

Fact Sheet
March, 2007

BP Products North America Inc.
Whiting Refinery
2815 Indianapolis, Blvd.
Whiting, Indiana 46394
Lake County

A. Introduction

BP Products North America Inc., Whiting Refinery has applied for the renewal of National Pollutant Discharge Elimination System (NPDES) Permit No. IN0000108. This permit regulates the discharge of process wastewater, storm water and non-contact cooling water from Outfalls 001, 002 and 005 at the Whiting, Indiana facility to Lake Michigan and the discharge of storm water through Outfalls 003 and 004 into the Lake George Branch of the Indiana Harbor Ship Canal. The current NPDES permit was issued on March 5, 1990 and expired on February 28, 1995. It is administratively extended due to the submittal of a timely renewal application in accordance with 327 IAC 5-2.

BP Products North America Inc., Whiting Refinery has notified IDEM of their plans to modify the refinery in order to process heavy oil from Canada known as Canadian Extra Heavy Crude Oil (CXHO). The refinery will be modified during the term of this permit.

A five (5) year permit is proposed in accordance with 327 IAC 5-2-6(a).

B. Facility Description

BP Products North America Inc. owns and operates a petroleum refinery located on approximately 1,700 acres in Whiting, East Chicago and Hammond, Indiana near the southern tip of Lake Michigan. The refinery employs approximately 1,300 people and produces a variety of products including gasoline of all grades, diesel fuel, heating fuel, jet fuel, asphalt and coke. The refinery can process up to 420,000 barrels of crude oil per day.

C. Receiving Water, Use Classification and Alternate Mixing Zone

1. Receiving Waters:

Lake Michigan – Lake Michigan is the receiving water for outfalls 001, 002 and 005.

Lake George Branch of the Indiana Harbor Ship Canal – The Lake George Branch of the Indiana Harbor Ship Canal is the receiving water for Outfalls 003 and 004.

The low flow condition of this stream is not relevant since the only discharge to this stream is generated by storm water.

2. Use Classification (327 IAC 2-1.5-19):

Lake Michigan – Lake Michigan is designated as an outstanding state resource water (OSRW) and shall be maintained and protected in its present high quality without degradation in accordance with 327 IAC 2-1.5-4(c). Lake Michigan is also designated for full-body contact recreation and capable of supporting a well-balanced warm water aquatic community. The Indiana portion of the open waters of Lake Michigan is designated as salmonid waters and shall be capable of supporting a salmonid fishery. Lake Michigan is protected by Indiana rules governing water quality standards for the Great Lakes Basin and as such, it is subject to the water quality standards specific to Great Lakes system dischargers as found in 327 IAC 2-1.5, 327 IAC 5-1.5, and 327 IAC 5-2 (see Great Lakes System Discharger Requirements, Section F of the Fact Sheet for more information).

Lake George Branch of the Indiana Harbor Ship Canal – The Lake George Branch of the Indiana Harbor Ship Canal is located within the Great Lakes Basin and is protected by Indiana rules governing water quality standards for the Great Lakes Basin and as such, it is subject to the water quality standards specific to Great Lakes system dischargers as found in 327 IAC 2-1.5, 327 IAC 5-1.5, and 327 IAC 5-2 (see Great Lakes System Discharger Requirements, Section F of the Fact Sheet for more information). The Lake George Branch of the Indiana Harbor Ship Canal is classified as a high quality water that is also a tributary to an OSRW.

3. Alternate Mixing Zone

Under 327 IAC 5-2-11.4(b)(2), except for a zone of initial dilution for acute aquatic criteria, wasteload allocations for discharges to the open waters of Lake Michigan shall be based on meeting water quality criteria in the undiluted discharge unless a mixing zone demonstration is conducted and approved by IDEM under 327 IAC 5-2-11.4(b)(4). If an alternate mixing zone is approved for a discharge to the open waters of Lake Michigan, wasteload allocations shall be based on meeting water quality criteria outside of the applicable alternate mixing zone. Under 327 IAC 5-2-11.4(b)(4)(C), an alternate mixing zone shall not be granted for a discharge into the open waters of Lake Michigan that exceeds the area where discharge-induced mixing occurs.

BP Products submitted an alternate mixing zone demonstration in accordance with 327 IAC 5-2-11.4(b)(4) for a discharge through a submerged diffuser. The demonstration included a site specific study in which the ambient currents at the proposed diffuser location were measured over a 45 day period. Based on the information obtained as part of the site-specific study, BP Products modeled the discharge through the submerged diffuser for sixteen different current directions and the associated average current velocities. They used the U.S. EPA supported mixing zone model CORMIX to determine the dilution that occurs at the edge of the discharge-induced mixing zone.

After reviewing the mixing zone demonstration submitted by BP Products and conducting additional mixing zone modeling using CORMIX, a design case for the diffuser was chosen to calculate the dilution factor under critical conditions. At the

effluent flow of 21.4 MGD, the diffuser will achieve a dilution factor of 37.1:1 at the edge of the discharge-induced mixing zone. The dilution factor is a weighted average that was calculated using the dilution obtained from the CORMIX model for each of the sixteen current directions and the frequency of occurrence of each current direction. The discharge-induced mixing zone will extend a distance of 182 feet from the diffuser and its location will change as the current direction changes. The dilution factor was used in accordance with 327 IAC 5-2-11.4(c) to calculate wasteload allocations for all of the pollutants of concern except for Mercury. A mixing zone for Mercury has not been approved for the BP Products discharge to the open waters of Lake Michigan. The NPDES permit tracking system includes the latitude and longitude associated with each outfall number. Since the location of the discharge is changing by using the diffuser, the outfall number has to be changed to reflect the change in location. The discharge from the diffuser will be designated as Outfall 005.

This alternate mixing zone was evaluated by the Biological Studies Section of the Office of Water Quality of IDEM in accordance with 327 IAC 5-2-11.4(b)(4) to ensure that the mixing zone does not:

1. Interfere with or block passage of fish or aquatic life
2. jeopardize the continued existence of an endangered or threatened species or result in the destruction or adverse modification of such species' habitats
3. extend to drinking water intakes
4. impair or otherwise interfere with the designated uses of the receiving water
5. promote undesirable aquatic life or result in a dominance of nuisance species
6. allow substances to settle to form objectionable deposits
7. allow floating debris, oil, scum, and other matter in concentrations that form nuisances
8. allow objectionable color, odor, taste or turbidity, or
9. cause adverse effects to human health, aquatic life or wildlife.

Pursuant to 327 IAC 5-2-11.4(b)(6), the Commissioner has evaluated all available information, including information submitted by the public, relevant to the consideration of harm to human health, aquatic life, or wildlife, and has determined, based on IDEM's evaluation that is part of the agency record for this permit, that the alternate mixing zone will not cause any of the above-noted adverse impacts. Therefore, the Commissioner approves and grants the application of the alternate mixing zone in accordance with 327 IAC 5-2-11.4(b)(4). Further in accordance with IC 13-18-4-7, the Commissioner has determined that the applicant has demonstrated that the alternate mixing zone will not cause harm to human health or aquatic life.

