COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER STANDARDS AND FACILITY REGULATION

AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM DISCHARGE REQUIREMENTS FOR INDUSTRIAL WASTEWATER FACILITIES

NPDES PERMIT NO: PA0012629 A1

In compliance with the provisions of the Clean Water Act, 33 U.S.C. Section 1251 *et seq.* ("the Act") and Pennsylvania's Clean Streams Law, *as amended*, 35 P.S. Section 691.1 *et seq.*,

Sunoco, Inc. (R&M) – Client No. 83455
3144 Passyunk Avenue
Philadelphia, PA 19145

is authorized to discharge from a facility known as **Point Breeze Refinery - Site ID No. 699413**, located at the **City of Philadelphia**, **Philadelphia County** to the **Schuylkill River - Zone 4 of Delaware River Estuary** in Watershed **3F** in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts A, B, and C hereof.

THIS PERMIT SHALL BECOME EFFECTIVE ON October 1, 2008

THIS PERMIT SHALL EXPIRE AT MIDNIGHT ON January 31, 2011

The authority granted by this permit is subject to the following further qualifications:

1. If there is a conflict between the application, its supporting documents and/or amendments and the terms and conditions of this permit, the terms and conditions shall apply.

2. Failure to comply with the terms, conditions or effluent limitations of this permit is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. [40 C.F.R. 122.41(a)]

3. A complete application for reissuance of this permit, or notice of intent to cease discharging by the expiration date, must be submitted to DEP at least 180 days prior to the above expiration date (unless permission has been granted by DEP for submission at a later date), using the appropriate NPDES permit application form. [40 C.F.R. 122.41(b) and 122.21(d)]

   In the event that a timely and complete application for reissuance has been submitted and DEP is unable, through no fault of the permittee, to reissue the permit before the above expiration date, the terms and conditions of this permit, including submission of the Discharge Monitoring Reports (DMRs), will be automatically continued and will remain fully effective and enforceable against the discharger until DEP takes final action on the pending permit application. [25 Pa. Code 92.9]

4. This NPDES permit does not constitute authorization to construct or make modifications to wastewater treatment facilities necessary to meet the terms and conditions of this permit.

DATE PERMIT ISSUED _____ **ISSUED BY** _____

DATE PERMIT AMENDMENT ISSUED September 2, 2008 **TITLE: Water Management Program Manager**

(AR08)233-1

Permit No. PA0012629 A1

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS

I. **For Outfall** 001, **Latitude** 39°55'39", **Longitude** 75°12'41", **River Mile Index** 4.167, **Stream Code** 00833

which receives wastewater from overflow of contaminated stormwater from a North Yard Retention Basin during periods of heavy rainfall.

a. The permittee is authorized to discharge during the period from issuance through expiration.

b. Based on the production data and anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply.

Discharge Parameter	Effluent Limitations ***						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)					
	Average Monthly	Maximum Daily	Inst. Minimum	Average Monthly	Maximum Daily	Instantaneous Maximum (2)	Minimum (3) Measurement Frequency	Required Sample Type
Flow (MGD)							Daily *	Calculated
Total Organic Carbon **						110	Daily *	Grab
Oil and Grease **						15	Daily *	Grab
pH (STD Units)			6.0			9.0	Daily *	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): 001

* When discharging, a grab sample shall be collected immediately following the overflow. The discharge shall be monitored daily for the duration of flow.

** If concentration of these parameters exceeds the values, the quantity of pollutants discharge shall be calculated in accordance with the Other Requirement No. 24 in Part C. The monthly frequency of the discharge from Outfall 001 shall be indicated on the DMR form.

*** Unless otherwise indicated, these are gross discharge limitations.

Re 30 (AR08)140-1d

Permit No. PA0012629 A1

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS

I. **For Outfall** 002, **Latitude** 39°55'04", **Longitude** 75°12'05", **River Mile Index** 3.220, **Stream Code** 00833

which receives wastewater from Industrial Wastewater Treatment Plant

a. The permittee is authorized to discharge during the period from issuance through expiration.

b. Based on the production data and anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply.

Discharge Parameter	Effluent Limitations *						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (3) Measurement Frequency	Required Sample Type
	Average Monthly	Maximum Daily	Instantaneous Minimum	Average Monthly	Maximum Daily	Instantaneous Maximum (2)		
Flow (MGD)							Continuous	Recorded
BOD_5	1,208 **	2,174 **		35	62.5	88	2/Week	24 Hour Comp.
BOD_5 % Removal ***	89.25%						2/Week	24 Hour Comp.
$CBOD_{20}$	2,590						1/Month	24 Hour Comp.
Total Suspended Solids	966 **	1,515 **		28	44	70	2/Week	24 Hour Comp.
Chemical Oxygen Demand	8,433 **	16,251 **		242	467	605	2/Week	24 Hour Comp.
Oil and Grease	351 **	659 **		10	19	25	1/Week	Grab
Ammonia as N	659 **	1,449 **		19	42	48	2/Week	24 Hour Comp.
Sulfide	6.37 **	14.27 **		0.18	0.41	0.45	2/Week	24 Hour Comp.
pH (STD Units)			6.0			9.0	Daily	In-Situ

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): Outfall 002

* These are gross effluent limitations unless noted.
** These are net effluent limitations. To calculate net effluent limitations, see Other Requirements 18, 19, 20, and 27 in Part C.
*** To calculate percentage removal, a mechanical 24-hour compositor and/or four grabs composited over a 24-hour period shall be collected from the influent to the wastewater treatment plant. Also see Other Requirement No. 22 in Part C.

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PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS

I. **For Outfall** 002, **Latitude** 39°55'04", **Longitude** 75°12'05", **River Mile Index** 3.220, **Stream Code** 00833
which receives wastewater from Industrial Wastewater Treatment Plant

a. The permittee is authorized to discharge during the period from issuance through expiration.

b. Based on the production data and anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply.

Discharge Parameter	Effluent Limitations *						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (3) Measurement Frequency	Required Sample Type
	Average Monthly	Maximum Daily	Minimum	Average Monthly	Maximum Daily	Instantaneous Maximum (2)		
Total Residual Oxidants					0.2	0.5	1/Week	Grab
Temperature			See Other Requirement No. 9			110°F	Daily	I-S
Phenolic, Compounds ***	6.51 **	16.25 **		0.19	0.47	0.48	1/Week	24 Hour Comp.
Chromium, Total ***	7.62 **	21.93 **		0.22	0.63	0.63	1/Month	24 Hour Comp.
Chromium, Hexavalent ***	0.625 **	1.403 **		0.018	0.04	0.045	1/Month	24 Hour Comp.
Total Dissolved Solids	34,778 **	69,556		1,000 **	2,000	2,500	2/Week	24 Hour Comp.
Benzene ***				0.001	0.002	0.0025	1/Week	Grab
Toluene ***				Monitor/ Report	Monitor/ Report		1/Week	Grab
Ethylbenzene ***				Monitor/ Report	Monitor/ Report		1/Week	Grab
Xylenes, Total ***				Monitor/ Report	Monitor/ Report		1/Week	Grab
Total BETX				0.1	0.2	0.25	1/Week	Grab
Toxicity Chronic (TU_c) ****					Monitor/ Report		1/Quarter	24 Hour Comp.
Zinc, Total ***				0.25	0.50	0.625	1/Week	24 Hour Comp.
PCBs, Total (Dry Weather) *****					Monitor/ Report		1/Year	24 Hour Comp.
PCBs, Total (Wet Weather)*****					Monitor/ Report		1/Year	24 Hour Comp.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): Outfall 002

* These are gross effluent limitations unless noted.

** These are net effluent limitations. To calculate net effluent limitations, see Other Requirements 18, 19, 20, and 27 in Part C.

