

May 11, 2007

Indiana Department of Environmental Management
Attn: Mr. Bill Stenner or Mr. Steve Roush
Office of Water Quality
MC 65-42 IGCN Room 1255
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

RE: BP Whiting Refinery NPDES No. IN0000108

Dear Mr. Stenner/Mr. Roush,

The Save the Dunes Council welcomes the opportunity to provide comments on BP Whiting's request for the authorization to discharge into the waters of Lake Michigan under the National Pollutant Discharge Elimination System (NPDES). Equally, it is fair to note, that under the terms of a new permit, BP Whiting will undergo proposed plans to reconfigure the refinery in order to process Canadian Extra Heavy Crude Oil (CXHO). Therefore, Save the Dunes calls on IDEM to fully appreciate the issues raised in this document as the agency moves forward with BP Whiting's permit review.

Currently, Save the Dunes has identified five (5) major areas of concern that are the focus of comments contained herein. While BP Whiting and IDEM have been generous in addressing these matters, we feel more can and should be done to protect the water quality of Lake Michigan, and respectfully ask that the utmost consideration be given to the areas of:

- Total Suspended Solids (TSS)/Ammonia increases and waste water treatment
- Mercury deposition
- Alternate mixing zone
- 316(a) Thermal Discharge variance
- Antidegradation

It is Save the Dunes' intentions, at this time, to carefully delineate the above referenced concerns, with the expressed wish that IDEM provide stringent, permitting oversight as BP Whiting seeks to process CXHO. Please note the following:

Total Suspended Solids (TSS)/Ammonia increases and waste water treatment

British Petroleum's March 2007 *Fact Sheet* has identified "lack of space" as the prohibiting factor in the Refinery's potential inability to satisfactorily treat wastewater to remove the anticipated increases in TSS and Ammonia loadings.

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Also, Save the Dunes is particularly concerned about the BP Whiting's projections that ammonia loadings would be "more than doubled" as a result of the conversion to Canadian crudes. Increases in nitrogen will have a substantial effect on the health and vitality of Lake Michigan, thus, making BP Whiting's ability to properly treat the additional loads essential.

Recommendation: Save the Dunes Council strongly urges IDEM to require the necessary, additional treatment of the facility's wastewater to capture the anticipated increases in TSS and Ammonia. We further recommend that BP Whiting add wastewater treatment expansion plans to their proposed \$3 billion reconfiguration project to meet those requirements. Finally, we strongly recommend that IDEM encourage BP to adopt innovative parameters to accommodate the addition of 12,000 square feet of wastewater treatment capacity.

Mercury

While BP Whiting has acknowledged that the facility will apply for a Mercury Variance under Indiana Law after the approval and issuance of their National Pollutant Discharge Elimination Systems (NPDES) permit renewal, Mercury is a recognized pollutant in the waste stream. Save the Dunes challenges BP Whiting to consider alternative methodologies, including the Electric Power Research Institute (EPRI)'s technology findings, and the use of taconite, which would aid in lowering of mercury levels in the effluent.

Recommendation: Save the Dunes recommends that BP Whiting NOT incinerated the sludge, captured in wastewater treatment, since incineration would release the mercury embedded in the sludge and deposit in Lake Michigan. Mercury has been identified as a neurotoxin as well as an endocrine disruptor, which essentially retard development in fetuses and newborns. In adults, mercury can cause major neurological problems affecting vision, motor skills, blood pressure and fertility. IDEM must insist that BP develop and implement a Pollution Minimization Program Plan to effectively treat Mercury loads in the effluent.

Alternate mixing zone

According to the BP's Fact Sheet, BP Whiting has submitted an alternate mixing zone demonstration, in accordance with 327 IAC 5-2-11.4, for discharge through a submerged diffuser. Further, BP Whiting has indicated that the discharge-induced mixing zone will extend a distance of 182 feet from the diffuser and the diffuser's location will change as the current direction changes.

Also, IDEM's Office of Water Quality evaluated the alternate mixing zone biological assessment, which ensures that the mixing zone, given several potential impairments, would not:

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- interfere with or block passage fish or aquatic life
- jeopardize the continued existence of an endangered or threatened species or result in the destruction or adverse modification of such species' habitats
- extend to drinking water intakes
- impair or otherwise interfere with the designated uses of the receiving water
- promote undesirable aquatic life or result in a dominance of nuisance species
- cause adverse effects on human health, aquatic life or wildlife

Additionally, Save the Dunes shares IDEM's concern that the support structure of the diffuser could become an attraction to aquatic life. This concern is particularly important, given that, as we understand it, the introduction of the diffuser into Lake Michigan waters is the first of its kind. Therefore, Save the Dunes is *not* convinced that BP Whiting has adequately shown that the alternate mixing zone will not cause harm to aquatic life, wildlife or human health.