The evaluation by the IDEM, OWQ Biological Studies Section recommends the following:

1. A comprehensive Toxicity Identification Evaluation and Toxicity Reduction Evaluation should be conducted prior to the diffuser being implemented
2. Careful consideration should be made on the support structure for the diffuser head to avoid creating attractive habitat that would draw aquatic life into the mixing zone
3. A monitoring and preventative maintenance program should be developed that prevents damage or failure of the diffuser heads, and

4. A chemical and biological monitoring program should be implemented that demonstrates the ongoing efficacy of the diffuser operation.

The effluent from the process wastewater treatment plant has demonstrated periodic toxicity. However, the mixing zone will mitigate the toxicity through the quick dispersion and mixing of the effluent. Although there is no longer much concern about the toxicity of the effluent after the diffuser becomes operational, the permit will contain a requirement to test the effluent for chronic toxicity prior to the operation of the diffuser and for chronic toxicity after the diffuser becomes operational. Please see the effluent limitations rationale for Whole Effluent Toxicity (WET) for an explanation of the permit requirements for WET.

IDEM does not possess the authority to adjust the construction of the diffuser head support structure due to Indiana Statute IC 13-14-8-11.6. The statute states that a discharger is not required to obtain a state permit for the modification or construction of a water pollution treatment or control facility if the discharger has an effective NPDES permit.

Part II.B.1 of the permit requires the following: The permittee shall at all times maintain in good working order and efficiently operate all facilities and systems (and related appurtenances) for the collection and treatment which are installed or used by the permittee and which are necessary for achieving compliance with the terms and conditions of this permit in accordance with 327 IAC 5-2-8(8). So the concern regarding the development of a monitoring and preventative maintenance that prevents damage or failure of the diffuser heads is not warranted because BP is required to maintain the diffuser by the permit.

The permit contains effluent monitoring and limitations for the pollutants that are expected to be present and for Whole Effluent Toxicity. The maintenance of the diffuser should maintain the efficacy of the diffuser.

Intake Structure and 316 (b) of the Clean Water Act

The 316(b) study for this facility was approved by the U.S. EPA in June of 1975. This approval is considered valid and effective and shall remain in effect until significant changes are made to the intake structure or until new federal regulations which regulate the intake structure at this facility require a new evaluation of this approval. The following re-opening clause is being included in this permit:

This permit may be modified, or, alternately, revoked and reissued, to comply with any applicable standards, regulations and requirements issued or approved under section 316(b) of the Clean Water Act, if the standards, regulations and requirements so issued or approved contains different conditions than those in this permit.

D. Wastewater Sources and Treatment General Overview of Permitted Outfalls

Outfall 001/Outfall 005

BP Whiting discharges a maximum monthly average of 21.4 million gallons per day of treated wastewater from water used in the refinery, recovered ground water and most of the storm water

from the site through their wastewater treatment plant to Outfall 001. The wastewater treatment plant is an advanced biological treatment system which occupies twenty acres and includes a grit chamber, oil/water separators, dissolved air flotation, an activated sludge plant and final filtering processes. BP also accepts and treats wastewater at the wastewater treatment plant from NiSource Whiting Clean Energy and Ineos PIB Unit (formerly BP Chemical Plant). All on-site remediation ground water is sent to the wastewater treatment plant. Off site BP Facilities such as pipelines and terminals may produce wastewater from tank inspections, from hydro testing of equipment, from dewatering operations of equipment for maintenance, or other wastewater produced from normal operations. The BP Products Refinery facility will treat this wastewater and recover any hydrocarbons as needed. When this discharge is routed through the diffuser located in Lake Michigan, the Outfall number will be changed to 005.

Whiting Clean Energy

Whiting Clean Energy supplies BP with steam and electricity. The closed cycle cooling towers operated by Whiting Clean Energy have a blowdown which is sent to the BP wastewater treatment plant (WWTP). This discharge did not result in any increased effluent limits and it is considered to be within the existing capacity of BP's WWTP.

Ineos

The Ineos facility sends wastewater from a polybutene manufacturing/processing unit (PIB unit) to the BP wastewater treatment plant. The PIB unit has sent their wastewater to the BP WWTP for many years and this wastewater was included in previous NPDES permits. When Ineos became an independently owned facility, the BP WWTP had to be evaluated for being a centralized waste treatment facility (CWT). There is an exclusion from being a CWT found in 40 CFR 437.1(3) which states:

“Wastewater from the treatment of wastes received from off-site via conduit from the facility that generates the wastes unless the resulting wastewaters are commingled with other wastewaters subject to this provision.” Therefore, as long as the wastewater from the PIB unit continues to be delivered to the BP WWTP via pipeline, this exclusion for off-site wastewater delivered by conduit will apply and the BP WWTP is not subject to the CWT regulations.

Outfall 002

BP Whiting discharges a maximum monthly average of 119.6 million gallons per day of non-contact cooling water to Outfall 002. The 119.6 mgd flow value for Outfall 002 represents the maximum monthly average for Nov 1, 1999 to Oct 31, 2001 and was submitted by BP in the April 2002 NPDES Permit Renewal Application Update. BP submitted an additional NPDES Permit Renewal Application Addendum on Nov 3, 2006 to incorporate the addition of the CXHO refinery configuration and the maximum monthly average Outfall 002 flow was revised to 96.4 mgd (pre-CXHO, based on DMR data from Jan 1, 2002 to Dec 31, 2005) and 81.8 mgd (post-CXHO, based on best engineering judgment).

Outfalls 003 and 004

BP Whiting discharges storm water to Outfalls 003 and 004 using a manually controlled valve. When the level of water in the ditch is high, the water is released to the canal. The storm water

is managed through the use of a Spill Prevention, Control and Countermeasure Plan, a Facility Response Plan, and Agreed Order No. H-11187 which defined eight interim measures to be implemented at the J & L site in which Outfalls 003 and 004 are located.

E. Great Lakes System Discharger Requirements

The facility discharges to a water body that has been identified as a water of the state within the Great Lakes system. As such, it is subject to the water quality standards specific to Great Lakes system dischargers as found in 327 IAC 1-1.5, 327 IAC 5-1.5, and 327 IAC 5-2. These rules, effective as of February 13, 1997, prohibit any action resulting in a significant lowering of water quality unless an antidegradation demonstration has been completed by the permittee and approved by the agency. BP Products North America, inc., Whiting Refinery has not increased their production capability since the previous permit was issued. Two new substances, that were not limited in the previous permit, are subject to water quality-based effluent limits and are being limited in this permit due to new analytical methods for Mercury and due to new water quality criteria for Vanadium.