*** See Other Requirement No. 7 for test method.

**** See Other Requirement No. 13 for WET test.

*****See Other Requirement No. 11 for PCBs Requirements.

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PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS

I. **For Outfall** 003, **Latitude** 39°55'03", **Longitude** 75°12'15", **River Mile Index** 3.182, **Stream Code** 00833

which receives wastewater from overflow of contaminated stormwater from West Yard Retention Basin during periods of heavy rainfall.

a. The permittee is authorized to discharge during the period from issuance through expiration.

b. Based on the production data and anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply.

Discharge Parameter	Effluent Limitations ***						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (3) Measurement Frequency	Required Sample Type
	Average Monthly	Maximum Daily	Minimum	Average Monthly	Maximum Daily	Instantaneous Maximum (2)		
Flow (MGD)							Daily *	Calculated
Total Organic Carbon **						110	Daily *	Grab
Oil and Grease **						15	Daily *	Grab
pH (STD Units)			6.0			9.0	Daily *	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): Outfall 003

* When discharging, a grab sample shall be collected immediately following the overflow. The discharge shall be monitored daily for the duration of flow.

** If concentration of these parameters exceeds the values, the quantity of pollutants discharge shall be calculated in accordance with the Other Requirement No. 24 in Part C. The monthly frequency of the discharge from Outfall 003 shall be indicated on the Discharge Monitoring Report (DMR) form.

*** Unless otherwise indicated, these are gross discharge limitations.

Re 30 (AR08)140-1d

Permit No. PA0012629 A1

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS

I. **For Outfall** 004, **Latitude** 39°54'19", **Longitude** 75°12'55", **River Mile Index** 2.746, **Stream Code** 00833

which receives wastewater from overflow of contaminated stormwater from South Yard Retention Basin during periods of heavy rainfall.

a. The permittee is authorized to discharge during the period from issuance through expiration.

b. Based on the production data and anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply.

Discharge Parameter	Effluent Limitations ***						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)					
	Average Monthly	Maximum Daily	Minimum	Average Monthly	Maximum Daily	Instantaneous Maximum (2)	Minimum (3) Measurement Frequency	Required Sample Type
Flow (MGD)							Daily *	Calculated
Total Organic Carbon **						110	Daily *	Grab
Oil and Grease **						15	Daily *	Grab
pH (STD Units)			6.0			9.0	Daily *	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): Outfall 004

* When discharging, a grab sample shall be collected immediately following the overflow. The discharge shall be monitored daily for the duration of flow.

** If concentration of these parameters exceeds the values, the quantity of pollutants discharge shall be calculated in accordance with the Other Requirement No. 24 in Part C. The monthly frequency of the discharge from Outfall 004 shall be indicated on the DMR form.

*** Unless otherwise indicated, these are gross discharge limitations.

Re 30 (AR08)140-1d

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS (Con't)

c. Additional Requirements

The discharger shall not discharge floating materials, oil, grease, scum, foam, sheen, and substances which produce color, taste, odor, turbidity, or settle to form deposits in concentrations or amounts sufficient to be, or creating a danger of being, inimical to the water uses to be protected or to human, animal, plant, or aquatic life. [25 Pa. Code 92.51(6)]

Footnotes

(1) When sampling to determine compliance with mass effluent limitations, the discharge flow at the time of sampling must be measured and recorded.

(2) The Instantaneous Maximum Discharge Limitations are for compliance use by DEP only. Do not report instantaneous maximums on DMRs or supplemental DMRs unless specifically required on those forms to do so.

(3) This is the minimum number of sampling events required. Permittees are encouraged, and it may be advantageous in demonstrating compliance, to perform more than the minimum number of sampling events.

Supplemental Information

(1) The effluent limitations for Outfall 002 were determined using an effluent discharge rate of 4.17 million gallons per day.

(2) If the permit requires reporting of average weekly limitations, please follow the following guideline. If the "maximum average concentration" and the "maximum average mass loading" do not occur within the same week, both the highest weekly average concentration and the highest weekly average mass load should be reported, regardless of whether they both occur during the same calendar week.

II. DEFINITIONS

At Outfall (XXX) means a sampling location in outfall line XXX below the last point at which wastes are added to outfall line (XXX), or where otherwise specified.

Average refers to the use of an arithmetic mean, unless otherwise specified in this permit. [40 C.F.R. 122.41(l)(4)(iii)]

Best Management Practices (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures and other management practices to prevent or reduce the pollution to surface waters of the Commonwealth. BMPs also include treatment requirements, operating procedures and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. [25 Pa. Code 92.1]

Bypass means the intentional diversion of waste streams from any portion of a treatment facility. [40 C.F.R.122.41(m)(1)(i)]

Calendar Week is defined as the seven consecutive days from Sunday through Saturday, unless the permittee has been given permission by the Department to provide weekly data as Monday through Friday based on showing excellent performance of the facility and a history of compliance. In cases when the week falls in two separate months, the month with the most days in that week shall be the month for reporting.

Clean Water Act means the Federal Water Pollution Control Act, as amended. [33 U.S.C.A. §§ 1251 to 1387].

Chemical Additive means the chemicals that are used to control corrosion, algae, slime, fouling, oxygen or other blow down discharges in systems within a facility that might be present in its wastewater discharge. Other chemicals that would be included in the category include, by are not limited to, polymers, water softeners, flocculants, coagulants, emulsion breakers, dispersants, other oxygen scavenger or possible known carcinogens.

Composite Sample (for all except GC/MS volatile organic analysis) means a combination of individual samples (at least eight for a 24-hour period or four for an 8-hour period) of at least 100 milliliters (mL) each obtained at spaced time intervals during the compositing period. The composite must be flow-proportional; either the volume of each individual sample is proportional to discharge flow rates, or the sampling interval is proportional to the flow rates over the time period used to produce the composite. [EPA Form 2C]

Composite Sample (for GC/MS volatile organic analysis) consists of at least four aliquots or grab samples collected during the sampling event (not necessarily flow proportioned). The samples must be combined in the laboratory immediately before analysis and then one analysis is performed. [EPA Form 2C]

Daily Average Temperature means the average of all temperature measurements made, or the mean value plot of the record of a continuous automated temperature recording instrument, either during a calendar day or during the operating day if flows are of a shorter duration.

Daily Discharge means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the day. [25 Pa. Code 92.1 and 40 C.F.R. 122.2]

Daily Maximum Discharge Limitation means the highest allowable "daily discharge." [25 Pa. Code 92.1]

Discharge Monitoring Report (DMR) means the DEP or EPA supplied form(s) for the reporting of self-monitoring results by the permittee. [40 C.F.R. 122.2]

Estimated Flow means any method of liquid volume measurement based on a technical evaluation of the sources contributing to the discharge including, but not limited to, pump capabilities, water meters and batch discharge volumes.

Geometric Mean means the average of a set of n sample results given by the nth root of their product.

Grab Sample means an individual sample of at least 100 mL collected at a randomly selected time over a period not to exceed 15 minutes. [EPA Form 2C]

Hazardous Substance means any substance designated under 40 C.F.R. Part 116 pursuant to Section 311 of the Clean Water Act. [40 C.F.R. 122.2]

Immersion Stabilization (i-s) means a calibrated device is immersed in the wastewater until the reading is stabilized.

Instantaneous Maximum means the highest allowable discharge of a concentration of a substance at any one time as measured by a grab sample. [25 Pa. Code 92.1]

Measured Flow means any method of liquid volume measurement, the accuracy of which has been previously demonstrated in engineering practice, or for which a relationship to absolute volume has been obtained.

Monthly Average Discharge Limitation means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "

Noncontact Cooling Water means water used to reduce temperature which does not come in direct contact with any raw material, intermediate product, waste product (other than heat), or finished product.

