weekly	Daily Maximum
BOD5	<=	1857.7	lb/d	Composite	Weekly	Monthly Average
Flow	Report	-	MGD	Instantaneous	Weekly	Daily Maximum
Flow	Report	-	MGD	Instantaneous	Weekly	Monthly Average
Total Suspended Solids (TSS)	<=	1870	lb/d	Composite	Weekly	Daily Maximum
Total Suspended Solids (TSS)	<=	915.6	lb/d	Composite	Weekly	Monthly Average
pH	>=	6.0	SU	Grab	Weekly	Minimum
pH	<=	9.0	SU	Grab	Weekly	Maximum
COD	<=	6400.8	lb/d	Composite	Weekly	Daily Maximum
COD	<=	3475.2	lb/d	Composite	Weekly	Monthly Average

C. OUTFALL 001

Flow

Flow shall be reported in Million Gallons per Day (MGD) and monitored on a continuous basis using a recorder. Monitoring of flow quantifies the load of pollutants to the stream.

Total Organic Carbon (TOC)

Total Organic Carbon test measures organically bound carbon in a water or wastewater samples. The State of Tennessee Water Quality Standards [Chapter 1200-4-3-.03] do not promulgate specific numeric criteria for TOC. Nevertheless, TOC testing is commonly used for monitoring presence of organic pollutants in industrial effluents, and it will be retained in the new permit on a report basis. The monitoring frequency will be weekly and the sample type will be grab, since the pond effluent is considered completely mixed.

Total Suspended Solids (TSS)

Monitoring for Total Suspended Solids (TSS) was on "report" only basis during the previous permit term, since TBEL-based reporting is established above for upstream process wastewater discharges. The monitoring frequency is retained at monthly on a grab sample, since the pond effluent is completely mixed.

pH

According to the State of Tennessee Water Quality Standards [Chapter 1200-4-3-.03(3)(b)], the pH for the protection of Fish and Aquatic Life shall lie within the range of 6.5 to 9.0 and shall not fluctuate more than 1.0 unit in this range over a period of 24 hours. Considering that the receiving stream will provide some buffering capacity, effluent limitation for pH will be retained in a range 6.0 to 9.0. The sample type will be grab.

PROPOSED LIMITS – OUTFALL 001

Parameter	Qualifier	Value	Unit	Sample Type	Frequency	Statistical Base
Carbon, Total Organic (TOC)	Report	-	mg/L	grab	Weekly	Daily Maximum
Carbon, Total Organic (TOC)	Report	-	mg/L	grab	Weekly	Monthly Average
Flow	Report	-	MGD	Recorder	Continuous	Monthly Average
Flow	Report	-	MGD	Recorder	Continuous	Daily Maximum
Total Suspended Solids (TSS)	Report	-	mg/L	grab	Monthly	Monthly Average
pH	>=	6.0	SU	Grab	Weekly	Minimum
pH	<=	9.0	SU	Grab	Weekly	Maximum
IC25 Static Renewal 7 Day Chronic Ceriodaphnia	>=	1.5	%	Composite	Once/Permit	Minimum
IC25 Static Renewal 7 Day Chronic Pimephales	>=	1.5	%	Composite	Once/Permit	Minimum

VIII BIOMONITORING REQUIREMENTS

As shown on the 2015 permit renewal application and 2011-15 effluent data reporting, most toxic substances are reported at or below the detection limit.

- Semi-volatile compounds present at levels of concern in previous permits were so low that limits and monitoring were removed from the previous permit.
- The concentrations of toxic metals in the 2015 application are less than the detection limit at Outfall 001.

Although Outfall 001 contains low levels of several different pollutants, the combined effect can potentially have a detrimental effect to fish and aquatic life. Thus, limited biomonitoring is warranted. The renewed permit will require WET testing once-per-permit as described below.

The Tennessee Water Quality Standards criteria stipulates that "*The waters shall not contain toxic substances, whether alone or in combination with other substances, which will produce toxic conditions...*". Biomonitoring will provide information relative to the toxicity of the discharge. Calculation of toxicity limits is as follows:

$$DF = \frac{Qs + Qw}{Qw} = \text{Dilution Factor}$$

where **Qw** is a wastewater flow (Qw = 11.3 MGD) and **Qs** is a receiving stream low flow (1Q10 = 711 MGD). Please refer to Appendix 1 for details regarding facility discharge and receiving stream. Therefore,

$$DF = \frac{711 + 11.3}{11.3} = 63.9$$

Since the calculated dilution factor is less than 100:1, and assuming immediate and complete mixing, protection of the stream from chronic effects requires:

$$IWC \leq 1.0 \text{ X } IC25; \text{ or,}$$
$$\text{INHIBITION CONCENTRATION, } 25\% \geq IWC$$

Where IWC is Instream Waste Concentration and is calculated using the following formula:

$$IWC = \frac{Qw}{Qs + Qw} \text{ X } 100 = \text{Instream Waste Concentration}$$

$$IWC = \frac{11.3}{711 + 11.3} \text{ X } 100 = 1.5\ \%$$

Therefore, WET testing will be required on 1.5 % effluent. If toxicity is demonstrated in any of the effluent samples specified above, this will constitute a violation of this permit.

The toxicity tests specified herein shall be conducted once during the duration of the renewed permit for Outfall 001, and can be reported with the renewal application. The details regarding biomonitoring methodology can be found in Part III of the permit.

IX. COMPLIANCE WITH SECTION 316B OF THE CLEAN WATER ACT

Section 316(b) of the Clean Water Act requires that facilities minimize adverse environmental impacts resulting from the operation of cooling water intake structures (CWIS) by using the "best technology available" (BTA). Based on information provided in the permit application and the discussion and analysis shown below, the Division has determined that the DuPont facility does not meet the applicable conditions in EPA rules at 40 CFR 125, Subpart J. The discussion below provides the rationale for this determination.