F. Federal Effluent Guideline Requirements

The facility is designated as a major NPDES permitted facility with a SIC code of 2911-Petroleum Refining. The facility is subject to the Water Quality Based Effluent Limitations contained in 327 IAC 2 and 327 IAC 5, and it is subject to the Federal Effluent Guideline in 40 CFR 419. Therefore review and approval of the final permit by the US EPA Region 5 will be required.

According to 40 CFR 122.44 and 327 IAC 5, NPDES permit limits are based on either technology-based limitations, where applicable, best professional judgment (BPJ), or Indiana Water Quality-Based Effluent Limitations (WQBEL's), whichever is most stringent. The decision to limit or monitor the parameters contained in this permit is based on information contained in the permittee's NPDES application, the previous permit, and additional research conducted pursuant to the development of this permit.

- EPA Effluent Guidelines -- Existing Source Standards (BAT/BPT)

The U.S. EPA has established technology-based effluent guidelines for petroleum refining facilities. Since this facility is classified as an "existing point source", all discharges are subject to effluent guidelines identified in 40 CFR 419. The applicable effluent guidelines are as follows on the next three pages:

Outfall 005Effluent Limitations based on the Federal Effluent Guidelines (40 CFR Part 419) for the CXHO Configuration

EPA Process Name	Process Rate 1000 Bbl/day	Weighting Factor	Process Rate/ Feedstock Rate	Unit Process Configuration Factor
Crude Processes				
Atmospheric Crude Distil.	420.0		1	
Crude Desalting	420.0		1	
Vacuum Crude Distillation	240.3		0.572	
Sum	1080.3	1	2.572	2.572
Cracking and Coking Processes				
Fluid Catalytic Cracking	172.0		0.410	
Delayed Coking	102.0		0.243	
Hydroprocessing	441.3		1.051	
Sum	715.3	6	1.703	10.219
Asphalt Processes				
Asphalt Production	33.9			
Sum	33.9	12	0.081	0.969
Reforming and Alkylation Processes				
Sulfuric Acid Alkylation	29.0			
Catalytic Reforming	70.0			
Sum	99.0			
feedstock rate (1,000 Bbl/day)		420.0	Total	13.76

Weighting Factor based on the table in 40 CFR 419.42(b)(3)

Size Factor:

Based on the table in 40 CFR 419.22(b)(1), 419.24(b)(1) = 1,000 BBL of Feedstock per stream day (150.0 or greater), Size Factor = 1.41

Based on the table in 40 CFR 419.22(b)(2), 419.24 (b)(2) = Process Configuration Factor 9.5 or Greater, Process Factor = 1.89

Effluent Limits based on 40 CFR 419.23(c)(1)(i)

Based on 40 CFR 419.23(c)(1)(i) using the CXHO Configuration

Pollutant	Processes Included	Daily Maximum	Monthly Average	Feedstock Rate	Effluent	Limits
		(lbs./1,000 Bbl of Feedstock)	(lbs./1,000 Bbl of Feedstock)	(1,000 Bbl of Feedstock)	Daily Maximum (lbs/day)	Monthly Average (lbs/day)
Phenolic Compounds	Crude	0.013	0.003	1.080.3	14.04	3.24
	Cracking & Coking	0.147	0.036	715.3	105.15	25.75
	Asphalt	0.079	0.019	33.9	2.68	0.64
	Reforming & Alkylolation	0.132	0.032	99	13.07	3.17
	Total				134.94	32.8
Total Chromium	Crude	0.011	0.004	1.080.3	11.88	4.32
	Cracking & Coking	0.119	0.041	715.3	85.12	29.33
	Asphalt	0.064	0.022	33.9	2.17	0.75
	Reforming & Alkylolation	0.107	0.037	99	10.59	3.66
	Total				109.77	38.06
Hexavalent Chromium	Crude	0.0007	0.0003	1.080.3	0.76	0.32
	Cracking & Coking	0.0076	0.0034	715.3	5.44	2.43
	Asphalt	0.0041	0.0019	33.9	0.14	0.06
	Reforming & Alkylolation	0.0069	0.0031	99	0.68	0.31
	Total				7.01	3.13

Calculation of BPT, BAT and BCT Limitations using the CXHO Configuration

(a) Based on 40 CFR 419.22(a) and 419.24(a); (b) Based on 40 CFR 419.23(c)(1)(i)

Pollutant	Type of Effluent Limitation	Daily Maximum	Monthly Average	Size Factor	Process Factor	Feedstock Rate 1,000 Bbl of Feedstock	Effluent Limitations BPT, BAT & BCT		Other BAT Limits (b)		Controlling Effluent Limitations	
		Lbs/1,000	Lbs/1,000				Daily	Monthly	Daily	Monthly	Daily	Monthly
		Bbl of Feedstock	Bbl of Feedstock				Maximum Lbs/day	Average Lbs/day	Maximum Average Lbs/day	Maximum Average Lbs/day	Maximum Average Lbs/day	Average Lbs/day
BOD5	BPT, BCT	9.9	5.5	1.41	1.89	420.0	11,080.65	6,155.92			11,081	6,156
TSS	BPT, BCT	6.9	4.4	1.41	1.89	420.0	7,722.88	4,924.74			7,723	4,925
COD	BPT, BAT	74	38.4	1.41	1.89	420.0	82,825.09	42,979.51			82,825	42,980
Oil and Grease	BPT, BCT	3	1.6	1.41	1.89	420.0	3,357.77	1,790.81			3,358	1,791
Phenolic Compounds	BPT	0.074	0.036	1.41	1.89	420.0	82.83	40.29	134.94	32.8	82.8	32.8
Ammonia as N	BPT, BAT	6.6	3	1.41	1.89	420.0	7,387.1	3,357.77			7,387	3,358
Sulfide	BPT, BAT	0.065	0.029	1.41	1.89	420.0	72.75	32.46			72.8	32.5
Total Chromium	BPT	0.15	0.088	1.41	1.89	420.0	167.89	98.49	109.77	38.06	109.8	38.1
Hex. Chromium	BPT	0.012	0.0056	1.41	1.89	420.0	13.43	6.27	7.01	3.13	7.01	3.13

- Indiana Water Quality Based Effluent Limits (WQBELs)

The water quality-based effluent limitations for this facility are based on water quality criteria in 327 IAC 2-1.5-8 or under the procedures described in 327 IAC 2-1.5 and implementation procedures in 327 IAC 5. Limitations and/or monitoring are required for parameters identified by applications of the reasonable potential to exceed WQBEL under 327 IAC 5-2-11.4 through 327 IAC 5-2-11.7.

- Narrative Water Quality Based Limits

The narrative water quality criteria contained in 327 IAC 2-1.5-8 have been included in this permit to ensure that the narrative water quality criteria are met.

- Numeric Water Quality Based Limits

The numeric water quality criteria and values contained in this permit have been calculated using the tables of water quality criteria under 327 IAC 2-1.5-8 and calculated in accordance with 327 IAC 2-1.5-12.