Severe Property Damage means substantial physical damage to property, damage to the treatment facilities that causes them to become inoperable, or substantial and permanent loss of natural resources that 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. [40 C.F.R. 122.41(m)(1)(ii)]

Stormwater means the runoff from precipitation, snow melt runoff, and surface runoff and drainage.
[25 Pa. Code 92.1]

Stormwater Associated With Industrial Activity means the discharge from any conveyance which is used for collecting and conveying stormwater and which is directly related to manufacturing, processing or raw materials storage areas as defined. [40 C.F.R. § 122.26(b)(14) and 25 Pa. Code 92.1]

Total Dissolved Solids means the total dissolved (filterable) solids as determined by use of the method specified in 40 C.F.R. Part 136.

Toxic Pollutant means those pollutants, or combinations of pollutants, including disease-causing agents, which after discharge and upon exposure, ingestion, inhalation or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains may, on the basis of information available to DEP cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions, including malfunctions in reproduction, or physical deformations in these organisms or their offspring. [25 Pa. Code 92.1]

III. SELF-MONITORING, REPORTING AND RECORDKEEPING

A. Representative Sampling

1. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. [40 C.F.R. 122.41(i)(1)]

2. Records Retention [40 C.F.R. 122.41(i)(2)]

Except for records of monitoring information required by this permit related to the permittee's sludge use and disposal activities which shall be retained for a period of at least 5 years, all records of monitoring activities and results (including all original strip chart recordings for continuous monitoring instrumentation and calibration and maintenance records), copies of all reports required by this permit, and records of all data used to complete the application for this permit shall be retained by the permittee for 3 years from the date of the sample measurement, report or application. The 3-year period shall be extended as requested by DEP or the EPA Regional Administrator.

3. Recording of Results [40 C.F.R. 122.41(i)(3)]

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 or measurements.
b. The person(s) who performed the sampling or measurements.
c. The date(s) the analyses were performed.
d. The person(s) who performed the analyses.
e. The analytical techniques or methods used; and the associated detection level.
f. The results of such analyses.

4. Test Procedures [40 C.F.R. 122.41(i)(4)]

Facilities that test or analyze environmental samples used to demonstrate compliance with this permit shall be in compliance with laboratory accreditation requirements of Act 90 of 2002 (27 Pa. C.S. §§ 4101-4113), relating to environmental laboratory accreditation. Unless otherwise specified in this permit, the test procedures for the analysis of pollutants shall be those approved under 40 C.F.R. Part 136 (or in the case of sludge use or disposal, approved under 40 C.F.R. Part 136, unless otherwise specified in 40 C.F.R. Part 503 or Subpart J of 25 Pa. Code Chapter 271), or alternate test procedures approved pursuant to those parts, unless other test procedures have been specified in this permit.

5. Quality/Assurance/Control

In an effort to assure accurate self-monitoring analyses results:

a. The permittee, or its designated laboratory, shall participate in the periodic scheduled quality assurance inspections conducted by DEP and EPA. [40 C.F.R. 122.41(e) and 122.41(i)(3)]

b. The permittee, or its designated laboratory, shall develop and implement a program to assure the quality and accurateness of the analyses performed to satisfy the requirements of this permit, in accordance with 40 C.F.R. Part 136. [40 C.F.R. 122.4(i)(4)]

B. Reporting of Monitoring Results

1. The permittee shall effectively monitor the operation and efficiency of all wastewater treatment and control facilities, and the quantity and quality of the discharge(s) as specified in this permit. [40 C.F.R. 122.41(e) and 122.44(i)(1)]

2. Unless instructed otherwise in PART C of this permit, a properly completed DMR must be received by the following address within 28 days after the end of each monthly report period:

Department of Environmental Protection
Water Management Program
2 East Main Street
Norristown, PA 19401

Delaware River Basin Commission
P.O. Box 7360
West Trenton, NJ 08628

NPDES DMR (3WP42)
Water Protection Division
U.S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103-2029

3. The completed DMR Form shall be signed and certified by either of the following applicable persons, as defined in 25 Pa. Code § 92.23:

- For a corporation - by a principal executive officer of at least the level of vice president, or an authorized representative, if the representative is responsible for the overall operation of the facility from which the discharge described in the NPDES form originates.
- For a partnership or sole proprietorship - by a general partner or the proprietor, respectively.
- For a municipality, state, federal or other public agency - by a principal executive officer or ranking elected official.

If signed by a person other than the above, written notification of delegation of DMR signatory authority must be submitted to DEP in advance of or along with the relevant DMR form. [40 C.F.R. 122.22(b)(3)]

4. If the permittee monitors any pollutant at monitoring points as designated by this permit, using analytical methods described in PART A III.A.4. herein, more frequently than the permit requires, the results of this monitoring shall be incorporated, as appropriate, into the calculations used to report self-monitoring data on the DMR. [40 C.F.R. 122.41(l)(4)(ii)]

C. Reporting Requirements

1. Planned Changes [40 C.F.R. 122.4(l)(1)] - The permittee shall give notice to DEP 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 C.F.R. § 122.29(b).

   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 this permit, nor to notification requirements under 40 C.F.R. § 122.42(a)(1).

   c. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

2. Anticipated Noncompliance

The permittee shall give advance notice to DEP of any planned changes in the permitted facility or activity that may result in noncompliance with permit requirements. [40 C.F.R. 122.41(l)(2)]

3. Unanticipated Noncompliance or Potential Pollution Reporting

   a. Immediate Reporting - The permittee shall report incidents causing or threatening pollution in accordance with the requirements of 25 Pa. Code Section 91.33. If, because of an accident, other activity or incident, a toxic substance or another substance which would endanger users downstream from the discharge or would otherwise result in pollution or create a danger of pollution or would damage property, the permittee shall immediately notify the DEP by telephone of the location and nature of the danger and if reasonable possible to do so, notify downstream users of the waters of the Commonwealth to which the substance was discharged. Such notice shall include the location and nature of the danger. The permittee shall immediately take, or cause to be taken, steps necessary to prevent injury to property and downstream users of the waters from pollution or a danger of pollution and, in addition, within 15 days from the incident, shall remove the residual substances contained thereon or therein from the ground and from the affected waters of this Commonwealth to the extent required by applicable law.

   b. The permittee shall report any noncompliance which may endanger health or the environment in accordance with the requirements of 40 C.F.R. 122.41(1)(6). These requirements include the following obligations:

      (i) Twenty-four (24) Hour Reporting - The permittee shall orally report any noncompliance with this permit which may endanger health or the environment within 24 hours from the time the permittee becomes aware of the circumstances. The following shall be included as information which must be reported within 24 hours under this paragraph:

         (1) Any unanticipated bypass which exceeds any effluent limitation in the permit.

         (2) Any upset which exceeds any effluent limitation in the permit.

         (3) Violation of the maximum daily discharge limitation for any of the pollutions listed in the permit as being subject to the 24-hour reporting requirement. Note: see 40 C.F.R. 122.44(g).

