BEFORE THE ADMINISTRATOR
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

IN THE MATTER OF BP PRODUCTS NORTH AMERICA, INC. WHITING BUSINESS UNIT Permit No. 089-25488-00453 Issued by the Indiana Department of Environmental Management	ORDER RESPONDING TO PETITIONERS' REQUEST THAT THE ADMINISTRATOR OBJECT TO ISSUANCE OF STATE OPERATING PERMIT

ORDER PARTIALLY DENYING AND PARTIALLY GRANTING PETITION FOR OBJECTION TO PERMIT

I. INTRODUCTION

On August 19, 2008, the United States Environmental Protection Agency (EPA) received a petition from Environmental Law & Policy Center, Hoosier Environmental Council, Natural Resources Defense Council, Save the Dunes, Sierra Club, Susan Eleuterio, and Tom Tsourlis (Petitioners) pursuant to section 505(b)(2) of the Clean Air Act (Act or CAA), 42 U.S.C. § 7661d(b)(2), and 40 C.F.R. § 70.8(d). The Petitioners request that EPA object to the title V permit issued by the Indiana Department of Environmental Management (IDEM) to BP Products North America, Inc. (BP) for the Whiting Business Unit in Whiting, Indiana (BP permit).

The Petitioners have requested that the Administrator object to the BP permit because, they allege, the permit is not in compliance with the requirements of the Act, in that: (1) the permit application omits emissions information necessary for determining applicable requirements and setting appropriate limits and conditions; (2) the permit does not include all applicable requirements because netting to determine applicability of new source review (NSR) requirements was not done correctly; (3) the permit does not include applicable best available control technology (BACT) and lowest achievable emissions rate (LAER) limits for flares and other sources; (4) BP and IDEM failed to conduct the proper greenhouse gas BACT analysis; and (5) the permit omits compliance schedules that title V requires to ensure compliance with all applicable requirements, as supported by the Notice of Violation issued by EPA to BP for the Whiting facility.

EPA has reviewed these allegations pursuant to the standard set forth in section 505(b)(2) of the Act, which requires the Administrator to issue an objection if the Petitioners demonstrate to the Administrator that the permit is not in compliance with the requirements of the Act. *See also* 40 C.F.R. § 70.8(d); *New York Public Interest Research Group v. Whitman (NYPIRG)*, 321 F.3d 316, 333 n.11 (2nd Cir. 2003). Based on a review of the available information, including the petition, the title V permit T089-

6741-00453, the permit record, and relevant statutory and regulatory authorities and guidance, for the reasons set forth in this Order, I grant in part and deny in part the Petitioners' request.

II. STATUTORY AND REGULATORY FRAMEWORK

Section 502(d)(1) of the Act, 42 U.S C. § 7661a(d)(1), requires each state to develop and submit to EPA an operating permit program intended to meet the requirements of title V of the Act. EPA granted final full approval of the Indiana title V operating permit program effective November 30, 2001 (66 *Fed. Reg.* 62969 (December 4, 2001)). Indiana's title V program is incorporated into the Indiana Administrative Code at 326 IAC 2-7.

All major stationary sources of air pollution and certain other sources are required to apply for title V operating permits that include emission limitations and such other conditions as are necessary to assure compliance with applicable requirements of the Act, including the requirements of the applicable State Implementation Plan (SIP). *See* CAA §§ 502(a) and 504(a), 42 U.S.C. §§ 7661a(a) and 7661c(a). The title V operating permit program does not generally impose new substantive air quality control requirements (referred to as "applicable requirements"), but does require permits to contain monitoring, recordkeeping, reporting, and other requirements to assure compliance by sources with existing applicable emission control requirements. 57 *Fed. Reg.* 32250, 32251 (July 21, 1992) (EPA final action promulgating the Part 70 rule). A central purpose of the title V program is to "enable the source, states, EPA, and the public to better understand the requirements to which the source is subject, and whether the source is meeting those requirements." *Id.* Thus, the title V operating permits program is a vehicle for ensuring that existing air quality control requirements are appropriately applied to facility emission units and that compliance with these requirements is assured.

Under section 505(a) of the Act, 42 U.S.C. § 7661d(a), and 40 C.F.R. § 70.8(a), the relevant implementing regulation, states are required to submit each proposed title V operating permit to EPA for review. Upon receipt of a proposed permit, EPA has 45 days to object to final issuance of the permit if EPA determines the permit is not in compliance with applicable requirements of the Act. Section 505(b)(2) of the Act, 42 U.S.C. § 7661d(b)(2), provides that, if EPA does not object to a permit, any person may petition the Administrator, within 60 days of the expiration of EPA's 45-day review period, to object to the permit. *See also* 40 C.F.R. § 70.8(d). The petition must "be based only on objections to the permit that were raised with reasonable specificity during the public comment period provided by the permitting agency (unless the petitioner demonstrates in the petition to the Administrator that it was impracticable to raise such objections within such period or unless the grounds for such objection arose after such period)." 42 U.S.C. § 7661d(b)(2). In response to such a petition, the Act requires that the Administrator issue an objection if a petitioner demonstrates that a permit is not in compliance with the requirements of the Act. 42 U.S.C. § 7661d(b)(2). *See also* 40 C.F.R. § 70.8(c)(1); *NYPIRG*, 321 F.3d at 333 n.11 . Under section 505(b)(2), the burden is on the petitioner to make the required demonstration to EPA. *Sierra Club v. Johnson*, 541 F.3d 1257,

1266-1267 (11th Cir. 2008); *Citizens Against Ruining the Environment v. EPA*, 535 F.3d 670, 677-678 (7th Cir. 2008); *Sierra Club v. EPA*, 557 F.3d 401, 406 (6th Cir. 2009) (discussing the burden of proof in title V petitions); *see also NYPIRG*, 321 F.3d at 333 n.11. If, in responding to a petition, EPA objects to a permit that has already been issued, EPA or the permitting authority will modify, terminate, or revoke and reissue the permit consistent with the procedures set forth at 40 C.F.R. §§ 70.7(g)(4) and (5)(i) and (ii) and 70.8(d).

III. BACKGROUND

A. The Facility

The Whiting facility, which is owned and operated by BP, is located in Whiting, Indiana. The plant refines crude oil into petroleum products, such as gasoline, diesel, and asphalt. The refinery is located in a nonattainment area for particulate matter ($PM_{2.5}$) and ozone.