G. Effluent Limitations, Sampling, and Monitoring Requirements

Outfall 001 without an Alternate Mixing Zone

DISCHARGE LIMITATIONS

TABLE I

Numeric Discharge Limitations, Sampling, and Monitoring Requirements

Parameter	Quantity or Loading		Units	Quality or Concentration		Units	Monitoring Requirements	
	Monthly Average	Daily Maximum		Monthly Average	Daily Maximum		Measurement Frequency	Sample Type
Flow	Report	Report	MGD	----	----	----	Daily	24-Hr. Total
TBOD₅	4,161	8,164	lbs/day	Report	Report	mg/l	1 x Weekly	24 Hr. Comp.
TSS	3,646	5,694	lbs/day	Report	Report	mg/l	2 x Weekly	24 Hr. Comp.
COD	30,323	58,427	lbs/day	Report	Report	mg/l	1 x Weekly	24 Hr. Comp.
Oil and Grease	1,368	2,600	lbs/day	Report	Report	mg/l	1 x Weekly	Grab
Ammonia as N								
Interim	1,030	2,060	lbs/day	Report	Report	mg/l	5 x Weekly	24 Hr. Comp.
Final	88	196	lbs/day	0.49	1.1	mg/l	5 x Weekly	24 Hr. Comp.
Benzo(a)pyrene								
Interim	Report	Report	lbs/day	Report	Report	ng/l	1 x Monthly	24 Hr. Comp.
Final	0.017	0.041	lbs/day	96	230	ng/l	1 x Weekly	24 Hr. Comp.
Chloride								
Interim	Report	Report	lbs/day	Report	Report	mg/l	1 x Monthly	24 Hr. Comp.
Final	33,575	67,508	lbs/day	188	378	mg/l	1 x Weekly	24 Hr. Comp.
Total Chromium								
Interim	23.9	68.53	lbs/day	Report	Report	mg/l	1 x Weekly	24 Hr. Comp.
Final	18	37	lbs/day	0.1	0.2	mg/l	1 x Weekly	24 Hr. Comp.
Hex. Chromium								
Interim	2.01	4.48	lbs/day	Report	Report	mg/l	1 x Weekly	24 Hr. Comp.
Final	1.6	3.2	lbs/day	0.009	0.018	mg/l	1 x Weekly	24 Hr. Comp.
Total Copper								
Interim	Report	Report	lbs/day	Report	Report	mg/l	1 x Monthly	24 Hr. Comp.
Final	1.8	3.6	lbs/day	0.01	0.02	mg/l	1 x Weekly	24 Hr. Comp.
Total Dissolved Solids								
Interim	Report	Report	lbs/day	Report	Report	mg/l	1 x Monthly	24 Hr. Comp.
Final	109,655	220,025	lbs/day	614.0	1,232.0	mg/l	1 x Weekly	24 Hr. Comp.
Fluoride								
Interim	Report	Report	lbs/day	Report	Report	mg/l	1 x Monthly	24 Hr. Comp.
Final	146	286	lbs/day	0.82	1.6	mg/l	1 x Weekly	24 Hr. Comp.
Total Lead								
Interim	Report	Report	lbs/day	Report	Report	mg/l	1 x Monthly	24 Hr. Comp.
Final	1.4	2.9	lbs/day	0.0081	0.016	mg/l	1 x Weekly	24 Hr. Comp.
Total Mercury								
Interim	Report	Report	lbs/day	Report	Report	ng/l	2 x Yearly	Grab
Final	0.00023	0.00057	lbs/day	1.3	3.2	ng/l	6 x Yearly	Grab
Phenolics (4AAP)	20.33	73.01	lbs/day	Report	Report	mg/l	1 x Weekly	24 Hr. Comp.
Phosphorus	Report	Report	lbs/day	Report	1.0	mg/l	1 x Weekly	24 Hr. Comp.
Total Selenium								
Interim	Report	Report	lbs/day	Report	Report	mg/l	1 x Monthly	24 Hr. Comp.
Final	0.73	1.5	lbs/day	0.0041	0.0082	mg/l	1 x Weekly	24 Hr. Comp.

Parameter	Quantity or Loading			Quality or Concentration			IN0000108 Monitoring Requirements	
	Monthly	Daily	Units	Monthly	Daily	Units	Measurement	Sample
	Average	Maximum		Average	Maximum		Frequency	Type
Total Strontium								
Interim	Report	Report	lbs/day	Report	Report	mg/l	1 x Monthly	24 Hr. Comp.
Final	125	250	lbs/day	0.7	1.4	mg/l	1 x Weekly	24 Hr. Comp.
Sulfate								
Interim	Report	Report	lbs/day	Report	Report	mg/l	1 x Monthly	24 Hr. Comp.
Final	36,611	73,401	lbs/day	205.0	411.0	mg/l	1 x Weekly	24 Hr. Comp.
Sulfide	23.1	51.4	lbs/day	Report	Report	mg/l	1 x Weekly	24 Hr. Comp.
Total Vanadium								
Interim	Report	Report	lbs/day	Report	Report	mg/l	1 x Monthly	24-Hr. Comp.
Final	1.8	3.6	lbs/day	0.0098	0.02	mg/l	1 x Weekly	24 Hr. Comp.
Whole Effluent Toxicity								
Interim								
Acute	-	-	-	-	Report	TUa	2 x Yearly	
Chronic	-	-	-	Report	-	TUc	2 x Yearly	
Final								
Acute	-	-	-	-	1.0	TUa	2 x Yearly	
Chronic	-	-	-	1.0	-	TUc	2 x Yearly	
pH	-	-	-	-	[1]	s.u.	3 x Weekly	Grab

[1] The pH of the effluent shall be no less than 6.0 and no greater than 9.0 standard units (s.u.).

The interim and final effluent limitations and monitoring requirements for Outfall 001 are based on not having an alternate mixing zone. These requirements are being placed in the permit to ensure that all possible discharge scenarios are covered. BP Products North America intends to install a high rate diffuser for Outfall 001 in order to create an alternate mixing zone in Lake Michigan in accordance with 327 IAC 5-2-11.4(b).

Flow

This parameter is required of all NPDES permits and is included in this permit in accordance with 327 IAC 5-2-13(a)(2).

BOD₅, TSS, COD, Oil and Grease, Sulfide and Phenolics (4AAP)

The effluent limitations for the above noted parameters have been retained from the previous permit in accordance with 327 IAC 5-2-10(11) commonly referred to as anti-backsliding. These pollutants do not have water quality criterion and therefore, they do not have water quality based effluent limits (WQBELs).

Ammonia as N, Total Chromium and Hex. Chromium

The interim effluent limitations for the above noted parameters are based on the federal effluent guidelines for Petroleum Refining Point Source Category (40 CFR Part 419) except for ammonia. The interim limits for ammonia were established when permit No. IN0000108 was reissued on Dec 22, 1975 (see Appendix I in November 30, 2006 BP Case-By-Case Antidegradation Analysis). The final effluent limitations for Total Chromium, Hexavalent Chromium and Ammonia are based on Indiana water quality criterion.