Because TDEC finds that the CWIS is not subject to requirements of §§ 125.94 through 125.99, this rationale includes a Best Professional Judgment analysis of requirements for Best Technology Available under Section 316b in accordance with § 125.90 (b):

> *(b) Cooling water intake structures not subject to requirements under §§125.94 through 125.99 or subparts I or N of this part must meet requirements under section 316(b) of the CWA established by the Director on a case-by-case, best professional judgment (BPJ) basis.*

A. Background on 316(b) rule

The section 316(b) Existing Facility Final Rule applies to existing facilities that use cooling water intake structures for withdrawals from waters of Tennessee and have or require a National Pollutant Discharge Elimination System (NPDES) permit issued under the TN Water Quality Control Act and Section 402 of CWA. If a facility meets the conditions specified below (from 40 CFR 125.91), it is subject to the rule.

The rule applies to owners and operators of existing facilities that meet all of the following criteria:

- The facility is a point source;
- The facility uses or proposes to use one or more cooling water intake structures with a cumulative design intake flow (DIF) of greater than 2 mgd to withdraw water from waters of Tennessee; **and**,
- Twenty-five percent or more of the water the facility withdraws on an actual intake flow basis is used exclusively for cooling purposes.

Generally, facilities that meet these criteria fall into two major groups: steam electric generating facilities and manufacturing facilities. The rule establishes national requirements applicable to the location, design, construction, and capacity of cooling water intake structures at existing facilities that reflect the best technology available for minimizing the adverse environmental impact - impingement and entrainment – associated with the use of these structures. The rule requires several types of information collection as part of the NPDES permit application. In general, the information would be used to identify how the facility plans to meet the rule requirements or how the facility is already meeting the rule requirements.

B. 316(b) Rule requires specific data to be submitted with permit applications

Specific data requirements that apply to all facilities are:

- **Source water physical data** which shows the physical configuration of all source waterbodies used by the facility, identifies and characterizes the source

waterbody's hydrological and geomorphological features, and provides location through maps §122.21(r) (2).

- **Cooling water intake structure data** which shows the configuration and location of cooling water intake structures, provides details on the design and operation of each cooling water intake structure, and diagrams showing flow distribution and water balance § 122.21(r)(3).

- **Source water baseline biological characterization data** that characterizes the biological community in the vicinity of the cooling water intake structure (CWIS) and characterizes the operation of the CWIS § 122.21(r)(4).

- **Cooling water system data** that, among other things, describes the operation of the cooling water system, its relationship to the CWIS, the proportion of the design intake flow used in the system, the number of days the cooling water system is operational and seasonal changes in operation, as well as design and engineering calculations to support these descriptions § 122.21(r)(5).

- Information that describes the facility's chosen m**ethod of compliance with impingement mortality standards**; the specific requirements vary, depending on the compliance approach chosen by the facility. This information would be reflected in the facility's Impingement Technology Performance Optimization Study § 122.21 (r)(6).

- Description of any existing **entrainment performance studies** of biological survival conducted at the facility and a summary of any conclusions or results §122.21(r)(7).

- **Operational status** data that describes the operational status of each generating, production, or process unit §122.21(r)(8).

C. Timing of Rule Applicability

For permits applied for and expired before the effective date of the rule in 2014, reissuance must include conditions to ensure the above specific data requirements are developed during this permit term. Data to support the permittee's approach to compliance will be submitted with the next permit renewal application.

For existing permits expiring before the compliance date in 2018, the Director can establish an alternate schedule for data submittal to ensure information is collected to achieve compliance in the subsequent permit.

If the permittee demonstrates that it cannot develop the required information by the applicable date, "the Director must establish and alternate schedule for submission of the required information".

For permits expiring after the compliance date in 2018, the data must be submitted 180 days prior to the expiration date.

D. Applicability to TN0002259, DuPont Old Hickory

Significant factors in evaluating applicability of these rules to the DuPont permit are:

- DuPont submitted a timely application for renewal prior to the September 2015 expiration date.
- The NPDES permit application indicates a withdrawal of approximately 10.4 MGD, indicating the design intake flow is > 2.0 MGD threshold for rule applicability. For this Rationale, the design intake flow is assumed at 10.4 MGD.
- Data recently submitted with the renewal application includes a water balance showing actual intake flow for waters used exclusively for cooling amounts to 2.112 MGD.
- Waters used exclusively for cooling amounts to 21% as shown on the water balance below:

Cooling Water Balance	**gpd**
DuPont Power/Air Compressor Station	
Once thru compressor cooling	1,152,000
PGI/Constellation	
Once thru process cooling	815,835
Cooling Tower Makeup	72,000
Evaporation(1)	77,100
Jacob-Holm (Sontara)	
Cooling Water (2)	72,000
Total Cooling Water used on site	2,188,935
Total Water Intake	10,400,000
% Withdrawal used Exclusively for Cooling	**21.0%**

(1) assuming worst-case latent heat of evaporation used for cooling (unknown)
(2) Sontara process evaporation - this process is due to product drying.

E. Conclusion:

The DuPont Old Hickory cooling water intake structure does not meet the applicability requirement for rules under CWA Section 316(b) because <25% of the actual intake flow is used exclusively for cooling.

F. Determination of Best Technology Available and Best Professional Judgment (BPJ) Analysis

Requirement of 40 CFR 125.90 (b)
This EPA rule says, although the EPA rules are not applicable to the DuPont cooling water system, the provisions of CWA Section 316b must be addressed in NPDES permits.