      (ii) Written Report - A written submission shall also be provided within 5 days of the time the permittee becomes aware of any noncompliance which may endanger health or the environment. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

      (iii) Waiver of Written Report - DEP may waive the written report on a case-by-case basis if the associated oral report has been received within 24 hours from the time the permittee becomes aware of the circumstances which may endanger health or the environment. Unless such a waiver is expressly granted by the DEP, the permittee shall submit a written report in accordance with this paragraph. [40 C.F.R. 122.41(l)(6)(iii)]

4. Other Noncompliance

   The permittee shall report all instances of noncompliance not reported under paragraph C.3 of this section or specific requirements of compliance schedules, at the time DMRs are submitted. The reports shall contain the information listed in paragraph C.3.b.(ii) of this section. [40 C.F.R. 122.41(l)(7)]

D. Specific Toxic Pollutant Notification Levels (for Manufacturing, Commercial, Mining, and Silvicultural Direct Dischargers) - The permittee shall notify DEP as soon as it knows or has reason to believe the following: [40 C.F.R. 122.42(a)]

1. That any activity has occurred, or will occur, which would result in the discharge of any toxic pollutant which is not limited in this permit, if that discharge on a routine or frequent basis will exceed the highest of the following "notification levels." [40 C.F.R. 122.42(a)(1)]

   a. One hundred micrograms per liter.
   b. Two hundred micrograms per liter for acrolein and acrylonitrile.
   c. Five hundred micrograms per liter for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol.
   d. One milligram per liter for antimony.
   e. Five times the maximum concentration value reported for that pollutant in this permit application.
   f. Any other notification level established by DEP.

2. That any activity has occurred or will occur which would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following "notification levels": [40 C.F.R. 122.42(a)(2)]

   a. Five hundred micrograms per liter.
   b. One milligram per liter for antimony.
   c. Ten times the maximum concentration value reported for that pollutant in the permit application.
   d. Any other notification level established by DEP.

PART B

I. MANAGEMENT REQUIREMENTS

A. Compliance Schedules [25 Pa. Code 92.55 and 40 C.F.R. 122.47(a)]

1. The permittee shall achieve compliance with the terms and conditions of this permit within the time frames specified in this permit.

2. The permittee shall submit reports of compliance or noncompliance, or progress reports as applicable, for any interim and final requirements contained in this permit. Such reports shall be submitted no later than 14 days following the applicable schedule date or compliance deadline. [40 C.F.R. 122.47(a)(4)]

B. Permit Modification, Termination, or Revocation and Reissuance

1. This permit may be modified, terminated, or revoked and reissued during its term in accordance with Title 25 Pa. Code 92.51(2) and 40 C.F.R. 122.41(f).

2. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition. [40 C.F.R. 122.41(f)]

3. In the absence of DEP action to modify or revoke and reissue this permit, the permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time specified in the regulations that establish those standards or prohibitions. [40 C.F.R. 122.41(a)(1)]

C. Duty to Provide Information

1. The permittee shall furnish to DEP, within a reasonable time, any information which DEP may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. [40 C.F.R. 122.41(h)]

2. The permittee shall furnish to DEP, upon request, copies of records required to be kept by this permit. [25 Pa. Code 92.51(3)(ii) and 40 C.F.R. 122.41(h)]

3. Other Information - Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to DEP, it shall promptly submit the correct and complete facts or information. [40 C.F.R. 122.41(l)(8)]

D. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance includes, but is not limited to, adequate laboratory controls including appropriate quality assurance procedures. This provision also includes the operation of backup or auxiliary facilities or similar systems that are installed by the permittee, only when necessary to achieve compliance with the terms and conditions of this permit. [40 C.F.R. 122.41(e)]

E. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge, sludge use or disposal in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment. [40 C.F.R. 122.41(d)]

F. Bypassing

1. Bypassing Not Exceeding Permit Limitations - The permittee may allow a bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions in paragraphs 2, 3, and 4 of this section. [40 C.F.R. 122.41(m)(2)]

2. Other Bypassing - In all other situations, bypassing is prohibited and DEP may take enforcement action against the permittee for bypass unless: [40 C.F.R. 122.41(m)(4)(i)]

   a. A bypass is unavoidable to prevent loss of life, personal injury or "severe property damage." [40 C.F.R. 122.41(m)(4)(i)(A)]

   b. There are no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance. [40 C.F.R. 122.41(m)(4)(i)(B)]

   c. The permittee submitted the necessary notice required in F.4.a. and b. below. [40 C.F.R. 122.41(m)(4)(i)(C)]

3. DEP may approve an anticipated bypass, after considering its adverse effects, if DEP determines that it will meet the conditions listed in F.2. above. [40 C.F.R. 122.41(m)(4)(i)(C)]

4. Notice

   a. Anticipated Bypass – If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible, at least 10 days before the bypass. [40 C.F.R. 122.41(m)(3)(i)]

   b. Unanticipated Bypass

      (i) The permittee shall submit immediate notice of an unanticipated bypass causing or threatening pollution. The notice shall be in accordance with PART A.III.C.3a.

      (ii) The permittee shall submit oral notice of any other unanticipated bypass within 24 hours, regardless of whether the bypass may endanger health or the environment or whether the bypass exceeds effluent limitations. The notice shall be in accordance with PART A.III.C.3b.

II. PENALTIES AND LIABILITY

A. Violations of Permit Conditions

Any person violating Sections 301, 302, 306, 307, 308, 318, or 405 of the Clean Water Act or any permit condition or limitation implementing such sections in a permit issued under Section 402 of the Act is subject to civil, administrative and/or criminal penalties as set forth in 40 C.F.R. § 122.41(a)(2).

Any person or municipality who violates any provision of this permit; any rule, regulation or order of DEP; or any condition or limitation of any permit issued pursuant to the Clean Streams Law, is subject to criminal and/or civil penalties as set forth in Sections 602, 603, and 605 of the Clean Streams Law.

B. Falsifying Information

Any person who does any of the following:

- Falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit, or

- Knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit (including monitoring reports or reports of compliance or noncompliance),

- Shall, upon conviction, be punished by a fine and/or imprisonment as set forth in 18 Pa.C.S.A. § 4904 and 40 C.F.R. § 122.41(j)(5) and (k)(2).

C. Liability

Nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance pursuant to Section 309 of the Clean Water Act or Sections 602, 603, or 605 of the Clean Streams Law.

Nothing in this permit shall be construed to preclude the institution of any legal action or to relieve the permittee from any responsibilities, liabilities or penalties to which the permittee is or may be subject to under the Clean Water Act and the Clean Streams Law.

D. Need to Halt or Reduce Activity Not a Defense

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. [40 C.F.R. 122.41(c)]

III. OTHER RESPONSIBILITIES

A. Right of Entry

Pursuant to Sections 5(b) and 305 of Pennsylvania's Clean Streams Law, and Title 25 Pa. Code Chapter 92 and 40 C.F.R. § 122.41(i), the permittee shall allow authorized representatives of DEP and EPA, upon the presentation of credentials and other documents as may be required by law:

1. To enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit. [25 Pa. Code 92.51(3)(i) and 40 C.F.R. 122.41(i)(1)]

2. To have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit. [25 Pa. Code 92.51(3)(ii) and 40 C.F.R. 122.41(i)(2)]

3. To inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under this permit. [40 C.F.R. 122.41(i)(3)]

4. To sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act or the Clean Streams Law, any substances or parameters at any location. [40 C.F.R. 122.41(i)(4)]

B. Transfer of Permits

1. Transfers by modification. Except as provided in paragraph 2 of this section, a permit may be transferred by the permittee to a new owner or operator only if this permit has been modified or revoked and reissued, or a minor modification made to identify the new permittee and incorporate such other requirements as may be necessary under the Clean Water Act. [40 C.F.R. 122.61(a)]

2. Automatic transfers. As an alternative to transfers under paragraph 1 of this section, any NPDES permit may be automatically transferred to a new permittee if:

   a. The current permittee notifies DEP at least 30 days in advance of the proposed transfer date in paragraph 2.b. of this section. [25 Pa. Code 92.71a(1) and 40 C.F.R. 122.61(b)(1)]

b. The notice includes the appropriate DEP transfer form signed by the existing and new permittees containing a specific date for transfer of permit responsibility, coverage and liability between them. [25 Pa. Code 92.71(a)(2) and 40 C.F.R. 122.61(b)(2)]

c. If DEP does not notify the existing permittee and the proposed new permittee of its intent to modify or revoke and reissue this permit, the transfer is effective on the date specified in the agreement mentioned in paragraph 2.b. of this section. [25 Pa. Code 92.71a(3) and 40 C.F.R. 122.61(b)(3)]

d. The new permittee is in compliance with existing DEP issued permits, regulations, orders, and schedules of compliance, or that any noncompliance with the existing permits has been resolved by an appropriate compliance action or by the terms and conditions of the permit (including compliance schedule set forth in the permit), consistent with § 92.55 (relating to schedules of compliance) and other appropriate DEP regulations. [25 Pa. Code 92.71a(4)]

3. In the event DEP does not approve transfer of this permit, the new owner or controller must submit a new permit application.