Benzo(a)pyrene, Chloride, Copper, Total Dissolved Solids, Fluoride, Lead, Mercury, Selenium, Strontium, Sulfate and Vanadium

These pollutants have been found in the effluent in quantities that show a reasonable potential to exceed water quality standards based on the procedures found in 327 IAC 5-2-11.5. Therefore, the permit will include final effluent limitations for these pollutants that will become effective at the end of a three year schedule of compliance. During the interim period, they will be sampled in the effluent on a monthly basis except for Mercury which will be monitored on a semi-annual basis. If these effluent limits become final limits, the monitoring frequency shall be increased to once each week except for Mercury which will be monitored once every two months. BP is being given three months from the effective date of the permit to begin monitoring for these parameters.

Schedule of Compliance

BP is being given a schedule of compliance to either install the diffuser to create an alternate mixing zone with effluent limits based on the alternate mixing zone or to install the treatment system necessary to achieve compliance with the final effluent limitations for Ammonia as N, Benzo A Pyrene, Chloride, Total Chromium, Hex. Chromium, Total Copper, TDS, Fluoride, Total Lead, Total Selenium, Strontium, Sulfate and Whole Effluent Toxicity at Outfall 001 based on water quality standards calculated without a mixing zone. BP is being given three years to install either the diffuser or additional treatment.

Fecal Coliform

Fecal Coliform will not be limited and monitored at this outfall because all of the sanitary wastewater is now sent to the City of Whiting for treatment.

Phosphorus

Phosphorus is added to the wastewater treatment plant as a micro-nutrient. BP has demonstrated that they can consistently achieve a concentration below 1 mg/l and a removal efficiency that averages 79%. The ability to accurately measure the percent removal efficiency is severely limited, so the requirement to measure the percent removal is being waived. The effluent shall be limited to a daily maximum concentration of 1 mg/l. The effluent limitation of 1.0 mg/l for Phosphorus represents the Best Available Treatment based on the Best Professional Judgment of IDEM in accordance with 327 IAC 5-5-2.

Total Residual Chlorine

Total Residual Chlorine will not be limited and monitored at this outfall because all of the sanitary wastewater is now sent to the City of Whiting. Chlorine will not be added to disinfect the discharge

Whole Effluent Toxicity (WET)

BP Products conducted several acute and chronic WET tests to provide data for the renewal of their NPDES permit. There is a RPE for acute and chronic WET when there is not an approved alternate mixing zone. BP is required to continue to monitor the

effluent from Outfall 001 for Acute and Chronic Toxicity until the diffuser is operational and then BP will only be required to monitor the effluent from Outfall 005 for chronic toxicity. After the alternate mixing zone has become operational, if chronic toxicity is observed by having more than 38 Toxic Units Chronic, the toxicity reduction evaluation will be initiated to determine the cause of the toxicity and to reduce or eliminate the source of the toxicity.

pH

This parameter is required of all NPDES permits and is included in this permit in accordance with 327 IAC 2-1.5-8(c)(2). pH must be maintained between 6 to 9 standard units. The effluent shall be sampled 3 x weekly using a grab sample.

Outfall 005 (formerly Outfall 001) with an Alternate Mixing Zone

DISCHARGE LIMITATIONS

TABLE I

Numeric Discharge Limitations, Sampling, and Monitoring Requirements

<u>Parameter</u>	<u>Quantity or Loading</u>		<u>Units</u>	<u>Quality or Concentration</u>		<u>Units</u>	<u>Monitoring Requirements</u>	
	<u>Monthly Average</u>	<u>Daily Maximum</u>		<u>Monthly Average</u>	<u>Daily Maximum</u>		<u>Measurement Frequency</u>	<u>Sample Type</u>
Flow	Report	Report	MGD	----	----	----	Daily	24-Hr. Total
TBOD₅	4,161	8,164	lbs/day	Report	Report	mg/l	1 x Weekly	24 Hr. Comp.
TSS	4,925	7,723	lbs/day	Report	Report	mg/l	2 x Weekly	24 Hr. Comp.
COD	30,323	58,427	lbs/day	Report	Report	mg/l	1 x Weekly	24 Hr. Comp.
Oil and Grease	1,368	2,600	lbs/day	Report	Report	mg/l	1 x Weekly	Grab
Phenolics (4AAP)	20.33	73.01	lbs/day	Report	Report	mg/l	1 x Weekly	24 Hr. Comp.
Ammonia as N	1,584	3,572	lbs/day	Report	Report	mg/l	5 x Weekly	24 Hr. Comp.
Sulfide	23.1	51.4	lbs/day	Report	Report	mg/l	1 x Weekly	24 Hr. Comp.
Total Chromium	23.9	68.53	lbs/day	Report	Report	mg/l	1 x Weekly	24 Hr. Comp.
Hex. Chromium	2.01	4.48	lbs/day	Report	Report	mg/l	1 x Weekly	24 Hr. Comp.
Total Vanadium								
Interim	Report	Report	lbs/day	Report	Report	mg/l	1 x Monthly	24-Hr. Comp.
Final	50	100	lbs/day	0.28	0.56	mg/l	1 x Monthly	24-Hr. Comp.
Total Mercury								
Interim	Report	Report	lbs/day	Report	Report	ng/l	2 x Yearly	Grab
Final	0.00023	0.00057	lbs/day	1.3	3.2	ng/l	6 x Yearly	Grab
Phosphorus	Report	Report	lbs/day	Report	1.0	mg/l	1 x Weekly	24 Hr. Comp.
Whole Effluent Toxicity								
Chronic	-	-	-	Report	-	TUc	2 x Yearly	
pH	-	-	-	-	[1]	s.u.	3 x Weekly	Grab

[1] The pH of the effluent shall be no less than 6.0 and no greater than 9.0 standard units (s.u.).

Flow

This parameter is required of all NPDES permits and is included in this permit in accordance with 327 IAC 5-2-13(a)(2).

BOD₅, COD, Oil and Grease, Phenolics (4AAP), Total Chromium, Hex. Chromium and Sulfide

The Loading effluent limitations for the above noted parameters have been retained from the previous permit in accordance with 327 IAC 5-2-10(11) commonly referred to as anti-backsliding. BP North America has indicated that it is not necessary to request an increase in the loading effluent limitations for these parameters.

Vanadium and Mercury

Vanadium and Mercury have been found in the effluent in quantities that show a reasonable potential to exceed water quality standards based on the procedures found in 327 IAC 5-2-11.5. Therefore, the permit will include final effluent limitations for these pollutants that will become effective at the end of a five year schedule of compliance. During the interim period, Vanadium will be sampled in the effluent on a monthly basis and Mercury will be monitored on a semi-annual basis. The effluent limitations for Mercury and Vanadium are water quality based effluent limits.