> *(b) Any standard established pursuant to section 301 or section 306 of this Act and applicable to a point source shall require that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact.*

TDEC has determined that the DuPont cooling water intake structure represents the best technology available (BTA) to minimize adverse environmental impact in accordance with Section 316(b) of the federal Clean Water Act (33 U.S.C. section 1326). This determination represents the permit writer's Best Professional Judgment and is based upon the following criteria:

- The intake design flow is a very small percentage of the 1Q10 flow for the stream where the facility is located—less than 1 percent;
  - As stated above, the design intake flow is assumed to be 10.4 MGD.
  - The 1Q10 stream flow used for comparison to intake flow is established at TN Rule 1200-04-03-.05(4).
  - Minimum streamflow as measured at the adjacent USACE Old Hickory Dam is established (for purposes of maintaining downstream dissolved oxygen levels) during the months of May – September from 4900 to 9,400 cfs with an average of 7,680 cfs or 4,961 MGD[3].
  - The calculated percentage of minimum stream flow represented by the DuPont intake flow is 10.4 / 4,961 = 0.00002 %.

- The facility uses less than 25 percent of the intake flow exclusively for cooling purposes;

- With regard to entrainment only, the design intake flow is less than 5 percent of the mean annual flow of the stream;
  - Mean annual flow in the Cumberland River as measured at USACE Old Hickory Dam for the period 1958 – 2015 is 18,952 cfs or 12,242 MGD [see note 3].
  - The calculated percentage of annual average streamflow represented by DuPont intake flow is 10.4 / 12,242, is 0.000008 % <<<<<< 5 %.

Summary
TDEC has determined that the cooling water intake structure used by the DuPont represents the best technology available (BTA) to minimize adverse environmental impact in accordance with Section 316(b) of the federal Clean Water Act (33 U.S.C. section 1326).

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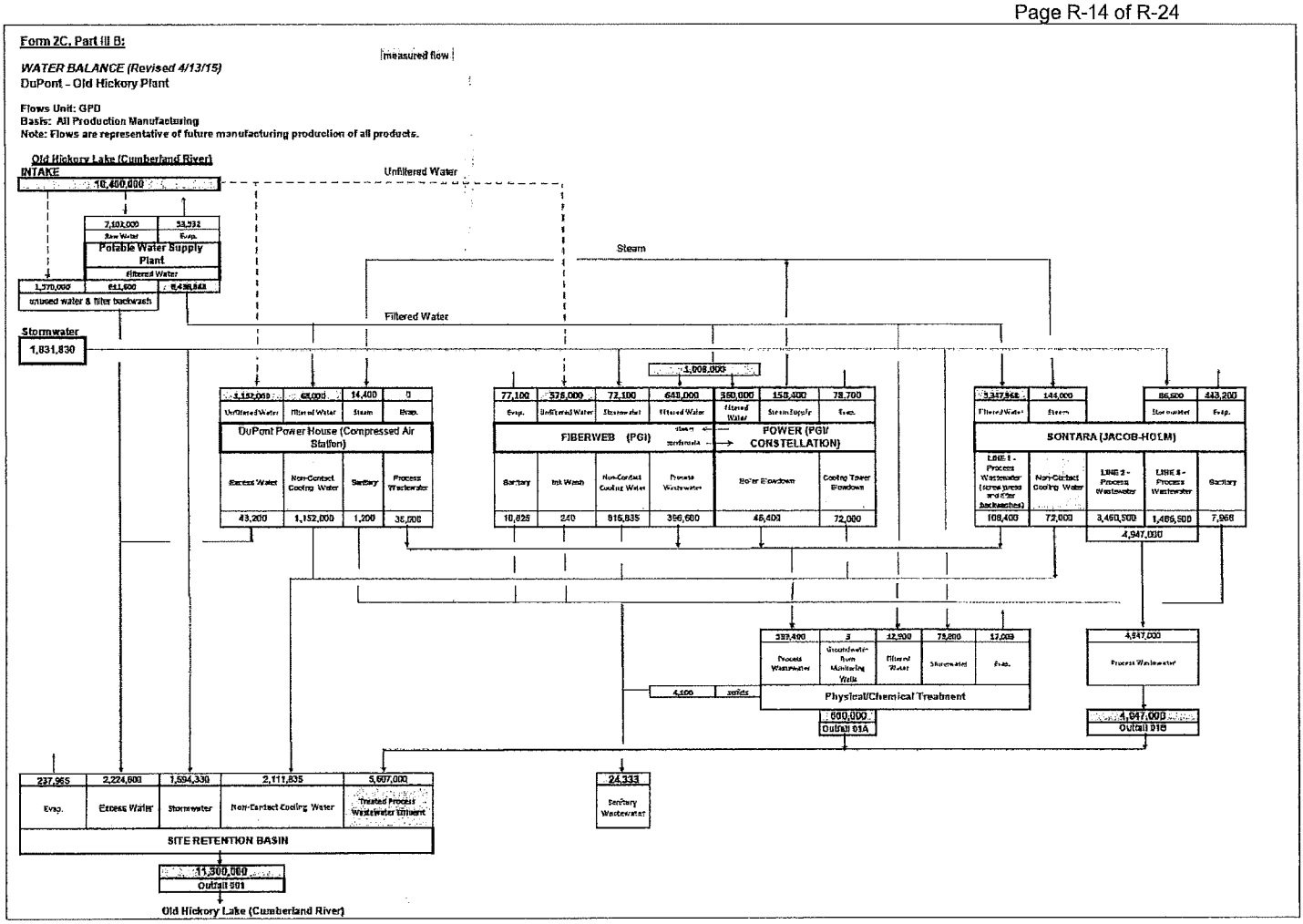
[3] Nashville District USACE Email, 28 Oct 15, Robert Dillingham to R. E. Alexander, TDEC, Subj: Outflow from Old Hickory.