B. The Permit

On November 1, 2007, BP submitted to IDEM a title V permit application to revise its existing title V operating permit number T089-6741-00453, effective on January 1, 2007, as modified by Significant Permit Modification (SPM) 089-24068-00453 (May 21, 2007) and SPM 089-24410-00453 (June 19, 2007), to incorporate conditions from preconstruction permit 089-25484-00453, issued by IDEM on May 1, 2008. IDEM published on February 11, 2008, a notice of the availability of the draft title V permit for public comment. The Petitioners submitted comments during the public comment period, which ended on March 21, 2008. IDEM proposed the permit to EPA on May 1, 2008. EPA did not object to the permit, and IDEM issued the final permit to BP on June 16, 2008.

C. The Project

In accordance with 326 IAC 2-7-10.5(c)(2), BP submitted to IDEM a combined preconstruction and operating permit application to authorize the modification of its Whiting, Indiana facility to allow for refining of crude from Canadian tar sands. However, BP requested that IDEM issue separate approvals for authorizing construction under significant source modification regulations and operation under significant permit modification regulations. The physical modification at issue includes the construction of various new emission units, the modification of some existing emission units and the shutdown of other existing emission units. In addition, the emissions from some emission units not being physically changed will be affected relative to what would be expected in the absence of the Canadian extra heavy oil (CXHO) project. This project (also known as Operation Canadian Crude (OCC)) will allow the Whiting Refinery to modernize much of the refinery by shutting down older equipment and replacing it with new equipment. In addition, the Whiting Refinery will substitute the Canadian extra heavy oil for a major portion of its existing crude slate. This CXHO material has

substantially different characteristics and properties as compared to the majority of crude oils currently processed at the refinery. Processing increased amounts of the CXHO material requires modification of a number of process areas of the refinery.

IV. THRESHOLD REQUIREMENTS

Section 505(b)(2) of the Act provides that a person may petition the Administrator of the EPA, within 60 days after the expiration of EPA's 45-day review period, to object to the issuance of a proposed permit. IDEM proposed the permit to EPA on May 1, 2008, and EPA's 45-day review period ended on June 15, 2008. Thus, the 60-day petition period ended on August 14, 2008. The Petitioners submitted the subject petition on August 14, 2008, and EPA received it on August 19, 2008. Therefore, EPA finds that the Petitioners timely filed the petition.

V. ISSUES RAISED BY THE PETITIONERS

A. Petitioners' Allegation that the Permit Application Omits Emissions Information and Calculations Required Under title V

The Petitioners claim that the Administrator must object to the BP permit because the permit application lacks emission information and calculations critical for determining applicable requirements and for setting appropriate limits and conditions. The Petitioners allege that the omission of this information is a violation of a "baseline requirement for issuance of a title V permit" that resulted in "a major source's complete avoidance of New Source Review for all regulated NSR pollutants." Petition at 4. The Petitioners further claim that, under state and federal title V requirements for revisions to title V operating permits, an applicant must provide in its application emission information related to the change, "including '*all* emissions for which the source is major and *all* emissions of regulated air pollutants' and calculations on which the emissions information is based." Petition at 4, quoting 40 C.F.R. § 70.5(c)(3)(i) and (viii) (emphasis added in petition) and citing 42 U.S.C. § 7661b(c); 326 IAC 2-2 and 2-3 and 326 IAC 2-7-10.5(c). Petitioners assert that the only basis for excluding emissions information is an EPA-approved list of insignificant activities and emissions levels which need not be included in permit applications. Petition at 4, citing 40 C.F.R. § 70.5(c); 326 IAC 2-7-1(21)(A).

The Petitioners state that IDEM noted in its Technical Support Document (TSD), at 11, that 326 IAC 2-7-10.5(f)(4)(D), which applies to modifications with potential to emit greater than 25 tons per year of listed pollutants, and 326 IAC 2-7-12(d)(1), which applies to significant permit modifications under title V, apply to the BP Whiting CXHO project. Petitioners assert that the Indiana SIP requires that applications must comply with the information requirements of those sections, and that applications under subsection (f) must meet procedural requirements which forbid the approval of a permit unless the state commissioner has received a complete application for a modification. Petition at 4, citing 326 IAC 2-7-10.5(g)(4)(A).

The Petitioners assert that, "[d]espite these clear and broad requirements to include emissions information in a title V application, BP's application omits complete emissions information for numerous sources, including the majority of emissions from entire units such as flares." Petition at 5. Petitioners further assert that IDEM failed to correct the omission by requiring the information. *Id.* Each of Petitioners' arguments regarding omitted emissions information is discussed below.

1. Petitioners' Allegation that the Application Omits Emissions Information and Calculations for Flares and Flaring

The Petitioners allege that the BP application omits any emissions information for the use of new flares and lacks critical emissions information for existing flares, although the CXHO project design includes construction of three new flares and expressly contemplates use of existing flares in connection with the project. *Id.*

Petitioners state that the purpose of refinery flares is to release and combust gases generated in the refining process that cannot be contained within the facility. *Id.*, citing October 2000 EPA Enforcement Alert "Frequent, Routine Flaring May Cause Excessive, Uncontrolled Sulfur Dioxide Releases;" and 40 C.F.R. § 60.101a. Petitioners claim that causes of refinery flaring include, among other things, planned and unplanned source startups and shutdowns, source process malfunctions, and inadequate compressor capacity. Petitioners assert that refinery flares have consistently proven to be an enormous source of air pollution emissions, and state, as an example, that studies showed that sulfur dioxide (SO_2) emissions from refineries in the Bay Area frequently exceeded 10,000 pounds, and were as high as 70,000 pounds in a single day. *Id.*, citing May comments at 21. Petitioners further state that emissions of volatile organic compounds (VOCs) from flaring frequently exceeded thousands of pounds per day, and were recorded as high as 22,000 pounds per day. Petitioners claim that these levels of emissions, which were recorded at refineries with far fewer flares than the eight current and three proposed new flares at the Whiting facility, would by themselves far exceed the NSR significance thresholds to trigger BACT and LAER requirements for multiple regulated pollutants. Petition at 6. Petitioners discuss Environmental Integrity Project's August 2004 report, "Gaming the System - How Off-the-Books Industrial Upset Emissions Cheat the Public Out of Clean Air," which reported that industry-filed reports showed that, for some facilities, releases from start-up, shutdown and malfunction (SSM) events, which, it claims, are normal operation of flares, were higher than the total annual "routine" emissions reported to either EPA's Toxic Release Inventory or state emission inventories for the entire facility. Petitioners state that the report found that more than half of the 37 facilities studied had SSM emissions of at least one pollutant that were 25% or more of their total reported annual emissions, and that for ten facilities, upset emissions of at least one pollutant actually exceeded the annual emissions that each facility reported to the state for the pollutant. *Id.*

Petitioners further claim that increased emission of SO_2 from flaring will also result in increased $PM_{2.5}$, due to formation of sulfates. Petitioners state that, in recent $PM_{2.5}$ rulemaking, EPA described the relationship between SO_2 and $PM_{2.5}$ (Petition at 6,

citing 73 Fed. Reg. 28321, 28327 (May 16, 2008)); and claim that EPA has identified control of SO_2 from flaring as a control measure for $PM_{2.5}$. Petition at 6-7, citing draft version 1.0 of EPA's "List of Potential Control Measures for $PM_{2.5}$ and Precursors."