Fecal Coliform

Fecal Coliform will not be limited and monitored at this outfall because all of the sanitary wastewater is now sent to the City of Whiting for treatment.

Phosphorus

Phosphorus is added to the wastewater treatment plant as a micro-nutrient. BP has demonstrated that they can consistently achieve a concentration below 1 mg/l and a removal efficiency that averages an estimated 79%. The ability to accurately measure the percent removal efficiency is severely limited, so the requirement to measure the percent removal is being waived. The effluent shall be limited to a daily maximum concentration of 1 mg/l.

Total Residual Chlorine

Total Residual Chlorine will not be limited and monitored at this outfall because all of the sanitary wastewater is now sent to the City of Whiting. Chlorine will not be added to the discharge to disinfect the discharge.

Whole Effluent Toxicity

There is not a calculated RPE for WET when there is an alternate mixing zone. BP is required to continue to monitor the effluent from Outfall 001 for Chronic Toxicity. If chronic toxicity is observed by having more than 38 Toxic Units Chronic, then a toxicity reduction evaluation (TRE) will be initiated to determine the cause of the toxicity and to reduce or eliminate the source of the toxicity.

pH

This parameter is required of all NPDES permits and is included in this permit in accordance with 327 IAC 2-1.5-8(c)(2). pH must be maintained between 6 to 9 standard units. The effluent shall be sampled 3 x weekly using a grab sample.

Antidegradation Evaluation for TSS and Ammonia as N

During the permit development period, BP Products North America requested that the effluent limits for TSS and Ammonia be increased due to material and substantial changes at the refinery. Regardless of the fact that these increases will be allowed by 327 IAC 5-2-10(11) [anti-backsliding] due to substantial changes at the refinery, the increases must be in compliance with 327 IAC 5-2-11.7 (Antidegradation Implementation Procedures for Outstanding State Resource Waters).

The provision of 5-2-11.7 that can be used to allow an increase in the pollutant loading to Lake Michigan in this instance is 5-2-11.7(a)(1)(B)(iv). 5-2-11.7(a)(1)(B)(iv) allows the increase to be calculated on a case-by-case basis when the proposed increase in mass is not a result of an increase in discharge flow. The rules do not provide any guidance for determining the appropriate increase in mass when the increase is not a result of an increase in flow.

IDEM met with representatives of BP North America on October 4, 2006 to discuss how to implement 5-2-11.7(a)(1)(B)(iv). IDEM required BP North America to conduct an Antidegradation Analysis which evaluated the social and economic benefits, alternate wastewater treatment and the expected effluent quality after the refinery is reconfigured to process the CXHO. BP North America must demonstrate that all economically and technically feasible measures have been taken to avoid the action that will result in the new or increased discharge of the pollutant or pollutant parameter including a demonstration that it is not feasible to limit the new or increased discharge to a temporary or short term period. BP North America must demonstrate that any increase in pollutant loading is necessary. The new or increased pollutant loading shall be limited to the minimum necessary to allow the action to occur. The Commissioner has determined that BP has met these requirements, based on the facts described below. As a result, the increased limits requested are consistent with the provisions of 5-2-11.7(a)(1)(B)(iv), and those limits have been incorporated into the permit.

BP North America submitted their Case-by-Case Antidegradation Analysis on November 30, 2006. BP North America concluded that the effluent limits for Total Suspended Solids (TSS) and ammonia as N need to be increased due to significant increases in the influent loading of ammonia and TSS to the wastewater treatment plant. All other pollutant limitations currently in their NPDES permit will remain as they are in the current NPDES permit. IDEM contacted BP North America by phone on December 8, 2006 to provide some feedback on the initial review of the antidegradation analysis submitted on November 30th. IDEM asked BP North America to provide a better explanation of the expected effluent quality for ammonia as N and to state why they had not considered any upgrades to their wastewater treatment plant to enhance its ammonia removal capabilities.

On December 12th, BP North America responded to the request by IDEM to further explain why they could not enhance their wastewater treatment plant to enhance its ammonia removal abilities and to provide a better explanation of the expected effluent quality for ammonia as N by providing an addendum to the Case-by-Case Antidegradation Analysis. BP North America

stated that they do not have the space available at the Whiting refinery to expand their wastewater treatment plant to further enhance its ability to remove ammonia from the wastewater.

BP provided an explanation of their rationale for needing to increase the final effluent limits for ammonia as N as follows:

BP studied the influent and effluent values for ammonia at their Whiting refinery for the period from 2001 to 2005 to determine the long-term average influent and effluent. The influent has a long-term averaging influent loading of 1,668 lbs/day based on a review of operational data from 2003 to 2005 and the wastewater treatment plant has a long-term average removal rate of 70 %. The majority of the new ammonia influent loading will come from the sour water stripper bottoms. To determine the long-term average effluent loading, all of the estimated and known ammonia influent loading values were added up and the conservative 70% removal rate was used to estimate the ammonia effluent loading.

In the addendum to the Case-by-Case Antidegradation Analysis submitted on December 12th, BP enhanced their rationale for the estimated increase in the influent ammonia from the sour water stripper bottoms to account for the increase in the ammonia concentration leaving the sour water stripper bottoms. In the original antidegradation analysis, BP estimated that the ammonia influent loading from sour water stripper bottoms would increase from 248 lbs/day to 900 lbs/day based on the increased flow from the sour water stripper bottoms (3.6 MGD x 8.34 x 30 mg/l = 900 lbs/day). This increased loading does not appear to account for the increase in the concentration from 30 mg/l to 80 mg/l in the sour water stripper bottoms. In the addendum to the Case-by-Case Antidegradation Analysis, BP estimates the influent ammonia loading from the sour water stripper bottoms to be 2,402 lbs/day based on the concentration going from 30 mg/l to 80 mg/l. The estimated ammonia influent loading increase due to the CXHO configuration and the increase in the concentration of ammonia from the sour water stripper bottoms is 2,402 lbs/day – 248 lbs/day = 2,154 lbs/day.

The estimated influent ammonia loading to the WWTP will be $2,154 + 1668 = 3,822$ lbs/day. The estimated long term average effluent ammonia loading using the average ammonia removal rate of 70%, will be 1,147 lbs/day.

The application of statistics to develop a monthly average effluent limit which should be achieved 95% of the time and a daily maximum effluent limit which should be achieved 99% of the time results in a monthly average effluent limit for ammonia as N of 1,584 lbs/day and a daily maximum effluent limit of 3,572 lbs/day. This rationale is based on Section 5.5.4. of EPA's Technical Support Document for Water Quality-based Toxic Control (EPA/505/2-90-001) when developing a permit limit based on probability. As stated in this section, "the probability levels for deriving permit limits have been used historically in connection with development of the effluent limits guidelines and have been upheld in legal challenges to the guidelines."