Form 2C, Part III B:
WATER BALANCE (Revised 4/13/15)
DuPont - Old Hickory Plant
Flows Unit: GPD
Basis: All Production Manufacturing
Note: Flows are representative of future manufacturing production of all products.
Measured flow
Old Hickory Lake (Cumberland River)
INTAKE
10,400,000
Unfiltered Water
7,102,000
53,932
Potable Water Supply Plant
Filtered Water
1,770,000
611,600
6,438,868
unused water & filter backwash
Steam
Filtered Water
Stormwater
1,831,830
1,008,000
DuPont Power House (Compressed Air Station)
1,152,000
48,000
14,400
0
Unfiltered Water
Filtered Water
Steam
Evap.
Excess Water
Non-Contact Cooling Water
Sanitary
Process Wastewater
43,200
1,152,000
1,200
36,000
FIBERWEB (PGI)
POWER (PGI/ CONSTELLATION)
77,100
576,000
72,100
648,000
360,000
158,400
78,700
Evap.
Unfiltered Water
Stormwater
Filtered Water
Filtered Water
Steam Supply
Evap.
Sanitary
Ink Wash
Non-Contact Cooling Water
Process Wastewater
Boiler Blowdown
Cooling Tower Blowdown
10,825
240
515,835
356,660
46,400
72,000
SONTARA (JACOB-HOLM)
3,347,948
144,000
86,600
443,200
Filtered Water
Steam
Stormwater
Evap.
LINE 1 - Process Wastewater (screw press and filter backwashes)
Non-Contact Cooling Water
LINE 2 - Process Wastewater
LINE 3 - Process Wastewater
Sanitary
108,400
72,000
3,461,500
1,486,500
7,968
4,947,000
337,400
3
12,500
75,000
17,000
4,947,000
Process Wastewater
Groundwater from Monitoring Wells
Filtered Water
Stormwater
Evap.
Process Wastewater
4,400
solids
Physical/Chemical Treatment
600,000
Outfall 01A
4,947,000
Outfall 01B
237,965
2,224,600
1,594,330
2,111,835
5,607,000
Evap.
Excess Water
Stormwater
Non-Contact Cooling Water
Treated Process Wastewater Effluent
24,333
Sanitary Wastewater
SITE RETENTION BASIN
11,300,000
Outfall 001
Old Hickory Lake (Cumberland River)

X. ANTIDEGRADATION

Tennessee's Antidegradation Statement is found in the Rules of the Tennessee Department of Environment and Conservation, Chapter 1200-4-3-.06. It is the purpose of Tennessee's standards to fully protect existing uses of all surface waters as established under the Act.

Stream determinations for this permit action are associated with the waterbody segment identified by the division as segment ID# TN05130201001_1000.

Available Conditions Waters (meeting designated uses):

The division has made a determination of the receiving waters associated with the subject discharge(s) and has found the receiving stream to be available conditions waters. Available conditions exist where water quality is better than the applicable criterion for a specific parameter. The applicant has demonstrated to the department that reasonable alternatives to new or increased degradation to the available conditions waters are not feasible.

The department has maintained, and shall continue to assess, the water quality of the stream to assure that the water quality is adequate to protect the existing uses of the stream fully, and to assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control.

No TMDLs have been developed and approved for this portion of Old Hickory Lake.

X. PERMIT DURATION

The proposed limitations meet the requirements of Section 301(b)(2)(A), (C), (D), (E), and (F) of the Clean Water Act as amended. It is the intent of the division to organize the future issuance and expiration of this particular permit such that other permits located in the same watershed and group within the State of Tennessee will be set for issuance and expiration at the same time. In order to meet the target reissuance date for the Cumberland-Old Hickory Lake watershed and following the directives for the Watershed Management Program initiated in January, 1996, the permit will be issued to expire in 2020.

APPENDIX 1 - FACILITY DISCHARGES AND RECEIVING WATERS

OUTFALL 001	
LONGITUDE	LATITUDE
-86.649700	36.277500

FLOW (MGD)	DISCHARGE SOURCE
0.5894	Mfg. of spunlaced non-woven products
0.0788	Storm water runoff
0.0129	Filtered water
0.000003	Treated groundwater
-0.013	Evap & sludge handling
0.66	**Total discharge through IMP 01A**
4.947	Process wastewater and SW runoff
4.947	**Total discharge through IMP 01B**
2.1118	Cooling Water
2.2248	Excess Water
-0.238	Evaporation (est)
1.594	Storm water and groundwater springs
11.3	**TOTAL DISCHARGE**

RECEIVING STREAM DISCHARGE ROUTE
Outfall 001 discharges to the Cumberland River (Old Hickory Lake) at river mile 218.4. Internal monitoring point (IMP) 01A is located on the facility property at the Process Water Treatment Plant discharge point. From IMP 01A, effluent flows to a retention Pond, where it combines with non-process wastewater and storm water runoff. IMP 01B was established for monitoring of wastewater from spunlaced fabrics production. The Pond discharges through Outfall 001.

STREAM LOW	7Q10	1Q20	30Q2
FLOW (CFS)	NA	1100	5600
(MGD)	NA	711	3620

Treatment of process wastewater at IMP 01A includes:
equalization and sedimentation, activated sludge, aeration basins and clarifiers, aerobic digestion, sludge to POTW
Treatment of process wastewater at IMP 01B includes:
screening, flotation thickening and clarification.

STREAM USE CLASSIFICATIONS (WATER QUALITY)				
FISH	RECREATION	IRRIGATION	LW&W	DOMESTIC
X	X	X	X	X
INDUSTRIAL	NAVIGATION			
X	X			

APPENDIX 2 - APPLICABLE EFFLUENT LIMITATIONS GUIDELINES

OUTFALLS 01A & 01B

TITLE 40-PROTECTION OF ENVIRONMENT
CHAPTER I-ENVIRONMENTAL PROTECTION AGENCY (CONTINUED)

PART 410-TEXTILE MILLS POINT SOURCE CATEGORY--Table of Contents

Subpart H-Nonwoven Manufacturing Subcategory

Sec. 410.82

Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).

Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT):

Pollutant or pollutant property	BPT limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (or pounds per 1,000 lb) of product	
BOD5	4.4	2.2
COD	40.0	20.0
TSS	6.2	3.1
Sulfide	0.046	0.023
Phenol	0.023	0.011
Total chromium	0.023	0.011
pH	(\1\)	(\1\)

\1\ Within the range 6.0 to 9.0 at all times.