Petitioners allege that, instead of providing information for the full range of emissions from flares and flaring, the BP application includes only flare emissions from pilot gas and purge gas at the new flares, which are emissions that occur when the new flares are off. Further, Petitioners claim that the application describes the existing flares as part of the CXHO project. Petition at 7, citing BP permit application and May comments at 3, 8-10. Petitioners conclude that the permit application impermissibly fails to provide emissions information for the use of new flares and for existing flares. Petition at 7.

Response

The CXHO project includes the construction of three new flare systems. As part of the design of the new units and the modifications to existing equipment, BP proposed several safety features and redundant units to eliminate the need to flare during some start-up or shutdown procedures and to eliminate the need for frequent or excessive flaring at the existing flares. TSD Addendum at 106. Specifically, BP designed its system to reroute excess gas back through the refining process. IDEM noted in its Addendum to the Technical Support Document for a Part 70 Significant Source Modification and Significant Permit Modification (TSD Addendum) that the "recirculation system is designed with sufficient capacity to collect all emissions associated with routine or normal flaring events, including routine maintenance and repair periods." TSD Addendum at 107. In this way, BP attempted to minimize flaring. IDEM further noted that "[o]perating these flares with this recirculation system is considered normal operation and the emission calculations, which include purge gas and pilot gas emissions only, is reflective of operating these units as they were intended to be operated and as they would normally be operated." *Id.*

Additionally, BP modified the facility to allow gases to bypass the new flares if they are unavailable and to go directly to the existing flares. Section D.35.7 of the BP permit contemplates this situation by providing that "[t]he Permittee may route emissions to an alternate flare during emergencies or flare outages. The alternative flare shall be in compliance with the same requirements applicable to the flare normally used to control the emissions, except in case of emergency or malfunctions." Under this provision, BP may use the existing flares to combust gases if the new flares are unavailable. This use of the existing flares would constitute an operating condition that may qualify as a malfunction.

Section 326 IAC 2-2-1(e)(2)(A) of the Indiana SIP provides that the calculation of baseline actual emissions for a modification must include emissions associated with malfunctions, to the extent they are affected by the project. It is not clear from the permit record that BP and IDEM included in the netting analysis *any* emissions associated with flaring except for pilot and purge gases from the new flares.

IDEM explained in the TSD Addendum with respect to baseline emissions that "[f]laring emissions that occurred during the baseline period were not counted in the baseline actual emissions. The inclusion of these emissions would have increased the baseline emissions, and given that there is an anticipated reduction in flaring emissions after the completion of the project, the overall net emission decrease from the project would be even greater." TSD Addendum at 106. EPA is aware that the State intended to prohibit all emissions from the new and existing flares, including during periods of start-up, shut-down and malfunctions, to obviate the need to account for such emissions in the potential to emit (PTE) calculation. However, the State has not shown that it has placed a prohibition on such emissions that is legally and practically enforceable.[1]

For the foregoing reasons, I grant the petition on this issue. As noted above, EPA is aware that the State intended to prohibit all emissions from the new and existing flares during periods of start-up, shut-down, and malfunctions to obviate the need to account for such emissions in the PTE calculation. To account for emissions during these periods, IDEM must place a prohibition on such emissions that is legally and practically enforceable. With this limit in place, IDEM would have achieved the intended outcome of prohibiting emissions from flaring during periods of start-up, shut-down, and malfunctions. IDEM may in the alternative follow any other approach to address flaring emissions during periods of start-up, shut-down and malfunctions that is consistent with its nonattainment new source review (NNSR) and Prevention of Significant Deterioration (PSD) rules.

2. Petitioners' Allegation that the Application Omits Information and Calculations for Numerous Other Emissions

The Petitioners allege that the BP application fails to include information and calculations for numerous other emissions, in violation of the application information requirements. Specifically, the Petitioners allege that the application fails to consider (a) venting of uncontrolled pressure relief devices, which can release up to 100 tons of VOCs at once; (b) residual emissions from vessel depressurization after a portion of the contents of process vessels have been sent to refinery recovery systems; (c) increased coking, which, Petitioners claim, is virtually certain to increase emissions of particulate matter, SO_2, VOCs, heavy metals, and other pollutants; (d) coke drum depressurization, which emits large amounts of PM, PM_{10}, and VOCs; and (e) fugitive emissions of reduced sulfur compounds. The Petitioners maintain that all of these types of emissions must be accounted for in the BP application. Petition at 7. The Petitioners discuss in detail how several of these processes, including coke drum depressurization and decoking, could result in increased emissions at the BP Whiting facility, and claim that the application does not disclose the emission of various pollutants. Petition at 8-10.

[1] Section 326 IAC 1-6-4 of the Indiana SIP provides that certain types of malfunction emissions, such as malfunctions that do not exceed 5% of the normal operating time of the facility, do not necessarily constitute violations. IDEM should specifically provide that this allowance for a certain amount of malfunctions is unavailable to BP.

The Petitioners state that, in response to their comments, IDEM inserted into the permit a requirement that emissions from the facility are to be monitored and measured to identify any exceedances of the PSD/NNSR significance thresholds after the operating permit is issued. Petition at 10, citing to TSD Addendum at 111. The Petitioners assert, however, that applicable law does not allow an after-the-fact approach to substitute for appropriate up-front PTE and netting calculations. The Petitioners allege that federal law requires a determination of the significance of emission increases prior to commencement of construction. Petition at 10, citing 40 C.F.R. §§ 51.165 and 51.166. The Petitioners further allege that the provisions described in the TSD Addendum require monitoring only, and do not specify measures by which emissions will be limited to prevent their exceeding the PSD/NNSR significance levels, should monitoring show that emissions exceed those levels. Petition at 10. The Petitioners conclude that the referenced measures do not constitute federally enforceable limits on the CXHO project's PTE. *Id.*

The Petitioners claim that the TSD Addendum specifies reasons why IDEM believes that the identified emission sources are not likely to increase significantly as a result of the CXHO project, including modifications to the sulfur recovery unit complex, and routing of vessel depressurization emissions to the flare base recovery system. Petition at 10-11, citing TSD Addendum at 112. Petitioners assert, however, that these measures are neither required by the permit nor quantified as to the anticipated decrease in emissions, and, therefore, do not constitute federally enforceable limits that hold the facility's PTE below the PSD/NNSR significance thresholds. Petition at 11, citing 326 IAC 2-8-4, section III.A.