To account for the possibility that the estimated effluent loading of ammonia as N is greater than anticipated, the permit will include a re-opening clause that allows BP to adjust the monthly average and daily maximum effluent limits using actual effluent data after the refinery has been re-configured to process the CXHO. The demonstration, made in accordance with 327 IAC 5-2-11.7(a)(1)(B)(iv), that the increased discharge limits for ammonia are necessary and that the action responsible for the increased discharge of ammonia provides social or economic benefits

to the area in which the discharge occurs has been made. Therefore, it is not necessary to make the same demonstration that the increased permit limits are necessary and that they provide social or economic benefits again for the same action which resulted in the increased discharge limitations for ammonia contained in this permit. The demonstration to satisfy the provision of 327 IAC 5-2-10(11)(B)(i) that the increased discharge limits for ammonia are the result of material and substantial alternations or additions to the facility has been made. Therefore, it is not necessary to make the same demonstration again for the same action which resulted in the increased discharge limitations for ammonia contained in this permit. However, the permittee must demonstrate that any proposed increase in effluent limits for ammonia is due to new information that was not available at the time of this permits issuance. The following re-opening clause will be included in the permit:

This permit may be modified, or alternately, revoked and reissued, after public notice and opportunity for hearing:

3. to incorporate increased monthly average and daily maximum effluent limitations for ammonia as N for Outfall 005 based on a 95th Percentile Probability Basis for the monthly average and a 99th Percentile Probability Basis for the daily maximum using effluent data after the refinery has been re-configured to process Canadian Extra Heavy Crude Oil. The permittee is not required to make a new demonstration, under 327 IAC 5-2-11.7, that the discharge is necessary and that it supports social or economic development in the area of the discharge. It is also not necessary to support the provisions in 327 IAC 5-2-10(11)(B)(i) for any proposed increase in the effluent limitations for ammonia that is attributable to the same action which resulted in the increased discharge limitations for ammonia contained in this permit. The permittee must demonstrate that any proposed increase in effluent limits for ammonia is based on new information that was not available at the time of this permits issuance. The increased discharge limits shall be limited to the minimum necessary and must comply with the more stringent of effluent limitation guidelines and water quality standards.

The effluent limits for Total Suspended Solids (TSS) need to be increased due to the increase in solids to the WWTP from the increased coking and desalting. BP North America will be implementing a brine treatment system at the pipe stills and will also be upgrading the final filters at the WWTP. The maximum monthly average effluent loading of TSS is 2,975 lbs/day and the existing monthly average effluent limit is 3,646 lbs/day. BP North America utilized data from their Toledo refinery, which processes CXHO crude to demonstrate that the TSS effluent loading has the potential to increase by as much as 654%. Therefore the TSS limits will be increased to the limits based on the federal effluent guidelines using the CXHO configuration: 4,925 lbs/day as the monthly average and 7,723 lbs/day as the daily maximum.

Bypass of the Diffuser

BP does not anticipate the need to utilize a routine bypass of the diffuser (Outfall 005). The sump and pump system for the discharge of effluent through the diffuser has been engineered to allow the performance of any routine maintenance for the sluice gates without having to bypass the diffuser Outfall 005. Adequate pumping and design capacities have been included in the engineering scope of work to minimize/eliminate

any diffuser bypass due to pump maintenance activities. In addition, annual routine inspections of the diffuser pipeline and diffuser header (including ports and risers) will be conducted to ascertain any anomalies and/or damage while the diffuser is in operation (i.e., no bypass is necessary for inspection). However, there may be occasion where results of the inspection indicate a bypass is needed for emergency repairs or replacement of damaged parts of the diffuser, pumping system, or pipeline operating system. If such an emergency occurs and a short term bypass is needed, treated process wastewater flows will be routed back to their present (pre-diffuser) discharge location at the shoreline of Lake Michigan via Outfall 001. Permit limitations for Outfall 005 will remain in effect for the duration of the bypass. In accordance with Part II.B.2, BP will notify IDEM when the bypass is about to occur, no later than 10 days prior to the bypass, if possible. BP will provide a report to IDEM after the discharge is once again sent through the diffuser Outfall 005 which describes the length of the bypass and any adverse impacts observed during the bypass. BP will do everything feasibly possible to try to perform any repairs and replacements while the diffuser remains in operation, however it is possible that some repairs and replacements will warrant a bypass of the effluent flow from the diffuser Outfall 005 to Outfall 001.

Outfall 002

TABLE I
Numeric Discharge Limitations, Sampling, and Monitoring Requirements

<u>Parameter</u>	<u>Quantity or Loading</u>		<u>Units</u>	<u>Quality or Concentration</u>			<u>Monitoring Requirements</u>	
	<u>Monthly Average</u>	<u>Daily Maximum</u>		<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Units</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Flow	Report	Report	MGD	----	----	----	Daily	24-Hr. Total
TOC (Intake)	-	-	-	Report	Report	mg/l	1 x Yearly	Grab
TOC (Discharge)	-	-	-	Report	Report	mg/l	1 x Yearly	Grab
TOC (Net)	-	-	-	Report	5.0	mg/l	1 x Yearly	Grab
Total Residual Chlorine	20.0	60.0	lbs/day	0.01	0.02	mg/l	1 x Weekly	Grab
Oil and Grease	-	-	-	Report	5.0	mg/l	1 x Monthly	Grab
Temperature								
Intake	-	-	-	Report	Report	BTU/Hour	5 x Weekly	Hourly
Discharge	-	-	-	Report	Report	BTU/Hour	5 x Weekly	Hourly
Net (daily average)	-	-	-	1.7×10^9	2×10^9	BTU/Hour	5 x Weekly	Hourly
pH	-	-	-	-	[1]	s.u.	3 x Weekly	Grab

[1] The pH of the effluent shall be no less than 6.0 and no greater than 9.0 standard units (s.u.).

Flow

This parameter is required of all NPDES permits and is included in this permit in accordance with 327 IAC 5-2-13(a)(2).

Total Organic Carbon TOC

The limitation for TOC is based on the U.S. EPA effluent guidelines 40 CFR Part 419.43(e) for discharges of once through non-contact cooling water. TOC shall be limited on a net basis in accordance with 327 IAC 5-2-11(f). This limitation is identical to the limitation in the existing permit. This limit has never been exceeded, therefore the monitoring frequency has been reduced to 1 x Yearly which is the minimum monitoring frequency allowed.

Oil and Grease

The requirement to have no oil and grease greater than 5 mg/l is a technology based effluent limit developed in accordance with 327 IAC 5-5-2 recognizing that there should be no oil and grease introduced into the once-through cooling water. This parameter was a net limit in the previous permit but the reported data has established that the intake does not contain any oil and grease which makes the net limit approach unnecessary. The reported data has never shown the presence of oil and grease, therefore the monitoring frequency has been reduced to 1 x Monthly.

Total Residual Chlorine

The water quality based effluent limitation for continuous total residual chlorine is based on the water quality standards in 327 IAC 2-1.5-8, Table 8-1.