APPENDIX 2 - continued

OUTFALLS 01A

TITLE 40-PROTECTION OF ENVIRONMENT
CHAPTER I-ENVIRONMENTAL PROTECTION AGENCY (CONTINUED)

PART 414-ORGANIC CHEMICALS, PLASTICS, AND SYNTHETIC FIBERS--Table of Contents

Subpart C-Other Fibers

Sec. 414.31

Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).

Except as provided in 40 CFR 125.30 through 125.32, and in 40 CFR 414.11(i) for point sources with production in two or more subcategories, any existing point source subject to this subpart must achieve discharges not exceeding the quantity (mass) determined by multiplying the process wastewater flow subject to this subpart times the concentration listed in the following table.

	BPT effluent limitations \1\	
Effluent characteristics	Maximum for any one day	Maximum for monthly average
BOD5	48	18
TSS	115	36
pH	(\2\)	(\2\)

\1\ All units except pH are milligrams per liter.
\2\ Within the range of 6.0 to 9.0 at all times.

[52 FR 42568, Nov. 5, 1987, as amended at 57 FR 41844, Sept. 11, 1992

APPENDIX 2 - continued

OUTFALLS 01B

TITLE 40--PROTECTION OF ENVIRONMENT
CHAPTER I--ENVIRONMENTAL PROTECTION AGENCY (CONTINUED)

PART 430--THE PULP, PAPER, AND PAPERBOARD POINT SOURCE CATEGORY--Table of Contents

Subpart L--Tissue, Filter, Non-Woven, and Paperboard From Purchased Pulp Subcategory

Sec. 430.122 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).

Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT), except that non-continuous dischargers shall not be subject to the maximum day and average of 30 consecutive days limitations but shall be subject to annual average effluent limitations:

Subpart L

[BPT effluent limitations for non-integrated mills where filter and non-woven papers are produced from purchased pulp]

	Kg/kkg (or pounds per 1,000 lb) of product		
	Continuous dischargers		
Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 30 consecutive days	Non-continuous dischargers (annual average)
BOD5	29.6	16.3	9.1
TSS	26.6	13.0	7.4
pH	(\1\)	(\1\)	(\1\)

\1\ Within the range of 5.0 to 9.0 at all times.

APPENDIX 3 - OUTFALL 001 - EFFLUENT DATA

Limit	PH		TSS		TOC		FLOW	
Limit Unit	SU	SU	mg/L	mg/L	mg/L	mg/L	MGD	MGD
Statistical	MIN	MAX	MO AVG	DAILY MX	MO AVG	DAILY MX	MO AVG	DAILY MX
Limit	6	9						
DMR Value	CT							
06/30/2011	7.5	8	28	28	2.9	4	16.8	19.4
07/31/2011	7.5	7.9	4	4	4.3	6.6	18.3	21.2
08/31/2011	7.5	7.8	4	4	3	3.4	14.8	17.5
09/30/2011	7.3	8	6	6	3.5	6	13.5	17
10/31/2011	7.1	7.4	7	7	2.6	2.7	12.3	15.5
11/30/2011	7	7.3	16	16	2.7	2.9	12.2	15.6
12/31/2011	7.2	7.4	4	4	2.9	3.3	12.1	15.9
01/31/2012	7	7.6	14	14	2.8	3	11.8	15.4
02/29/2012	7.3	7.7	2	2	2.4	3	11.3	12.7
03/31/2012	7.5	7.8	11	11	2.6	2.8	11.7	14.8
04/30/2012	7.3	7.6	9	9	2.7	3	12.1	15.4
05/31/2012	7.2	7.5	3	3	4.1	10	11.4	17.6
06/30/2012	7.4	7.5	15	15	3	4	11.5	12.9
07/31/2012	7.4	7.7	3	3	3.2	3.5	13.1	20.6
08/31/2012	7.4	7.6	8	8	2.9	3.8	11.6	18.4
09/30/2012	7.5	7.6	5	5	3	3.7	10.9	13.3
10/31/2012	7.3	7.6	5	5	2.9	3.2	10.9	12.8
11/30/2012	7.3	7.7	12	12	2.7	3	9.4	11
12/31/2012	7.5	7.9	6.5	6.5	3.1	3.7	10.4	13.4
01/31/2013	7.7	8.2	15	15	3.1	3.6	11.1	16.7
02/28/2013	7.3	7.8	28	28	3.1	3.7	10.8	12.8
03/31/2013	7.9	8.1	3	3	3.2	4.3	11.4	13.9
04/30/2013	7.5	8.4	7	7	4	7.9	12.8	22.6
05/31/2013	7.6	7.8	22	22	2.8	3.2	11.5	13.5
06/30/2013	7.7	8.1	10	10	2.9	3.1	12.6	18.1
07/31/2013	6.9	8	1	1	2.8	3.1	13.3	17.5
08/31/2013	7.4	7.8	1.7	1.7	4.6	10	13.1	27.2
09/30/2013	7.2	7.6	5.7	5.7	3.6	4.8	13	17.1
10/31/2013	7.4	7.6	6.2	6.2	2.6	2.9	11.9	13.8
11/30/2013	7.6	7.8	2.6	2.6	2.5	2.7	10.9	13.4
12/31/2013	7.4	7.9	3.2	3.2	2.5	3	10.4	13.1
01/31/2014	7.5	7.9	2.8	2.8	2.4	2.7	9.4	12.7
02/28/2014	7.5	7.9	9.9	9.9	2.8	3.2	9.7	15.7
03/31/2014	7.4	8.1	4	4	3.1	3.7	10.6	13
04/30/2014	7.1	7.7	3.8	3.8	2.8	3.6	10.6	17.9
05/31/2014	7.7	8.1	5.8	5.8	2.8	3.3	11.3	14.3
06/30/2014	7.5	8.1	7	7	3.3	4.3	11.9	12.8
07/31/2014	7.3	7.4	7.3	7.3	2.8	3	10.6	12.4
08/31/2014	7.3	7.7	20.5	20.5	4.4	10	11.9	14.1
09/30/2014	7.5	7.6	7.2	7.2	10.1	29	10.2	13.9
10/31/2014	7.5	7.9	11.9	11.9	3.9	7.9	11.15	14.66
11/30/2014	7.6	8.3	7	7	2.33	2.4	10.78	12.6
12/31/2014	7.3	7.9	45	45	4.42	11	10.38	14.22
01/31/2015	7.5	8	5.6	5.6	2.7	2.9	9.97	12.41
02/28/2015	6.1	7.7	10	10	2.83	3.4	9.43	16.17
03/31/2015	6.7	7.5	108	108	2.9	3.5	11.15	13.82
04/30/2015	7	7.3	8.8	8.8	3.34	4.1	11.69	15.7
05/31/2015	7.5	7.7	8.8	8.8	14.28	22	11.91	13.57
06/30/2015	7.4	7.7	34.5	34.5	37.55	96	12.79	14.84
07/31/2015	7.2	7.9	7.95	8.3	16.9	23	13.03	18.14
AVERAGE	7	8	14	14	6	10	11.3	15.1