Response

(a) venting of uncontrolled pressure relief devices

As noted above, the Petitioners allege that the venting of uncontrolled pressure relief devices can release up to 100 tons of VOCs at once. Petition at 7. However, the Petitioners have not demonstrated that this type of venting will occur or is allowed by the BP permit. Therefore, I deny the petition on this issue.

(b) residual emissions from vessel depressurization

IDEM states in the TSD Addendum that the emissions from vessel depressurization will be routed to the flare gas recovery system, where they will be captured and recycled in the refinery fuel gas system. TSD Addendum at 112. However, IDEM did not address residual emissions that could be released after a portion of the contents of the process vessels is sent to the fuel gas system. As the permitting authority, IDEM has a responsibility to respond to significant comments. *See, In the Matter of CEMEX, Inc., Lyons Cement Plant,* Petition No. VIII-2008-01 (March 20, 2009) (*CEMEX*); *see also, In the Matter of Kerr-McGee, LLC, Frederick Gathering Station,* Petition No. VIII-2007 (February 7, 2008) (*Kerr-McGee*) ("it is a general principle of administrative law that an inherent component of any meaningful notice and opportunity for comment is a response by the regulatory authority to significant comments").

Petitioners' comments on residual emissions from vessel depressurization are significant because they raise the issue of whether the OCC project is a major modification of the BP Whiting facility. For these reasons, I grant the petition on this issue. IDEM must respond to Petitioners comment and make changes to the permit record and permit as necessary.

(c) increased coking

The Petitioners alleged that the application did not include information and calculations to address increased coking. IDEM responded by stating that "[i]n this application, and as detailed in the calculations included as part of this permit, all new, modified and affected emission units from which there will be an increase in emissions associated with the OCC project have been accounted for and included in the netting analysis. . . . This includes fugitive VOC emissions associated with leaks from valves, flanges, pumps, compressors, and tanks." TSD Addendum at 111. However, IDEM did not explain how the emissions calculations adequately accounted for emissions from the refinery that occur as the result of higher or increased coking capacity. In addition, EPA is aware that coker quench water tanks are a significant source of VOC emissions at refineries. *See* Amoco-EPA Pollution Prevention Project, Yorktown, Virginia, Vol. II – Air Quality Data (July 30, 1992). IDEM stated that it included VOC emissions from tanks in its calculations, however, it did not explain how, or whether, it included VOC emissions from the coker quench water tank. Therefore, I grant the petition on this issue. IDEM must explain how these emissions are accounted for in the netting calculations or reevaluate the netting calculation to take into account the emissions from increased coking, such as from the coker quench water tank.

(d) coke drum depressurization

IDEM responded to the Petitioners' comment on the coke drum depressurization by stating that the emissions from the coke drum were vented to the flare gas recovery system. TSD Addendum at 110. However, because IDEM did not address Petitioners' comment on the emissions from the coke drum when the coke drum pressure is relieved from a starting point of five pounds-force per square inch gauge (psig) by venting directly to the atmosphere through the steam vent, it is not clear whether the netting analysis accounts for these emissions. As noted above, IDEM has a responsibility to respond to significant comments. *See CEMEX* at 10; *see also, Kerr-McGee* at 4 ("it is a general principle of administrative law that an inherent component of any meaningful notice and opportunity for comment is a response by the regulatory authority to significant comments"). Petitioners' comments on emissions from coke drum depressurization at 5 psig and below are significant because they raise the issue of whether the OCC project is a major modification of the BP Whiting facility. For these reasons, I grant the petition on this issue.

(e) fugitive emissions of reduced sulfur compounds

In its response to the Petitioners' comment, IDEM focused in the TSD Addendum on permit compliance assurance. However, IDEM did not directly respond to the issue of whether refining crude that contains higher levels of sulfur may result in higher fugitive emissions of reduced sulfur compounds. IDEM stated that "[t]he emission calculations include all increases and decreases from the affected, modified, and new emission units, including fugitive emissions.... It is not expected that there will be an increase in total reduced sulfur or H_2S from fugitive sources, as with VOC. The additional reduction in sulfur through the modifications to the SRU complex (see Response to Technical comment #8) will result in reduction in fugitive TRS and H_2S emissions." TSD Addendum at 112. As noted above, IDEM has a responsibility to respond to significant comments. IDEM did not address in its response to comments why it believed that there would not be an increase in total reduced sulfur emissions. Therefore, I grant the petition on this issue.

3. Petitioners' Allegation that the Application Omits Information Specific to the CXHO Project Feedstock Crude

The Petitioners allege that the permit is based on a substantial underestimation of sulfur in the crude stock and, thus, of sulfur-based emissions. The Petitioners claim that crude oil extracted from Canadian tar sands contain higher levels of sulfur and nitrogen, as well as other pollutants, than conventional crude and some other types of heavy crude. Petition at 11. The Petitioners state that the U.S Department of Energy has noted that bitumen, the "oil" in tar sands, "can contain undesirable quantities of nitrogen, sulfur, and heavy metals." Petition at 11, quoting the U.S. Department of Energy, Energy Information Administration "Annual Energy Outlook Analysis 2006 - Nonconventional Liquid Fuels." The Petitioners further state that the U.S. Geological Survey has found that natural bitumen "has eleven times more sulfur than conventional crude oil." Petition at 11, citing "Heavy Oil and Natural Bitumen Resources in Geological Basins of the World: U.S. Geological Survey Open-File Report 2007-1084" (2007) (USGS 2007) at 14, Table 1. The Petitioners conclude that, as sulfur in crude is converted into hydrogen sulfide (H_2S) and other reduced sulfur compounds such as mercaptans, during processing, H_2S and reduced sulfur compounds will be emitted in higher amounts when the refinery processes tar sands crude as compared to conventional crude, including, for example, from fugitive sources like tanks, valves, flanges, and from the sulfur recovery plant. Petition at 11.

The Petitioners allege that the permit application does not account for these sources of emissions, and as such does not provide information on increases in such emission from refining of Canadian tar sands crude. *Id.* The Petitioners assert that this lack of information is a critical omission because factoring in the alleged higher levels of pollutants is likely to result in increased emissions that will contribute to triggering NSR requirements, including for H_2S, reduced sulfur compounds, sulfuric acid mist and sulfur dioxide (SO_2), among others. Petition at 11-12.