C. Property Rights

The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege. [40 C.F.R. 122.41(g)]

D. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. [40 C.F.R. 122.21(d)]

E. Other Laws

The issuance of this permit does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations.

PART C

I. OTHER REQUIREMENTS

1. If, at anytime, the DEP determines that the discharge permitted herein creates a public nuisance or causes environmental harm to the receiving water of the Commonwealth, the DEP may require the permittee to adopt such remedial measures as will produce a satisfactory effluent. In such event, the permittee shall have the right to appeal or otherwise contest the remedial measures required by the DEP.

2. If the applicable standard or effluent guideline limitation relating to the application for Best Available Technology Economically Achievable (BAT) or to Best Conventional Technology (BCT) is developed by the DEP, or by EPA for this type of industry, and if such standard or limitation is more stringent than the corresponding conditions of this permit (or if it controls pollutants not covered by this permit), then the DEP reserves the right to modify, or to revoke and reissue the permit to conform with that standard or limitation.

3. The wastewaters discharged from Outfalls 001, 002, 003, and 004 into the Schuylkill River Zone 4 of the Delaware Estuary shall at no time cause a film or sheen or discoloration of the Schuylkill River.

4. The following requirements apply with respect to the thermal impact of the discharge from Outfall 002 upon the Delaware River-Zone 4 at the boundary of the assigned thermal mixing zone. The assigned thermal mixing zone for Outfall 002 where in the stream temperature criteria may be exceeded shall consist of an area in the Delaware River defined by a radius of 400 feet from the point of discharge.

   Not more than 5°F above the average daily temperature during the 1961-66 period, which is shown below, or a maximum of 86°F, whichever is less, which temperatures shall be measured outside of designated heat dissipation areas as described in Section 4.30.6F of the Delaware River Basin Commission's (DRBC) Water Quality Regulations.

Average Daily Temperature (1961-1966)
(Temperatures may be interpolated)

Date	Zone 4 Delaware Estuary from Big Timber Creek to Pennsylvania - Delaware State Line
January 1	42
February 1	36
March 1	40
April 1	47
May 1	58
June 1	72
July 1	80
August 1	81
September 1	78
September 15	76
October 1	70
November 1	60
December 1	50
December 15	45

5. The additive and usage rate currently approved are as follows:

Name	Usage Rate Maximum Daily (lbs/day)
Chem Treat CL-240	9
Chem Treat FO-120	9
Chem Station 6583	400
Chem Station 5032	2,800
BPC 55715	400
BPB 59370	90
BPB 59456	100
BPC 67275	285
BPC 67335	6
BPC 68095	226
BPC 68968	4
BPC 68970	233
BPC 60002	227
Y8BH1129	1435
SPC 615 EXP	250
SPC 692	750
NALCO 71 D5 Plus	10
NALCO INOC 7161	12
Rezyd-x	30
Citrikleen	150
Enviro Power Clean	100 gallons/event
Enviro CV Clean	As Needed
Enviro Super Solvent	As Needed
Untied 657 Zyme Flow	As Needed
Zep TNT Product 0376	As Needed
Sodium Hydroxide Sol	As Needed
Phosphoric Acid	As Needed
Sulfuric Acid	As Needed
Citric Acid	As Needed
Chlorine	As Needed
Sunny Sol 150	As Needed

The permittee shall conduct two chronic Whole Effluent Toxicity (WET) tests four weeks apart on plant effluent to evaluate the effect of these chemicals on effluent.

The first test shall be conducted within two weeks from starting use of these chemicals. If any of the WET test shows toxicity greater than 2.0 TUc, a retest shall be performed within 30 days. If the retest shows toxicity of greater than 2.0 TUc, the use of all these newly approved chemicals shall be ceased as soon as possible. The facility then goes back to the previously approved chemicals upon notifying the DEP.

The following chemicals are combined with water to create approximately 32,000 gallons of solution. This solution is used for cleaning of various vessels/equipment at the refinery during turnaround. After cleaning, the wastewater is stored in a Frac Tank and released to the refinery industrial wastewater treatment plant at a rate of 500 gallons per day distributed evenly over a 24-hour period. The approved chemicals are as follows:

ETI-980	Scale Remover	800 lbs
ETI-988L	Oxidizer Stable Scale Remover	1,600 lbs
ETI-927	Ecosolvent	440 gal
ETI-929	Surfacant	72 lbs
ETI-911	Buffer Oxidizer	2,400 lbs
ETI-995	Buffer Solution	1,600 lbs

6. Chemical additives to control corrosion, scaling, algae, slime, fouling or oxygen, etc., and blowdown discharge rates shall be managed by the permittee to ensure that toxic effects in the receiving stream are prevented. These also include substances/compounds added to the wastewater such as polymers, water softeners, flocculents, coagulants, emulsion breakers, dispersants, and oxygen scavengers.

Usage rates shall be consistent with the quantities and rates approved by the DEP and shall be limited to the minimum amount necessary to accomplish the intended purposes of chemical addition.

Accurate usage records (name of additive, quantity added, date added) of any approved chemical additive and blowdown discharge volumes must be maintained on the Chemical Additive Reporting Form and kept on site by the permittee. To the maximum extent possible, sampling and laboratory analytical procedures for these chemicals are to conform with the "Sampling and Analytical Testing Instructions for Industrial Discharges" routinely used for completion of NPDES permit applications.

Whenever a change in chemical additive or increase in usage rates is desired by the permittee, a written notification shall be submitted to the DEP at least sixty (60) days prior to the proposed use of the chemical. All required data must be provided on the form for each new or changed chemical additive or proposed change in the usage rate.

As a minimum, the following information must be provided on the whole product (if data on the whole product is not available, monitoring data for all active ingredients in the product shall be provided):

1. Trade names of additive.
2. Name and address of additive manufacturer.
3. Material Safety Data Sheet (MSDS) or other available information on mammalian or aquatic toxicological effects.
4. Bioassay data, including the 96-hour LC50 on the whole product.
5. Proposed average and maximum additive usage rates in lbs/day.
6. A flow diagram showing the point of chemical addition and the affected outfalls.
7. The expected concentration of the product at the final outfall.
8. The product density for liquids (lb/gal) used to convert usage rate (gpd) to in-system concentrations (mg/l).
9. The analytical test method that could be used to verify final discharge concentrations when the product is in use and the associated minimum analytical detection level (mg/l).
10. Conditioned water discharge rate (blowdown rate) and duration (hours).
11. Available data on the degradation of or decomposition of the additive in the aquatic environment.
12. Any other data or information the permittee believes would be helpful to the DEP in completing its review.

Based on the information presented, the DEP will decide whether specific effluent limitations for one or more active ingredients or other control requirements are necessary. Where necessary, the DEP may establish permit limits, require other controls, or deny use of these chemicals. If the information is complete, use of the proposed chemical additive or usage rate will be considered approved 60 days after the date of notification to the DEP. If the notification is incomplete or the DEP notifies the permittee that the proposed usage rate will cause violations of water quality standards, the permittee will be advised that a permit amendment is required and would likely be denied. All such letters and notifications must be kept on site with the required daily chemical usage data.