Limit	Daphnia	Fathead
Limit Unit	Percent	Percent
Statistical	MIN	MIN
Limit Value	2.4	2.4
DMR Values	C1	C1
06/30/2011	Mon Not Reqd	Mon Not Reqd
07/31/2011	Mon Not Reqd	Mon Not Reqd
08/31/2011	Mon Not Reqd	Mon Not Reqd
09/30/2011	Mon Not Reqd	Mon Not Reqd
10/31/2011	Mon Not Reqd	Mon Not Reqd
11/30/2011	Mon Not Reqd	Mon Not Reqd
12/31/2011	Mon Not Reqd	Mon Not Reqd
01/31/2012	Mon Not Reqd	Mon Not Reqd
02/29/2012	Mon Not Reqd	Mon Not Reqd
03/31/2012	16	16
04/30/2012	Mon Not Reqd	Mon Not Reqd
05/31/2012	Mon Not Reqd	Mon Not Reqd
06/30/2012	Mon Not Reqd	Mon Not Reqd
07/31/2012	Mon Not Reqd	Mon Not Reqd
08/31/2012	Mon Not Reqd	Mon Not Reqd
09/30/2012	Mon Not Reqd	Mon Not Reqd
10/31/2012	Mon Not Reqd	Mon Not Reqd
11/30/2012	Mon Not Reqd	Mon Not Reqd
12/31/2012	Mon Not Reqd	Mon Not Reqd
01/31/2013	Mon Not Reqd	Mon Not Reqd
02/28/2013	Mon Not Reqd	Mon Not Reqd
03/31/2013	Mon Not Reqd	Mon Not Reqd
04/30/2013	9.6	9.6
05/31/2013	Mon Not Reqd	Mon Not Reqd
06/30/2013	Mon Not Reqd	Mon Not Reqd
07/31/2013	Mon Not Reqd	Mon Not Reqd
08/31/2013	Mon Not Reqd	Mon Not Reqd
09/30/2013	Mon Not Reqd	Mon Not Reqd
10/31/2013	Mon Not Reqd	Mon Not Reqd
11/30/2013	Mon Not Reqd	Mon Not Reqd
12/31/2013	Mon Not Reqd	Mon Not Reqd
01/31/2014	Mon Not Reqd	Mon Not Reqd
02/28/2014	Mon Not Reqd	Mon Not Reqd
03/31/2014	Mon Not Reqd	Mon Not Reqd
04/30/2014	9.6	9.6
05/31/2014	Mon Not Reqd	Mon Not Reqd
06/30/2014	Mon Not Reqd	Mon Not Reqd
07/31/2014	Mon Not Reqd	Mon Not Reqd
08/31/2014	Mon Not Reqd	Mon Not Reqd
09/30/2014	Mon Not Reqd	Mon Not Reqd
10/31/2014	Mon Not Reqd	Mon Not Reqd
11/30/2014	Mon Not Reqd	Mon Not Reqd
12/31/2014	Mon Not Reqd	Mon Not Reqd
01/31/2015	Mon Not Reqd	Mon Not Reqd
02/28/2015	Mon Not Reqd	Mon Not Reqd
03/31/2015	Mon Not Reqd	Mon Not Reqd
04/30/2015	Mon Not Reqd	Mon Not Reqd
05/31/2015	9.6	9.6
06/30/2015	Mon Not Reqd	Mon Not Reqd
07/31/2015	Mon Not Reqd	Mon Not Reqd
AVERAGE	16	11