Response

In its response to comments, IDEM explained that "the capacity of the refinery's sulfur recovery complex will increase by a factor of three with the OCC project. The sulfur content of the RFG will be reduced through vapor recovery, amine treatment, and new claus trains, which are specifically designed to remove sulfur from fuel gas streams prior to combustion. Although Canadian crude may contain a higher sulfur content than certain other crudes currently processed by the refiner, the overall total sulfur content in refinery fuel gas combusted in the refinery will be reduced by virtue of these enhanced and additional controls." TSD Addendum at 116. IDEM did not address in its response to comments why the emissions factors that were developed for lower sulfur crude were adequate to calculate emissions from high sulfur Canadian tar sand crude and how increased emissions from fugitive sources due to the use of higher-sulfur Canadian crude are accounted for in the calculations. Therefore, I grant the petition on this issue. As noted above, IDEM has a responsibility to respond to significant comments. Petitioners' comments on the emissions factors and on the accountability of emissions from fugitive sources are significant because they raise the issue of whether the OCC project is a major modification of the BP Whiting facility.

4. Petitioners' Allegations that the Application Omits Emissions Information and Calculations for Greenhouse Gases and the Permit Does Not Include BACT Limits for Greenhouse Gases

The Petitioners assert that greenhouse gases are regulated NSR pollutants, and thus are regulated air pollutants subject to title V emissions information requirements. Petition at 12. The Petitioners state that, by BP's own admission, the CXHO project will result in millions of tons of additional greenhouse gases per year. *Id.*, citing to March 21, 2008 Julia May comments (May comments) at 51, yet the application omits any emissions information and calculations for greenhouse gases. Petition at 12. Petitioners further request that EPA object to the permit because it does not include limitations on the emissions of carbon dioxide (CO_2) and other greenhouse gases (GHGs). Specifically, Petitioners allege that the Prevention of Significant Deterioration (PSD) permit for the facility must include a Best Available Control Technology (BACT) analysis and emissions limitations for carbon dioxide, methane, and nitrous oxides. Petitioners argue that the BACT requirement applies to these substances because these pollutants are "subject to regulation" under the CAA in the following manner: (1) Specified sources are required to monitor and report emissions of carbon dioxide under section 821 of the Clean Air Act Amendments of 1990 and EPA regulations at 40 C.F.R. Part 75 implementing this provision; (2) EPA possesses as yet unexercised authority to regulate carbon dioxide, methane, and nitrous oxides. Petition at 26-36.

The Petitioners assert that the expected increase in GHG emission is greater than the PSD significance threshold, which, they claim, is any emission of each GHG. The Petitioners assert that the BP permit's failure to contain any GHG reduction commitments is in violation of the CAA, especially following the U.S. Supreme Court's decision in *Massachusetts v. EPA*, 127 S.Ct. 1438, 1460 (2007) (*Massachusetts)*, which held that CO_2 and other GHGs are "pollutants" under the CAA. Petition at 26. The Petitioners

assert that the CXHO project will result in a very large increase in emissions of GHGs, but that BP did not conduct any GHG emission analysis in its application for the CXHO project. *Id.* at 27.

The Petitioners discuss their contention that GHGs, including CO_2, methane and nitrous oxide, are subject to regulation. *Id.* at 28-35. The Petitioners conclude that the BP permit for the CXHO project must include BACT limits for all GHGs that the project will emit in "any" amount, and suggest a number of measures that, they claim, should be considered in the required BACT analysis for GHGs. *Id.* at 36-37.

Response

Petitioners have failed to demonstrate that IDEM's permit is deficient under the CAA. In its response to comment on this issue, IDEM explained that it "has followed the EPA interpretation that the phrase 'subject to regulation' means pollutants that are subject to a statutory or regulatory provision that requires actual control of emissions of that pollutant." RTC at Page 133. IDEM observed that its EPA-approved state regulations contain "essentially a verbatim replication of the federal definition" of the term "regulated NSR pollutant." [2] At the present time, EPA continues to construe the federal definition of the term "regulated NSR" pollutant to "include each pollutant subject to either a provision in the Clean Air Act or a regulation adopted by EPA under the Clean Air Act that requires actual control of emissions of that pollutant." Memorandum from Stephen Johnson, EPA Administrator, to EPA Regional Administrators entitled, "*EPA's Interpretation of Regulations that Determine Pollutants Covered by Federal Prevention of Significant Deterioration (PSD) Permit Program*" (December 18, 2008) ("Johnson Memo"); *see also* 73 Fed. Reg. 80300 (Dec. 31, 2008) (public notice of December 18, 2008 memorandum). This memorandum provides a detailed explanation as to why the interpretation reflected in IDEM's response to Petitioners' comment is a permissible reading of the definition of "regulated NSR pollutant" and the applicable provisions of the Clean Air Act. In addition, this memorandum also explains EPA's view that states such as Indiana have the discretion to follow EPA's interpretation of this regulatory language.[3] Although some of the reasoning that IDEM used to support its interpretation has since been rejected by the EPA's Environmental Appeals Board, the basic interpretation reflected in IDEM's

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[2] Under the federal PSD permitting regulations, only newly constructed or modified major sources that emit one or more "regulated NSR pollutants" are subject to the requirements of the PSD program, including the requirement to install BACT for those regulated NSR pollutants that the facility emits in significant amounts. "Regulated NSR pollutants" include "any pollutant that otherwise is subject to regulation under the Act." 40 CFR § 52.21(b)(50)(vi).

[3] "To the extent approved State Implementation Plans contain the same language as used in 40 C.F.R. s. 52.21(b)(50) or 40 C.F.R. 51.166(b)(49), State may interpret that language in state regulations in the same manner as reflected in this memorandum." Johnson memo at 3, fn. 1.

response to comment is consistent with the Clean Air Act and EPA's present interpretation of the federal regulations.[4]

When IDEM issued the permit on June 16, 2008, at least one EPA Region and the EPA program office that oversees implementation of the federal PSD permitting program had taken the position that CO_2 emissions were not subject to federal PSD requirements because they understood that EPA had historically interpreted the phrase "subject to regulation" in the federal PSD regulations to apply only to those pollutants already subject to actual control of emissions under other provisions of the CAA. *See* Response of EPA Office of Air and Radiation and Region VIII To Briefs of Petitioner and Supporting Amici, *In re: Deseret Power Electric Cooperative*, PSD Appeal No. 07-03 (filed March 21, 2008); Region 8's Response to Petition for Review, *In re: Deseret Power Electric Cooperative*, PSD Appeal No. 07-03 (filed November 2, 2007); Brief of the EPA Office of Air and Radiation, *In re: Christian County Generation, LLC*, PSD Appeal No. 07-01 (filed September 24, 2007). Accordingly, these EPA offices argued that the CAA Acid Rain program regulations cited by Petitioner (40 CFR Part 75) that require monitoring of CO_2 at some sources did not make CO_2 subject to PSD regulation. *Id.* These offices also explained in briefs to the EAB that they did not agree with the Petitioners' argument that the PSD BACT requirement should apply to pollutants for which EPA has the authority to establish controls or limitations on emissions but has not yet done so.