The water quality based effluent limits for chlorine are less than the limit of quantitation (LOQ) of 0.06 mg/l. In accordance with 327 IAC 5-2-11.6(h), the permittee will be considered to be in compliance with the WQBELs if the effluent concentrations measured are less than the LOQ of 0.06 mg/l.

<u>Parameter</u>	<u>Test Method</u>	<u>LOD</u>	<u>LOQ</u>
Chlorine	4500-Cl-D	0.02 mg/l	0.06 mg/l
	4500-Cl-E	0.02 mg/l	0.06 mg/l
	4500-Cl-G	0.02 mg/l	0.06 mg/l

Case-Specific LOD/LOQ

The permittee may determine a case-specific LOD or LOQ using the analytical method specified above, or any other test method which is approved by the Commissioner prior to use. The LOD shall be derived by the procedure specified for method detection limits contained in 40 CFR Part 136, Appendix B, and the LOQ shall be set equal to 3.18 times the LOD. Other methods may be used if first approved by the Commissioner. BP has submitted their procedure/program for minimizing the amount of chlorine being discharged, therefore the requirement to submit a pollutant minimization program will not be included in the permit.

Temperature

The net temperature shall be calculated by subtracting the temperature value of the intake water from the temperature value of the gross discharge every hour and averaging those values over the 24 hours of each day when sampling occurs. These alternate limits were developed as a part of the 316(a) approval given to the previous owner of this facility (Amoco Oil Company) on June 16, 1975 by the U.S. EPA.

pH

This parameter is required of all NPDES permits and is included in this permit in accordance with 327 IAC 2-1.5-8(c)(2). pH must be maintained between 6 to 9 standard units. The effluent shall be sampled 3 x weekly using a grab sample.

Zebra Mussel Control

The zebra mussel kill program is used for the purpose of killing both adult and juvenile mussels in the refinery once through cooling water system. This kill will be accomplished by a continuous feed of sodium hypochlorite on a periodic basis throughout the summer and fall. Sodium hypochlorite feed will be controlled to maintain 0.75 – 1.0 mg/l total residual chlorine (TRC). De-chlorination will occur using Sodium Bisulfite prior to discharge.

Outfalls 003 and 004

TABLE I
Numeric Discharge Limitations, Sampling, and Monitoring Requirements

<u>Parameter</u>	<u>Quantity or Loading</u>		<u>Units</u>	<u>Quality or Concentration</u>		<u>Units</u>	<u>Monitoring Requirements</u>	
	<u>Monthly Average</u>	<u>Daily Maximum</u>		<u>Monthly Average</u>	<u>Daily Maximum</u>		<u>Measurement Frequency</u>	<u>Sample Type</u>
Flow	Report	Report	MGD	----	----	----	Daily	24-Hr. Total
TOC	-	-	-	Report	110	mg/l	1 x Weekly	Grab
Oil and Grease	-	-	-	Report	15	mg/l	1 x Weekly	Grab
pH	-	-	-	-	[1]	s.u.	1 x Weekly	Grab
[1]	The pH of the effluent shall be no less than 6.0 and no greater than 9.0 standard units (s.u.).							

Flow

This parameter is required of all NPDES permits and is included in this permit in accordance with 327 IAC 5-2-13(a)(2).

TOC

The effluent limitations for TOC are based on 40 CFR Part 419.43(f) for contaminated runoff.

Oil and Grease

The previous fact sheet stated that the effluent limits for Oil and Grease are based on Indiana Water Quality Standards. The daily maximum limit of 15 mg/l is also equivalent to the technology-based effluent limitation for oil and grease developed in accordance with 327 IAC 5-5-2 representing the permit writer's best professional judgment of the best available treatment.

pH

This parameter is required of all NPDES permits and is included in this permit in accordance with 327 IAC 2-1.5-8(c)(2). pH must be maintained between 6 to 9 standard units. The effluent shall be sampled 1 x weekly using a grab sample.

Storm Water Pollution Prevention Plan (SWPPP)

“According to 40 CFR 122.26(b)(14)(ii), facilities classified as Standard Industrial Classifications 24 (except 2434), 26 (except 265 and 267), 28 (except 283), 29, 311, 32 (except 323), 33, 3441, 373 are considered to be engaging in ‘industrial activity’ for purposes of 40 CFR 122.26(b). Therefore, the facility is required to have all storm water discharges associated with industrial activity permitted.” The permit will contain the requirement to develop a storm water pollution prevention plan within eighteen months after the permit becomes effective. This requirement is found in Part I.D. of the permit.

Water Treatment Additives

The following water treatment additives have been approved for use at this facility: 71-D5 PLUS Antifoam, BPB 55715, BPB 59316, BPB 59396, BPB59430, BPB 59455, BPB 59460, BPB 59466, BPB 59470, BPC 60005, BPC 65500, BPC 65610, BPC 67015, BPC 67280, BPC 67375, BPC 67385, BPC 67525, BPC 68095, BPC 68160, BPC 68970, BPW 75890, BPW 76030, BPW 76453, BT-3000, BT-4000, CL2OUT1100, Cronox 245 ES, Demand Trac 480, Ferriclear, Guardian 9405, Magnafloc E 30, Magnafloc LT7996, Nalco 352 Neutraling Amine, Nalco 73202, Nalco 8306 PLUS, Phosphoric Acid Solution, Potassium Permanganate, Praestol 187K, Praestol K122L, Praestol K230FL, Praestol K260FL, Praestol A304OL, Sodium Bisulfite - 40%, Sodium Hypochlorite, SPC 880, ST70, Stabrom 909, SUR-GARD 1700, Zetag 7848, Zetag 7875, FS2550% Caustic solution and Sulfuric acid solution, Elimin-Ox and Triact 1800, Sodium Hydroxide, Hydrochloric acid and Zinc Chloride - 50%.

Spill Response and Reporting Requirement

Reporting requirements associated with the Spill Reporting, Containment, and Response requirements of 327 IAC 2-6.1 are included in Part II.B.2.c. and Part II.C.3. of the NPDES permit. Spills from the permitted facility meeting the definition of a spill under 327 IAC 2-6.1-4(15), the applicability requirements of 327 IAC 2-6.1-1, and the Reportable Spills requirements of 327 IAC 2-6.1-5 (other than those meeting an exclusion under 327 IAC 2-6.1-3 or the criteria outlined below) are subject to the Reporting Responsibilities of 327 IAC 2-6.1-7.

It should be noted that the reporting requirements of 327 IAC 2-6.1 do not apply to those discharges or exceedances that are under the jurisdiction of an applicable permit when the substance in question is covered by the permit and death or acute injury or illness to animals or humans does not occur. In order for a discharge or exceedance to be under the jurisdiction of this NPDES permit, the substance in question (a) must have been discharged in the normal course of operation from an outfall listed in this permit, and (b) must have been discharged from an outfall for which the permittee has authorization to discharge that substance.

Prepared by Steve Roush