IMP 01A - EFFLUENT DATA

Limit	BOD		PH		TSS		FLOW		COD	
Limit Unit	PPD	PPD	SU	SU	PPD	PPD	MGD	MGD	PPD	PPD
Statistical	MO AVG	DAILY MX	MIN	MAXIMUM	MO AVG	DAILY MX	MO AVG	DAILY MX	MO AVG	DAILY MX
Limit Value	105.7	242.6	6	9	506.6	1173.3				
DMR Values	Q1	Q2	C1	C3	Q1	Q2	Q1	Q2	Q1	Q2
06/30/2011	14	34	7.6	7.9	51	130	0.3	0.82	15	15
07/31/2011	Not Det	Not Det	7.6	8	38	105	0.34	0.55	43	43
08/31/2011	10	15	7.8	8.2	30	57	0.31	0.5	53	53
09/30/2011	17	19.6	7.8	8	38	49	0.35	0.62	86	86
10/31/2011	13	16	7.8	8.2	67	93	0.27	0.4	71	71
11/30/2011	20	24	7	7.7	145	343	0.35	0.56	103	103
12/31/2011	29	32	7.2	7.6	200	390	0.61	1	170	170
01/31/2012	58	126	7.5	8	129	243	0.68	1.32	57	57
02/29/2012	28	36	7.5	8.4	118	211	0.63	0.86	150	150
03/31/2012	26	31	7.3	8.2	154	284	0.73	1.27	145	145
04/30/2012	20	23	7.6	7.9	56	92	0.54	1.07	123	123
05/31/2012	174	700	7.1	7.9	152	471	0.68	1.13	804	804
06/30/2012	18	20	7.5	7.9	144	220	0.45	0.54	105	105
07/31/2012	26.4	36.1	7.5	7.7	294	850	0.73	1.28	199	199
08/31/2012	32.1	42.1	7.6	7.8	183	484	0.73	1.28	146	146
09/30/2012	35	43	7.6	8	380	630	0.83	1.52	77	77
10/31/2012	27	32	7.6	8	251	543	0.67	1.04	110	110
11/30/2012	23	25	7.6	8.1	282	520	0.58	0.84	83	83
12/31/2012	27	33	7.7	8	363	462	0.66	0.95	210	210
01/31/2013	32	49	7.8	8.1	268	691	0.75	1.49	68	68
02/28/2013	39.4	46.9	7.8	8	333	462	0.8	1.47	110	110
03/31/2013	44.5	95	7.4	7.9	149	303	0.63	1.02	202	202
04/30/2013	40.8	67	7.7	8.2	153	205	0.71	1.2	130	130
05/31/2013	29.4	43	7.3	8	113	180	0.62	1.07	195	195
06/30/2013	26.3	34.3	7.7	8.2	105	135	0.67	1.13	68	68
07/31/2013	28	30	7.4	7.9	217	255	0.77	1.37	164	164
08/31/2013	41.9	66	6.9	7.9	42	67	0.79	1.14	94	94
09/30/2013	32.3	47	7.5	7.8	319	685	0.69	1.07	113	113
10/31/2013	29.9	29.9	7.3	7.7	138	189	0.26	0.92	96	96
11/30/2013	25.9	33.4	7.7	7.8	109	161	0.63	0.97	178	178
12/31/2013	27.4	36.2	7.7	8.2	208	297	0.63	1.1	48	48
01/31/2014	22.4	27.1	7.3	7.7	100	193	0.59	0.94	280	280
02/28/2014	41	62	7.3	7.8	239	415	0.6	0.79	289	289
03/31/2014	43	69	6.9	7.5	209	404	0.62	1.07	463	463
04/30/2014	59.9	124	7.1	7.9	93	183	0.69	0.99	190	190
05/31/2014	Not Det	30.4	7.2	7.6	86	187	0.64	0.9	231	231
06/30/2014	34.6	54.8	7.2	7.5	53	75	0.59	0.82	381	381
07/31/2014	36.8	56.4	7.1	7.3	111	205	0.63	1.03	302	302
08/31/2014	35.6	53.8	7.2	7.6	148	343	0.7	1.17	213	213
09/30/2014	25.9	43.2	7.3	7.4	79	146	0.48	1.09	242	242
10/31/2014	16.6	155	7.3	7.8	28	755	0.56	1.12	145	145
11/30/2014	17.2	155	7.1	7.5	58	641	0.59	0.91	133	133
12/31/2014	27.8	155	7.2	7.6	107	285	0.71	1.23	110	110
01/31/2015	17.8	155	7.2	8	53	226	0.55	0.78	188	188
02/28/2015	26.8	155	6.6	7.7	141	253	0.61	0.77	129	129
03/31/2015	Not Det	51	6.3	7.2	295	498	0.77	1.24	262	262
04/30/2015	Not Det	127	6.5	7.2	262	407	0.86	1.28	67	67
05/31/2015	Not Det	110	6.7	7.9	208	491	0.59	1.23	327	327
06/30/2015	31.2	60	7	7.5	134	180	0.63	1.23	62	62
07/31/2015	Not Det	113	6	7.3	176	302	0.71	1.23	189	189
AVERAGE	33	74	7	8	156	320	1	1	168	168