Thus, it was not erroneous for IDEM to perceive that it was following an EPA interpretation after two EPA offices that implement and interpret the requirements of the federal PSD program had taken the position. Moreover, at that time, no federal permitting authorities had actually imposed PSD requirements for carbon dioxide. In fact, no federal PSD permit has since issued with carbon dioxide limits included.

A decision of EPA's Environmental Appeals Board ("EAB") subsequently addressed the position of these EPA offices that CO_2 emissions were not subject to regulation under the Clean Air Act. *See In re: Deseret Power Electric Cooperative*, PSD Appeal No. 07-03 (EAB, November 13, 2008). The EAB determined that prior EPA actions were insufficient to establish a historic, binding interpretation that "subject to regulation" for PSD purposes included only those pollutants subject to regulations that require actual control of emissions. *See, Deseret Power*, slip op. at 35-37. In particular, the EAB rejected the view that EPA had established such a controlling interpretation of the PSD provisions by (1) issuing a 1993 Memorandum on the title V program; (2) listing pollutants currently regulated under the CAA at the time the Agency adopted its definition of "regulated NSR pollutant" in 2002; or (3) discounting arguments that carbon dioxide should be regulated in two prior adjudications (by the EAB) that did not definitively address the question of whether the BACT requirement applied to carbon

[4] Petitioners assert that GHGs are "regulated NSR pollutants" and "thus regulated air pollutants subject to Title V emissions information requirements." Petition at 12. Petitioners make no attempt to address, or explain how GHGs meet the definition of "regulated air pollutants" for purposes of title V emissions information requirements, see definition at 40 C.F.R. § 70.2, and thus, EPA denies this claim.

dioxide based on monitoring and reporting requirements in EPA regulations. *See, Id.* at 42-51 & n. 52.

Although the EAB held these prior EPA actions were not sufficient to establish a controlling interpretation, the Board did not conclude that the interpretation advocated by EPA offices and followed by IDEM in this case was impermissible under the CAA. The EAB found "no evidence of a Congressional intent to compel EPA to apply BACT to pollutants that are subject only to monitoring and reporting requirements." *Id.* at 63. Shortly thereafter, in order to address the ambiguity that existed in the federal PSD regulations following the EAB decision, then Administrator Stephen Johnson issued the memorandum described above setting forth the official EPA interpretation regarding which pollutants were "subject to regulation" for the purposes of the federal PSD permitting program. Administrator Johnson's memorandum established an interpretation of the definition of "regulated NSR pollutant" in the federal PSD regulations that "exclude[d] pollutants for which EPA regulations only require monitoring or reporting but [] include[d] each pollutant subject to either a provision in the Clean Air Act or regulation adopted by EPA under the Clean Air Act that requires actual control of emissions of that pollutant." Johnson Memo at 1; 73 *Fed. Reg.* at 80301. EPA received a petition for reconsideration of Administrator Johnson's memorandum, and the Agency granted that petition on February 17, 2009. Letter from Lisa P. Jackson, EPA Administrator, to David Bookbinder, Chief Climate Counsel at Sierra Club (February 17, 2009). In granting reconsideration, Administrator Jackson announced the intent to conduct a rulemaking to take public comment on the issues addressed in the memorandum and the *Deseret Power* decision, but she did not stay the effectiveness of the Johnson memo pending reconsideration.[5]

While the EPA (in the opinion of the EAB in the *Deseret* case) has subsequently rejected some elements of the reasoning employed by IDEM in its response to comment, EPA has not precluded state permitting authorities from interpreting the phrase "pollutant subject to regulation" in the Clean Air Act and PSD regulations to cover only pollutants that are subject to a statutory or regulation provision that requires action control of emissions of that pollutant. Although IDEM's reliance on EPA's 1993 title V memorandum, the Agency's 2002 list of pollutants regulated under the Clean Air Act, and prior EAB decisions has ultimately proven misplaced, IDEM's response to comments document still contains minimally sufficient reasoning to support IDEM's interpretation of the definition of "regulated NSR pollutant" in its own regulations. In its response to comment, IDEM observed that the first three categories of the identical federal definition "are similar in one aspect – they all provide for the development of substantive emission standards of the specified pollutants through a formal and comprehensive rulemaking approach." TSD Addendum at 133. Consistent with the EPA's current interpretation of this language, IDEM read the language in "the fourth, catchall category" of this definition

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[5] The grant of reconsideration also reiterated that states must issue PSD permits "under their own State Implementation Plans." February 17, 2009 letter granting reconsideration at 1. EPA's proposed rule addressing reconsideration was published on October 7, 2009. 74 *Fed. Reg.* 51535.

in conjunction with the other parts of the definition and concluded that the fourth category was not intended to cover pollutants for which there were as of yet no limitations or controls on emissions. *Id.*

Thus, since IDEM has articulated and supported an interpretation of its regulations that is permissible under the Clean Air Act and consistent with the interpretation of the same language that EPA itself is following at this time, I deny the petition with respect to argument that the permit must contain emission limitations for CO2 and other greenhouse gases. Petitioners have not demonstrated that carbon dioxide, methane, nitrous oxides, or other greenhouse gases are currently subject to a statutory or regulatory provision that requires actual control of emissions of these substances.[6]

B. Petitioners' Allegation that a Full Accounting of Emissions Would Have Rendered the Project a Major Modification for Multiple NSR Pollutants

The Petitioners allege that, to properly net out of NSR requirements, netting calculations must account for each modified or new unit at the source, yet, Petitioners allege, BP omitted numerous units from its netting calculations, thereby unlawfully qualifying for a minor source permit. Petition at 12. The Petitioners assert that the flaring emissions, as well as proper inclusion of other omitted emissions or correction of an error in BP's calculation methods, will trigger or contribute to the triggering of NSR. *Id.* The Petitioners conclude that the Administrator must object to the permit based on these omissions and error, and must demand that BP and IDEM submit proper netting analyses based on full emission information, and provide for public comment on the new analysis before permit issuance. *Id.*

1. Petitioners' Allegation that a title V Permit Must Be Based on Proper NSR Netting Analyses, Including Unit-by-Unit Calculations of Significant Emissions Increases

The Petitioners state that a "[p]art 70 operating permit itself must include 'enforceable emission limitations and standards, a schedule of compliance' and other provisions 'necessary to assure compliance with the applicable requirements of [the CAA and SIP].'" Petition at 11, quoting 42 U.S.C. § 7661c(a). Petitioners assert that the term "applicable requirement" is very broad, encompassing, among other things, "any standard or requirement under Section 111 of the Act or '[a]ny term or condition of any preconstruction permit' or '[a]ny standard or other requirement provided for in the applicable implementation plan approved or promulgated by EPA through rulemaking under title I of the [Clean Air] Act.'" Petition at 13, quoting 40 C.F.R. § 70.2. The Petitioners further assert that "applicable requirements" consequently includes, among

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[6] Actions are underway at EPA that could, when finalized, result in the promulgation of final standards controlling the emission of greenhouse gases. In particular, EPA has proposed a rule regulating greenhouse gas emissions from light-duty vehicles; that rule would control the emission of greenhouse gases within the meaning of Administrator Johnson's memorandum.

other things, "the duty to obtain a construction permit in keeping with the New Source Review Prevention of Significant Deterioration ('PSD') and/or Nonattainment New Source Review ('NNSR') programs." Petition at 13, citing to 42 U.S.C. §§ 7475, 7479, 7502-7503; 40 C.F.R. §§ 51.166, 51.165; 326 IAC 2-2, 2-3.