Regrettably, IDEM has failed to disclose their agency's evaluation on BP's biological assessment on the possible affects of the diffuser on aquatic species in Lake Michigan. Therefore, Save the Dunes is hesitant to accept BP Whiting's statement of "no harm," as it may not go far enough to alleviate the concerns regarding the health of aquatic species and the water quality of Lake Michigan.

At this time, Save the Dunes will reserve additional comments and recommendations on the protection of aquatic habitats, harmful invasive aquatic species and other potential "side effects" resulting from the deployment of the diffuser, under the "Antidegradation" heading, described further in this document.

316(a) Thermal Discharge variances

Continuing, the §316(a) Thermal Variance, which was granted to BP Whiting over 30 years ago, raises major water quality issues for Save the Dunes. Can IDEM, unequivocally, assure the public that the BP Whiting facility has not created any significant thermal impacts to the Lake Michigan ecosystem? If findings show that there is an increase in heat discharge, will IDEM require a 316(a) demonstration?

Recommendation: Save the Dunes requests that IDEM perform a study to determine thermal impacts attributed to the facility's operations. We further request that this study be conducted using the best technology available as Great Lakes protection continues to emerge as major state and federal objectives.

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Antidegradation

At a minimum, according to Indiana water rule 327 IAC 5-2-11.7, the Antidegradation policy must ensure the “maintenance of the level of water quality necessary to protect existing uses in the receiving water body.” Additionally, this policy requires review and public comment prior to final decision, for any new or increased discharges that will result in new or increased permit limits.

Save the Dunes raises the issue that BP’s Antidegradation demonstration did not follow Indiana Law and rules, as they relate to the expected discharge increases from BP’s crude oil processes, albeit, there will be no increases in flow. Save the Dunes challenges IDEM’s interpretation of the purpose of the Antidegradation for Lake Michigan, to show that water quality will not be degraded by any of these processes.

Furthermore, matters referenced earlier in this document (i.e., aquatic habitat destruction, potentially new habitat creation near or around the support structure of the diffuser, harmful invasive aquatic species, thermal increases, etc.), as well as invasive pathogens, and other potentially adverse conditions as a result of BP Whiting’s operational processes, cause Save the Dunes and other conservation entities increased concerns. Save the Dunes will continue urge IDEM to assess the biological impacts from the increased water discharges into Lake Michigan, as well as, the use of the diffuser.

Illustratively, one important example of fresh water bodies’ delicate ecosystems is the fragile fish populations of Lake Sturgeon (*Acipenser fulvescens*). A recent Purdue University study showed an increase in the production of sea lampreys (*Petromyzon marinus*) and, consequently, parasitism on Lake Sturgeon. How did IDEM consider biological impacts on Lake Michigan aquatic species? Currently, Save the Dunes has no knowledge that IDEM publicly circulated the Antidegradation demonstration to other state and federal agencies, or the public at large.

Unarguably, IDEM’s ability to effectively enforcement stringent water quality regulations is highlighted by the facts that: 1) BP’s NPDES permit expired in 1995 (BP was allowed an administrative extension due to their timely application submittal); 2) BP’s last 316(a) thermal discharge demonstration was conducted in 1975; and 3) the apparent inevitable approach of a deadly pathogens in Lake Michigan; not to mention the potential for fish populations to gravitate in and around the proposed discharge points of the alternate mixing zone (diffuser).

Recommendation: Save the Dunes strongly urges IDEM to adhere to the Antidegradation water quality statute that requires a demonstration of “no harm” to ensure the protection of Lake Michigan’s water quality as well as the health of Northwest Indiana residents.

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Finally, over the years, BP Whiting has become a well-recognized economic engine for Northwest Indiana. According to BP's public relations personnel, BP Whiting was built in 1889 and became the first in the BP Whiting Corporation System. The facility occupied 235 acres and processed 600 barrels of crude oil, daily.

Today, BP Whiting processes 400,000 barrels of crude oil, daily, and the facility has grown to over 1,400 acres. Of course, with BP's impending expansion project, the stakes are higher, and thus, heightened concerns regarding the protection of the water quality of Lake Michigan.

Therefore, the Save the Dunes Council cautions IDEM and BP Whiting to proceed carefully as they work together in this permitting process to ensure the protection of Northwest Indiana's residents and Lake Michigan.

Once again, Save the Dunes wishes to thank IDEM for this opportunity to comment on BP Whiting's permitting application, and we look forward to hearing from IDEM in the near future.

Sincerely,

Thomas R. Anderson, Executive Director

Constance M. Clay, Resource Specialist by T.A.