IMP 01B EFFLUENT DATA

Limit	BOD		PH		TSS		FLOW		COD	
Limit Unit	PPD	PPD	SU	SU	PPD	PPD	MGD	MGD	PPD	PPD
Statistical	MO AVG	DAILY MX	MIN	MAXIMUM	MO AVG	DAILY MX	MO AVG	DAILY MX	MO AVG	DAILY MX
Limit Value	1546	2818	6	9	915.6	1870			3475.2	6400.8
DMR Values										
06/30/2011	160	210	7.6	7.9	130	450	3.8	5.1	600	1150
07/31/2011	Not Det	Not Det	7	8	300	600	4.48	6.69	Not Det	Not Det
08/31/2011	123	226	7.5	8.1	255	677	2.9	5.6	620	990
09/30/2011	89	116	7.4	8.2	18	23	2.15	2.79	275	350
10/31/2011	113	144	7.3	7.5	80	181	2.6	3.4	340	370
11/30/2011	110	130	7.2	7.7	325	1004	2.51	3.28	274	317
12/31/2011	110	140	6.9	7.5	130	210	2.2	3.2	280	360
01/31/2012	116	125	7.2	7.7	143	265	2.67	3.11	296	440
02/29/2012	143	301	7.4	7.7	227	490	2.28	3.18	298	430
03/31/2012	84	121	7.5	7.8	211	339	2.25	2.91	298	425
04/30/2012	98	111	7.5	7.9	144	222	2.41	2.98	400	580
05/31/2012	78	110	7.6	8	68	105	2	3.2	360	400
06/30/2012	120	130	7.6	8	310	860	2.7	3.4	450	610
07/31/2012	123	153	7.4	7.8	176	229	3.04	4.03	382	430
08/31/2012	114	147	7	7.8	128	176	2.35	3.52	394	551
09/30/2012	110	140	7.4	7.5	160	260	2.54	3.59	310	490
10/31/2012	130	134	7.3	8	199	234	2.9	3.68	370	560
11/30/2012	107	134	7.9	8.2	162	241	2.49	3.4	835	3292
12/31/2012	134	153	8	8.2	160	250	2.7	3.8	440	682
01/31/2013	126	155	8.1	8.4	211	373	3.1	3.7	555	1041
02/28/2013	123	154	7.9	8.3	237	318	2.87	4	348	612
03/31/2013	127	169	7.6	7.9	38	69	2.63	3.54	392	556
04/30/2013	128	152	7.5	8.5	199	462	2.52	3.94	646	813
05/31/2013	141	233	7.6	8.4	246	534	2.3	2.9	361	534
06/30/2013	148	190	8.3	8.5	247	331	2.23	2.64	477	728
07/31/2013	152	222	7.8	8.4	160	363	1.29	1.58	298	375
08/31/2013	172	271	7.9	8.2	66	184	1.93	2.32	397	625
09/30/2013	145	223	7.9	8.1	210	345	2.04	2.84	467	853
10/31/2013	165	237	7.9	8.1	250	351	2.49	2.99	658	904
11/30/2013	135	200	8.1	8.3	255	400	2.34	2.92	301	584
12/31/2013	131	267	7.8	8.4	184	331	2.01	3.11	251	493
01/31/2014	132	244	7.9	8.2	218	427	2.36	2.94	683	1098
02/28/2014	147	222	8	8.5	251	355	2.1	2.76	500	1021
03/31/2014	168	213	8.1	8.4	195	324	2.61	3.1	671	926
04/30/2014	113	157	8	8.4	127	163	2.36	3.16	422	532
05/31/2014	Not Det	Not Det	8.2	8.3	147	253	2.42	3.1	Not Det	7.55
06/30/2014	129	155	8.1	8.2	136	181	2.36	2.95	555	797
07/31/2014	162	155	7.8	8	151	184	2.03	2.36	555	691
08/31/2014	152	155	7.8	7.9	163	450	1.99	2.3	555	524
09/30/2014	Not Det	Not Det	NODI=7	8.3	85	118	2.02	2.62	Not Det	417
10/31/2014	169	155	7.8	8.2	87	119	2.39	2.74	555	364
11/30/2014	119	155	7.1	8.3	85	141	2.3	2.74	555	378
12/31/2014	89	155	7.8	8.3	103	255	2.14	2.45	555	350
01/31/2015	154	155	7.9	8.2	103	125	2.28	2.6	555	337
02/28/2015	139	155	7	7.9	143	223	2.33	2.74	555	398
03/31/2015	118	158	7	7.8	112	135	196	225	196	225
04/30/2015	181	237	7.2	7.7	128	215	2.45	2.77	Not Det	438
05/31/2015	Not Det	339	7.5	8.1	77	108	2.54	2.86	Not Det	226
06/30/2015	290	419	7.6	8.3	121	174	3.49	5.02	446	695
07/31/2015	Not Det	236	7.6	8	100	176	4.16	5.3	Not Det	484
AVERAGE	**134**	**184**	**8**	**8**	**163**	**300**	**6**	**8**	**448**	**622**

APPENDIX 4 - PREVIOUS PERMIT LIMITS

OUTFALL 001

Parameter	Qualifier	Value	Unit	Sample Type	Frequency	Statistical Base
Carbon, Total Organic (TOC)	Report	-	mg/L	grab	Weekly	Daily Maximum
Carbon, Total Organic (TOC)	Report	-	mg/L	grab	Weekly	Monthly Average
Flow	Report	-	MGD	Recorder	Continuous	Monthly Average
Flow	Report	-	MGD	Recorder	Continuous	Daily Maximum
Total Suspended Solids (TSS)	Report	-	mg/L	grab	Monthly	Monthly Average
Total Suspended Solids (TSS)	Report	-	mg/L	grab	Monthly	Daily Maximum
pH	>=	6	SU	Grab	Weekly	Minimum
pH	<=	9	SU	Grab	Weekly	Maximum
IC25 Static Renewal 7 Day Chronic Ceriodaphnia	>=	2.4	%	Composite	Annual	Minimum
IC25 Static Renewal 7 Day Chronic Pimephales	>=	2.4	%	Composite	Annual	Minimum

IMP 01A

Parameter	Qualifier	Value	Unit	Sample Type	Frequency	Statistical Base
BOD5	<=	242.6	lb/d	Composite	Weekly	Daily Maximum
BOD5	<=	105.7	lb/d	Composite	Weekly	Monthly Average
COD	Report	-	Mg/l	Composite	Monthly	Daily Maximum
COD	Report	-	Mg/l	Composite	Monthly	Monthly Average
Flow	Report	-	MGD	Instantaneous	Weekly	Daily Maximum
Flow	Report	-	MGD	Instantaneous	Weekly	Monthly Average
Total Suspended Solids (TSS)	<=	1173.3	lb/d	Composite	Weekly	Daily Maximum
Total Suspended Solids (TSS)	<=	506.6	lb/d	Composite	Weekly	Monthly Average
pH	>=	6	SU	Grab	Weekly	Minimum
pH	<=	9	SU	Grab	Weekly	Maximum

PREVIOUS PERMIT - EFFLUENT LIMITS – IMP 01B

Parameter	Qualifier	Value	Unit	Sample Type	Frequency	Statistical Base
BOD5	<=	2818	lb/d	Composite	Weekly	Daily Maximum
BOD5	<=	1546	lb/d	Composite	Weekly	Monthly Average
Flow	Report	-	MGD	Instantaneous	Weekly	Daily Maximum
Flow	Report	-	MGD	Instantaneous	Weekly	Monthly Average
Total Suspended Solids (TSS)	<=	1870	lb/d	Composite	Weekly	Daily Maximum
Total Suspended Solids (TSS)	<=	915.6	lb/d	Composite	Weekly	Monthly Average
pH	>=	6	SU	Grab	Weekly	Minimum
pH	<=	9	SU	Grab	Weekly	Maximum
COD	<=	6400.8	lb/d	Composite	Weekly	Daily Maximum
COD	<=	3475.2	lb/d	Composite	Weekly	Monthly Average