The Petitioners claim that a "major modification" of an existing source that results in a significant increase in pollutant emissions requires a PSD permit and/or an NNSR permit, but that modifications that are not "major modifications" are exempt from PSD and NNSR permitting requirements. Petition at 13. The Petitioners claim that determining whether a project is a major modification involves two steps: (1) the calculation of whether the project will result in a "significant emissions increase" of any regulated pollutant, and (2) whether, for those pollutants showing a significant emission increase, the project will result in a "significant net emissions increase." *Id.*, citing 40 C.F.R. § 51.165(b)(2)(i), (a)(i)(v)(A);[7] 326 IAC 2-2-2(d)(1), 2-3-2(c)(1). The Petitioners assert that the methods for calculating a "significant emissions increase" involve "a unit-by-unit summation of the difference between each unit's future emissions and its baseline emissions," and comparing that sum to the PSD and NNSR significance thresholds. Petition at 13-14, citing 40 C.F.R. § 51.166(a)(7)(iv)(d), 326 IAC 2-2-2(d)(4). The Petitioners assert that a significant increase in a source's emissions will trigger PSD and/or NNSR unless the increase in emissions of a pollutant may be offset by contemporaneous and otherwise creditable decreases in emissions of the pollutant, such that there is no "significant net emissions increase," or the PTE for a pollutant may be limited by federally enforceable pollution control requirements. Petition at 14 (cites omitted). The Petitioners claim that, in an air quality control region that is in non-attainment for a particular pollutant, a major modification that results in a significant net emissions increase requires, among other things, emissions controls constituting the Lowest Achievable Emission Rate (LAER), external offsets, internal offsets, and a demonstration of compliance at all of the applicant's existing major sources within the state of the modification; and for an air quality control region in attainment for a particular pollutant, a major modification resulting in a significant net emissions increase of that pollutant triggers PSD provisions requiring, among other things, emissions controls constituting Best Available Control Technology (BACT) and modeling to determine air quality increment consumption. Petition at 14 (cites omitted). The Petitioners state that the air quality control region in which the CXHO project is located has been determined to be in nonattainment for 8-hour ozone and $PM_{2.5}$. *Id.*, citing 69 Fed. Reg. 23858 (April 30, 2004); 70 Fed. Reg. 943 (Jan. 4, 2005A); TSD at 2-3.

Response

EPA has directed IDEM, in other parts of this order, to reevaluate the BP netting analysis. IDEM must clarify how certain emissions potentially omitted from the original netting analysis are accounted for. Further, if it finds that the modifications resulted in a significant net emission increase, IDEM must take appropriate action, including making necessary permit modifications.

[7] EPA believes that the Petitioners meant to cite 40 C.F.R. § 51.165(a)(1)(v)(A).

2. Petitioners' Allegation that Inclusion of the Omitted Flaring Emissions Will Trigger NSR

The Petitioners state that the improper exclusion of flaring emissions from the netting analyses results in the avoidance of NSR for multiple regulated pollutants. Petition at 15. The Petitioners allege that the flaring emissions alone are highly likely to put the CXHO project over the significance level for several pollutants. *Id.* The Petitioners provide a comparison for several pollutants of the figures on emissions that accompany flaring reported at other refineries to the "netting margin," or the amount of emissions needed to make up the difference between the reported net emissions increase/decrease and the PSD/NNSR significance level, for the BP facility. *Id.* The Petitioners conclude that the failure to include emissions from the flares in the netting calculations was in error, and that the Administrator must object based on that omission alone. *Id.* at 16.

The Petitioners claim that flares "clearly qualify" as "emissions units" at the BP Whiting refinery, because they are parts of the refinery that emit regulated NSR pollutants under their physical and operational design. *Id.* (cites omitted). The Petitioners state that the Environmental Appeals board (EAB) has recognized that flares are "'among the emissions units that will contribute to the increase' in pollutants counted towards triggering NSR." *Id.*, citing *In re: ConocoPhillips Co.,* Appeal No. 07-02 (June 2, 2008) (*ConocoPhillips*). Thus, the Petitioners claim, all emissions from flares, whether occurring as a result of "normal" operations or source start-up, shutdown, or malfunction, must be included in the determination of significant emissions increase for netting purposes. Petition at 16. The Petitioners assert that the NSR netting analyses nevertheless assume no emissions associated with the use of the three new planned project flares and no emissions related to the project from the existing flares. *Id.* The Petitioners claim that the only flare emissions from the planned new flares included in the permit netting calculations are those from pilot and purge gases, which are the emissions that occur when the flares are *off*. *Id.* at 16-17 (emphasis in original). The Petitioners assert that BP and IDEM therefore assume for purposes of the netting calculation that the flares will never be used, but that this assumption is factually unsupportable and legally incorrect "given the known significant emissions that result from refinery flaring in the absence of stringent control measures." *Id.* at 17. The Petitioners further claim that the netting calculations do not include any increased emission from the existing flares at the refinery, even though the permit specifies in multiple places that the existing flares are to be used in conjunction with the project. The Petitioners conclude that this will increase the use of the existing flares and the volume of gas to be vented through them. *Id.*

The Petitioners allege that documents to which they have access do not include sufficient data to calculate with precision the emissions from the new flares or from the increased use of the existing flares associated with the CXHO project. However the Petitioners assert that, based upon information available from other refineries comparable to the Whiting facility, "it is highly likely that the flaring emissions at the Whiting refinery would by themselves exceed that NSR significance thresholds for multiple

regulated pollutants, so as to trigger BACT and/or LAER requirements and other PSD and/or NNSR requirements for those pollutants." *Id.*