Use of products or chemicals that contain one or more ingredients that are carcinogens is generally prohibited. Before proposing limited use of such products or chemicals, the permittee must thoroughly investigate the use of alternative products or chemicals to avoid the use of the carcinogens. If no alternatives are available, the permittee must submit written documentation as part of the information required above, that demonstrates to the satisfaction of the DEP that no suitable alternatives are available and that any carcinogen in the proposed chemical or product will not be detectable in the final effluent using the most sensitive analytical method available. Based on the information presented, the DEP will decide whether specific effluent limitations or other control requirements are necessary for the chemicals, and where necessary, establish permit limits, require other controls or deny use of these chemicals.

7. Analysis for the following pollutant(s) shall be performed using the following test method(s) contained in 40 C.F.R. Part 136, Guidelines Establishing Test Procedures for the Analysis of Pollutants, or any approved test method(s) of equal or greater sensitivity:

Parameter	Test Method
Chromium, Hexavalent	EPA Method 218.4 (AQA, Extractions)
Chromium, Total	218.3 (AA, Extraction)
Zinc, Total	289.2 (AA, Furnace)
Phenolic Compounds	420.2 (AAAP, Auto)
Benzene	602–GC/PID
Toluene	602–GC/PID
Xylene, Total	602–GC/PID
Ethyl Benzene	602–GC/PID

8. The term "total residual oxidants" for water generated through the use of chemical additive is defined as the value obtained using the amperometric method for total residual chlorine described in 40 C.F.R. Section 136. This method is described in Standard Methods as the "amperometric titration" method.

9. If there is a change in ownership of this facility or in permittee name, an application for transfer of permit must be submitted to the DEP.

10. Collected screenings, slurries, sludges, and other solids shall be handled and disposed of in compliance with 25 Pa. Code, Chapters 287, 288, 289, 291, 295, 297, and 299 (relating to general provisions and requirements for landfilling, impoundments, land application, composting, processing, and storage of residual waste), Chapters 261a, 262a, 263a, and 270a (related to identification of hazardous waste, requirements for generators and transporters, and hazardous waste, requirements for generators and transporters, and hazardous waste permit programs) and applicable Federal Regulations, the Federal Clean Water Act, RCRA, and their amendments.

11. Polychlorinated Biphenyls (PCBs) Requirements:

On December 15, 2003, the U.S. EPA Regions 2 and 3 adopted a Total Maximum Daily Load (TMDL) for PCBs for Zones 2, 3, 4, and 5 of the tidal Delaware River. The TMDL requires that the facilities identified as discharging PCBs to the Delaware River prepare and implement a PCB Waste Minimization and Reduction Program also known as Pollution Minimization Plan (PMP). This facility has been identified as a Group 2 discharger. This facility is required to collect and analyze yearly two samples for PCBs utilizing Method 1668A. One sample shall be collected during a dry flow and a second sample shall be collected during wet weather. The sample shall be collected from Outfall 002. Sample collection techniques, identification analytical approaches, and reporting requirements can be found at http:/www.state.nj.us/drbc/PCB_info.htm .

The permittee is also required to submit a PMP within 12 months from the issuance of this permit. For information on how to develop a PMP, go to DRBC's website at http:/www.state.nj.us/drbc/PMP_info.htm . Upon review of the PMP, the permittee will be directed by the DEP to commence implementation of the PMP.

The monitoring information, report, and a copy of the PMP shall be submitted to DEP and DRBC at the following addresses:

PA Department of Environmental Protection
Southeast Regional Office
Waste Management Program
2 East Main Street
Norristown, PA 19401

Delaware River Basin Commission
Operations Branch
P.O. Box 7360
West Trenton, NJ 08628

12. The permittee shall submit the results of whole effluent toxicity testing with their next NPDES application, according to Federal Regulation 122.21(j). The permittee shall obtain the appropriate biomonitoring protocol for the testing from the DEP's Regional Office.

13. Chronic Whole Effluent Toxicity (WET) Monitoring

A. General Requirements

The permittee shall conduct chronic WET tests in accordance with the appropriate test protocols or guidance described in Section D, Test Conditions and Methods, below. The permittee shall collect discharge samples and perform WET tests to generate chronic survival and reproduction data for cladoceran (Ceriodaphnia dubia and survival and growth data for the fathead minnow (Pimephales promelas). These results will be reported as No Observed Effect Concentration (NOEC) and a dose-response curve shall be plotted, if possible.

B. Test Frequency

1. Chronic WET testing shall be conducted quarterly starting within three months of the permit's effective date and continue until four tests have been completed. If all four chronic tests demonstrate a NOEC (No Observed Effect Concentration) greater than TIWCc (Target Instream Waste Concentration chronic) of 17 percent (The TIWCc is the IWCc/1), the permittee may request that the DEP reevaluate the performance of the facility and the effects of the facility effluent upon the aquatic community and reduce or remove the WETT frequency for the remainder of the permit cycle.

2. If any of the quarterly chronic tests result in an NOEC less than the TIWCc of 17 percent, a second WET test is to be completed within 30 days after a failure test result is received in order to confirm that test. If the failure is confirmed, then the permittee shall conduct a Toxicity Identification Evaluation (TIE) to identify the toxic constituents of the effluent. During the period the permittee is conducting the TIE and Toxicity Reduction Evaluation (TRE), WET testing will be conducted semi-annually. This schedule will continue until the toxicants are identified, confirmed, and controlled to acceptable levels through establishment of chemical specific limits or institutional methods. At this point, the permittee may submit a request to the DEP for modification of the permit condition, documenting the changes instituted to achieve the toxicity reduction. Documentation may include, but is not limited to: the results of TIE/TRE, pretreatment program changes, plant operation and maintenance, design changes, or establishment of, and compliance with a chemical limit specific that address the effluent toxicity.

The DEP will decide if the toxicity has been properly addressed based upon the permittee's report and completion of four consecutive WET tests with NOECs greater than the TIWCc of 17 percent, subsequent to institution of the controls specified in the report. If the permittee does not identify the sources of toxicity or adequately control them, a WETT limit, adequate to protect the aquatic community, will be imposed for the next permit cycle.

C. Sample Collection

For each chronic testing event, three 24-hour flow proportioned, composite samples shall be collected over a seven-day exposure period. The samples must be collected at a frequency of not greater than every two hours and flow proportioned. The samples must be collected at the NPDES permit sampling point. The permittee shall collect chemical and physical data on the chronic effluent samples specified in this permit.

D. Test Conditions and Methods

The permittee shall follow DEP's "Biomonitoring WETT Data QA/QC Guidelines for Chronic Toxicity Testing with Amendments, March 20, 1995," attached and included in this permit condition, supplemented by Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, 4th Edition, October 2002 (EPA-821-R-02-013).

The permittee must notify the WETT laboratory to specify the dilution series, which is calculated from and geometric to the TIWCc. The dilution series shall have at least one dilution below the TIWCc included in the development of the linear regression equation. The TIWCc must be obtained from the local the DEP's Regional Office. If the DEP determines that the proper chronic test acceptability criteria are not met or the proper QA/QC conditions were not followed, the permittee must perform a retest within 30 days.

E. Chemical Analysis

The chemistry tests shall include pH, conductivity, total alkalinity, total hardness, total residual chlorine, total ammonia (unionized ammonia), dissolved oxygen, and temperature. Chemical analyses as described in the EPA Methods (above) shall be performed for each sampling event, including each new batch of dilution water and each testing event.

In addition to the chemical analyses required above, those parameters listed in PART A and PART C of the NPDES permit for the outfall(s) tested will be analyzed concurrently with the WET Test by using the method specified in the NPDES permit or, if not specified, by using EPA Methods at 40 C.F.R. Part 136; Standard Methods for the Examination of Water and Wastewater, American Public Health Association; and approved methods cited in 25 Pa. Code, Chapter 16, Water Quality Toxics Management Strategy, Statement of Policy.

F. Chronic Toxicity Test Report Elements

At a minimum, the following must be reported with each chronic WET test:

1. General test description: origin and age of test organisms, dates and results of reference toxicant tests, light and temperature regimes, and other information on test conditions.

2. Completion of Ceriodaphnia dubia and Pimephales promelas coversheets (Forms 3620-FM-WQ0146 3/95 and 3620-FM-W2 145 3/95).

3. Description of sample collection procedures and of the sample location.

4. Names of individuals collecting and transporting samples, times and dates of sample collection and analysis, and temperature of sample upon receipt.

5. Description, time, and date of sample renewals.

6. All chemical and physical data, including method detection levels and observations made on the species. The chronic WET test hardness shall be reported with each test.

7. Copies of raw data sheets and/or bench sheets with data entries and signatures.

8. Dechlorination procedures with test statistical comparisons.

9. All observations or test conditions affecting the test outcome. All Type 1 or Type II errors must be explained.

10. The reference toxicant shall be identified and be a commonly used toxicant approved by EPA. Reports of reference toxicant tests shall include all information needed for the proper evaluation of the test. This includes the following: water chemistry parameters of controls and test concentrations; chronic endpoint with appropriate statistical analyses; and control charts (for point estimates, cumulative mean ± two standards deviations; for NOEC's central tendency ± one for concentration interval).

G. Submission of Test Reports

The permittee shall submit copies of all chronic WET test reports to the DEP at the address listed below within 30 days of the test completion:

Department of Environmental Protection
Southeast Regional Office
Water Quality Protection
2 East Main Street
Norristown, PA 19401

H. Toxicity Identification/Reduction Evaluation

If any of the chronic tests show an NOEC less than the TIWCc of 17 percent, the permittee shall submit a report of the chronic test results and begin to conduct a Toxicity Identification Evaluation/Toxicity Reduction Evaluation (TIE/TRE). The TIE/TRE evaluates the possible causes of the effluent toxicity, the possible sources of the causative agents, possible control options to reduce or eliminate the effluent toxicity, and implementation of controls.

Within 30 days of the chronic test report, the permittee must submit a written report on the results of the TIE/TRE or a schedule for completing the TIE/TRE. The schedule must contain specific time frames for completing major elements of the TIE/TRE. The DEP will review the schedule and respond within 60 days. If the DEP fails to respond within that time period, the permittee may commence with the study in accordance with the submitted schedule.

The TIE/TRE must be conducted in accordance with EPA's guidance in "Methods for Aquatic Identification Evaluations," Phase I (600/3-88/034, September 1988), Phase II (600/3-88/035, February 1989), Phase III (600/3-88/036, February 1989), or current approved TIE/TRE protocols.

14. This permit includes various instantaneous maximum limits for Outfall 002. Some instantaneous maximum limits are tied to a sampling requirement on the part of the permittee, specifically for the parameters: temperature, oil and grease, and pH. The other instantaneous maximum limits are included in the permit to allow for grab sample collection and analysis by the appropriate regulatory agency to assess compliance or noncompliance. The permittee is not required to sample for these additional instantaneous maximum limits. However, if grab samples are collected by the permittee for these parameters normally monitored through 24-hour composite sampling, the permittee must report the analytical results.

15. Operations and Maintenance Plan

The facility operator shall develop and update yearly a treatment facility operations and maintenance plan. Said plan shall be in writing or in an electronic format. Upon request, this plan shall be submitted to DEP for review. For the purpose of this section, a key wastewater process includes equipment or process that if it fails could cause the discharge of raw wastewater, wastewater that fails to meet NPDES permit conditions, or a failure that could threaten human or environmental health. Included in this definition shall also be any piece of equipment or process that if it should fail, would cause the destruction of wastewater treatment process or equipment that would ultimately lead to the discharge of raw wastewater or wastewater that fails to meet NPDES permit conditions or any condition that may threaten human or environmental health. Said plan shall include:

- Process control strategy that includes a schedule for process control sampling, monitoring, testing, and recordkeeping. The process control strategy shall take into account the specific type of treatment system and shall monitor the efficiency of all biological and physical treatment units.
- A monitoring and compliance plan that details how key wastewater processes shall be monitored and adjusted while the facility is staffed. This plan should include standard operating procedures for any staff members that may not be properly certified.
- A monitoring plan that identifies key processes and equipment that indicates how key processes will be monitored while the treatment facility is not staffed.
- For treatment plants that are impacted by wet weather flows, the operator shall develop and implement a wet weather operations strategy that minimizes or eliminates the wash out of solids from the treatment system while maximizing the flow through the treatment plant.

- An emergency operations plan that identifies how the facility will be operated during times of emergency. The plan should define the potential threats to the facility and how those threats are to be dealt with. The plan should be designed to minimize loss of life and property damage to the facility and should include preventative measures where appropriate. This plan shall also include emergency contact numbers for local emergency response, plant personnel, critical suppliers, vendors, and DEP contacts at a minimum. In the development of this plan, a vulnerability assessment of the facility should be conducted and security issues should be addressed as a part of the overall plan. The operator must make the owner aware of potential threats and vulnerabilities.

- A preventative maintenance plan that includes a schedule for preventative maintenance for all equipment within the treatment system. A spare parts inventory shall be included as a part of this plan.

- An emergency maintenance plan that details how key processes will be repaired or replaced in the event of a failure.

- A solids management plan that details how solids produced by the facility will be wasted, treated, and ultimately disposed of.

16. Laboratory Certification

The Environmental Laboratory Accreditation Act of 2002 requires that all environmental laboratories register with the DEP. An environmental laboratory is any facility engaged in the testing or analysis of environmental samples required by a statute administered by the DEP relating to the protection of the environment or of public health, safety, and welfare.

17. The permittee is required to submit an updated Preparedness, Prevention, and Contingency (PPC) Plan within 60 days after the effective date of the permit, and from time to time if the PPC Plan receives major modifications. The PPC Plan shall be submitted to the DEP's Regional Office address listed in paragraph III.B.2. of this permit, and the transmittal shall reference the permit number and facility name listed on page 1 of the permit.

18. a. For the purpose of determining credits for stormwater runoff as contained in the Other Requirement No. 19(b) of this permit, the stormwater flow from the following locations to the industrial wastewater treatment plant (IWWTP) shall be calculated as specified:

Location	Daily Stormwater Flow
North Yard	Based on duration and rate of each pump diverting stormwater from North Yard to the IWWTP that day.
West Yard	Based on duration and rate of each pump diverting stormwater from West Yard to the IWWTP that day.
South Yard (drains directly to the IWWTP)	Use 25 percent of the total South Yard area contributing SWRO directly to the IWWTP. The flow must be calculated based on daily rainfall using the following equation.

Flow in MGD = 0.027 x Process area in acres x daily rainfall in inches.

South Yard (drains to IWWTP via Tank No. 822)	The flowmeter at Tank No. 822 shall be used to measure stormwater flow from Tank No. 822 to IWWTP.

The total daily stormwater flow to the IWWTP is the sum of the stormwater flows from the above four locations.

b. For the purpose of determining credits for intake water as contained in the Other Requirement No. 19(c) of this permit, the intake water flow shall be metered and sampled prior to its distribution in the refineries service water system. The sample shall be collected at the same frequency and whenever possible on the same day as the effluent samples are collected. The samples shall be analyzed for all those pollutants for which a credit will be taken on that day.

19. The intake water, ballast water, and stormwater credits shall be calculated as follows:

a. Ballast water: The quantity of pollutants discharged through ballast water for the purpose of ballast water credit shall be determined by using the values listed in the following table: (No ballast water credits are allowed for the parameters not listed in the table below.)

Parameter	30 Day Average lb/1,000 gallon	Daily Maximum lb/1,000 gallon
BOD_5	0.21	0.4
Chemical Oxygen Demand	2.00	3.9
Total Suspended Solids	0.17	0.26

On any day, the ballast water mass loading credit for the above pollutants shall be calculated by multiplying 30 day average value for that pollutant from the above table times that day's ballast water flow.

b. Stormwater: The quantity of pollutants discharged through stormwater for the purpose of stormwater credit shall be determined by using the values listed in the following table:

(No stormwater credits are allowed for the parameters not listed in the table below.)

Parameter	30 Day Average lb/1,000 gallon	Daily Maximum lb/1,000 gallon
BOD_5	0.22	0.4
Chemical Oxygen Demand	1.5	3.0
Total Suspended Solids	0.18	0.28
Phenols, Total (4AAP)	0.0014	0.0029
Chromium, Total	0.0018	0.005
Chromium, Hexavalent	0.00023	0.00052

On any day, the stormwater mass loading credit for above pollutants shall be calculated by multiplying 30-day average value for that pollutant from the above table times the stormwater flow for that day (stormwater flow must be calculated as specified above in Other Requirement No. 18a).

c. Intake Water: The quality of pollutants discharged through intake water for the purpose of intake water credit shall be determined by multiplying the analytical concentration, as contained in section Other Requirement 18b above, by the measured flow as follows:

Intake Water Credit (lbs/day) = 8.34 x intake water flow in MGD
x concentration of pollutant
(mg/l) in the intake water

20. For purpose of determining compliance with the discharge limitations on pages 3 and 4 for Outfall 002, net effluent values may be reported by calculating the total mass discharged from the IWWTP (Gross mass) less than the mass due to ballast water, stormwater and intake water (as calculated in accordance with Other Requirements 18, above). The following procedures shall be used:

    a. If the total credit exceeds the gross mass, the net mass for that day shall be considered zero.

    b. The average monthly mass for reporting on the DMRs is the arithmetic average of all of the daily net mass values, including zeros.

    c. When sampling and analytical determination is done more frequently than required, all daily determinations must be given equal weight in the calculation of average monthly mass loading.

    d. The calculated net mass loading for a day can be converted into concentration (mg/l) based on the flow on that day. The average monthly concentration is the arithmetic average of these daily net concentrations.

    e. If any day's net mass/concentration exceed the daily maximum permit limits, the permittee may recalculate that day's mass/concentration using the daily maximum values from the tables in Other Requirement No. 19. The recalculated values must be referred to as net daily maximum values on the DMRs. These shall not be used for calculating average monthly.

    f. All calculations used in determining the net values as reported on the DMRs shall be submitted monthly as an attachment to the DMRs (refer to the sample calculation for the credits attached to the permit).

21. The First Stage Oxygen Demand ($CBOD_{20}$) allocation of 2,590 pounds per day is a requirement of the DRBC. The wastewater treatment plant influent sample for BOD_5 percent removal shall be a 24-hour composite sample.

22. The BOD_5 in the raw wastewater shall be reduced by at least 89.25 percent as a monthly average in accordance with the requirements of the DRBC for Zone 4 of the Delaware Estuary as specified below. A 24-hour composite sample shall be collected at the influent to the wastewater treatment plant to calculate the percent removal.

    When influent BOD_5 as a monthly average is less than 100 mg/l attainment of a monthly average effluent limit of 10 mg/l BOD_5 or less, it will be considered compliance with the 89.25 percent zone 4 BOD_5 removal requirement. The permittee shall monitor the influent and effluent BOD_5 twice a week and shall calculate weekly and monthly percent removal achieved by the industrial wastewater treatment plant. When influent BOD_5 as a monthly average is 100 mg/l or higher, the effluent BOD_5 shall be reduced by at least 89.25A percent as a monthly average. The results shall be reported to the DEP with the monthly DMR.

23. This permit may be modified, or revoked and reissued to incorporate effluent limitations based on stream survey and/or modeling work by the DEP relative to the Schuylkill River (Zone 4 Delaware River Estuary).

24. If contaminated stormwater through either of the Outfalls 001, 003, and 004 exceeds 15 mg/l oil and grease or 110 mg/l Total Organic Carbon (TOC), the quantity of pollutants discharged shall not exceed the quantity determined by multiplying the flow of contaminated stormwater times the concentrations listed in the following table:

Parameter	30-day average lbs/1,000 gallons	Daily Maximum lbs/1,000 gallons
BOD_5	0.22	0.40
Total Suspended Solids	0.18	0.28
Chemical Oxygen Demand	1.5	3.0
Oil and Grease	0.067	0.13
Phenolic Compounds (4AAP)	0.0014	0.0029
Chromium, Total	0.0018	0.0050
Chromium, Hexavalent	0.00023	0.00052
pH	Within the range of 6.0-9.0 Standard Units	

The permittee shall collect and hold extra samples from Outfalls 001, 003, and 004 at any time there is a discharge, for use in the event that the initial analysis shows concentrations exceeding TOC and Oil and Grease limitations.

When this condition goes into effect, the loading shall be calculated for each individual day in which the discharge exceeds the referenced concentration limits.

25. The permittee shall report any unanticipated bypass from the Dissolved Air Flotation Unit in accordance with the Section II on page 8 in PART A of the permit. The report shall include reasons of such bypass, duration, and height over the weir. Such bypassing should not occur except under conditions described in PART B, Section I(F) on page 15 of the permit. The bypass shall be sampled for the following parameters:

Parameters	Maximum Daily Bypass Concentration (mg/l)
Flow	Calculated in MGD
BOD_5	Monitor/Report
$CBOD_{20}$	Monitor/Report
Total Suspended Solids	Monitor/Report
Chemical Oxygen Demand	Monitor/Report
Oil and Grease	Monitor/Report
Ammonia as N	Monitor/Report
Sulfide	Monitor/Report
pH	Monitor/Report
Temperature	Monitor/Report
Phenols, Total	Monitor/Report
Chromium, Total	Monitor/Report
Chromium, Hexavalent	Monitor/Report
Total Dissolved Solids	Monitor/Report

26. There shall not be any discharge from the S-10 sump. The sump shall be inspected regularly to ensure no discharge.

27. At Outfall 002, the total dissolved solids (TDS) effluent limitations are subject to the following conditions:

a. The 1,000 mg/l TDS effluent limit is imposed as a "net" monthly average limit. For purposes of reporting compliance with the net limit, the permittee may use a background TDS concentration of 250 mg/l reflective of the average background TDS in the fresh water in-flow. As an alternate method, the permittee may determine the "net" TDS discharged, by collecting TDS measurements of its raw water at the same frequency and at the same time that it takes its effluent TDS measurements, except that these measurements are to be taken during an ebb tidal cycle, with the measurements commencing no sooner than three hours following tide reversal.

b. The 2,000 mg/l maximum daily and 2,500 mg/l instantaneous maximum are gross TDS effluent limits. No changes have been made to these limitations.

c. Any future requirement imposed by the DEP shall supersede this TDS net limitations in so far as it imposes a more stringent treatment criteria.

d. Nothing in this TDS determination shall limit the authority of DRBC to adopt and apply charges or other fees to this discharge or project to compensate for flow augmentation or other actions necessary to compensate for impacts on the Delaware estuary salinity.

Re 30 (AR08)140-1d