The Petitioners claim that IDEM acknowledged in its response to comments that it failed to include in its netting calculations emissions from the use of the flares. *Id.*, citing TSD Addendum at 106. The Petitioners claim that, according to the TSD, IDEM excluded upset flaring emissions from both the emissions baseline and the calculated emissions increases, but, in the TSD Addendum, references inclusion in TSD appendix E of flaring emissions associated with planned startup and shutdown, and identifies these emissions as part of the CHXO project emissions calculation. Petition at 17. The Petitioners aver that the emissions in question are associated with separate contemporaneous projects, and, further, that the emissions are assessed as unrealistically small. *Id.*, citing permit appendix E. The Petitioners claim that IDEM further acknowledged in its response to comments that some use of the flares would likely occur as a result of the CXHO Project, SSM upset events, and other causes, stating that the CXHO project design "adds redundancy to existing processes that will eliminate the need for *frequent or excessive* flaring ... and the need to flare during *some* start-up or shut-down procedures." Petition at 18, quoting TSD Addendum at 106 (emphasis added by Petitioners). The Petitioners further state that the BP permit does not contain or define any measures referenced in the TSD Addendum and, therefore, that these measures "cannot constitute federally enforceable emissions limitations necessary to hold PTE below the applicable PSD and NNSR significance thresholds." Petition at 19 (cites omitted). The Petitioners assert that a federally enforceable state operating permit (FESOP) is the only lawful means of obtaining a minor source permit where PTE from all sources, including flaring, exceeds PSD/NNSR significance thresholds. *Id.*, citing 326 IAC 2-8-4, Sec. 4(1)(D). The Petitioners claim that the final BP permit contains "an insufficient blanket statement that Permit limits 'shall ensure that the net emissions increases ... for the [expansion project] remain below the significant levels [sic].'" Petition at 19, quoting BP permit condition D.35.1(g). Petitioners claim that such "blanket restrictions" on emissions are not properly considered in determining a source's PTE. Petition at 18, quoting *United States v. Louisiana-Pacific Corp.*, 682 F. Supp. 1141, 1160 (D. Col. 1988). The Petitioners assert that, because the emission limits in the BP permit address only emissions which occur when the flares are off, and because IDEM makes clear in its response to comments that the flare upset emissions are not addressed by the permit, the permit as drafted is "incapable of limiting flare emissions from use of flares to below applicable PSD and NNSR significance thresholds," and, therefore, constitutes an unenforceable blanket emissions limitations. Petition at 19-20, citing to TSD at 110.

According to the Petitioners, in its response to comments, IDEM stated that it was not required to consider emissions from flares because operations during start-up, shutdown and malfunction are not considered "normal operation," and, as a consequence, those emissions historically have not been included in netting calculations. Petition at 20, quoting TSD at 107. The Petitioners maintain that this position is unlawful because the flares are "emissions *units* whose normal operation is defined as including operation in connection with the *source's* SSM events." Petition at 20 (emphasis in original). The

Petitioners claim that, under the clear language of the netting regulations, the flares must be included in netting calculations for determining whether the CXHO project is a major modification. The Petitioners argue that, because CAA regulations allow combustion of substantial H_2S emissions through flares only during upset events rather than during normal operation of a refinery, exclusion of flare emissions would necessarily exclude emissions from "normal operations" of the flares. *Id.*, citing 40 C.F.R. § 60.104(a)(1). The Petitioners conclude that the Administrator must object and remand the BP permit to BP and IDEM for a proper netting analysis, in which BP and IDEM must determine whether the increased emissions associated with the CXHO project, including emissions from the new flares and increased use of existing flares, exceed the significance thresholds for PSD/NNSR pollutants in the absence of control measures. Petition at 21.

Response

As noted above, EPA is granting on the issue of IDEM's consideration of emissions from flares. To implement IDEM's intended approach for addressing emissions during periods of start-up, shut-down, and malfunctions, EPA has ordered IDEM to place a prohibition on such emissions that is legally and practically enforceable. IDEM may in the alternative follow any other approach to address flaring emissions during periods of start-up, shut-down and malfunctions that is consistent with its NNSR/PSD rules. By granting on IDEM's consideration of emissions from flares, EPA is not concluding that the CHXO project necessarily triggered PSD/NNSR.

3. Petitioners' Allegation that the Netting Analyses Improperly Omit Other Significant Project-Related Emissions Which, If Included, Would Contribute to Triggering NSR

The Petitioners claim that the application and netting calculations performed by IDEM also failed to factor in numerous additional emission sources discussed in section II.B. of the Petition. The Petitioners assert that inclusion of the anticipated emissions from the excluded sources, along with flaring emissions, would contribute to triggering PSD/NNSR for VOCs, PM_{10}, and/or H_2S. *Id.* at 21-22.

Response

I grant the petition on this issue. In doing so, I am not concluding that inclusion of certain emissions potentially omitted from their netting analysis would trigger PSD/NNSR. As directed in other parts of this order, IDEM must reevaluate the BP netting analysis. IDEM must clarify how certain emissions potentially omitted from the original netting analysis are accounted for. Further, if it finds that the modifications resulted in a significant net emission increase, IDEM must take appropriate action, including making necessary permit modifications.

4. Petitioners' Allegation that the Netting Analyses Fail to Account for the Refining of CXHO Crude Which, If Included, Would Contribute to Triggering NSR

The Petitioners allege that, in addition to other omitted sources of emissions, the application and netting analyses failed to use emissions information appropriate for CXHO crude for SO_2 and H_2S mist. Petition at 22, referring to section II.C. of the Petition. The Petitioners conclude that the BP permit, therefore, fails to adequately account for increased emissions form the higher level of sulfur in tar sands crude. Petition at 22.

Response

I grant the petition on this issue. In doing so, I am not concluding that inclusion of certain emissions potentially omitted from their netting analysis would trigger PSD/NNSR. As directed in other parts of this order, IDEM must reevaluate the BP netting analysis. IDEM must clarify how the emissions factor for CXHO was calculated. Any change in the emissions factor must be accounted for in the netting analysis. IDEM must also explain how it is accounting for emissions from fugitive sources. Further, if IDEM finds that the modifications resulted in a significant net emission increase, IDEM must take appropriate action, including making necessary permit modifications.

C. Petitioners' Allegation that the Permit Does Not Include Proper BACT/LAER Limits for Flares and Other Sources

The Petitioners allege that, with corrected netting calculations, the CXHO project would trigger full NSR for numerous regulated pollutants, and, therefore, would be subject to BACT and LAER requirements as well as requirements for air quality modeling. *Id.*

1. Petitioners' Allegation Regarding BACT/LAER Limits for Flaring

The Petitioners assert that the EAB has clarified that emissions from refinery flares must be considered as part of a PSD/NNSR analysis, and has explained what considerations are to be included in a BACT analysis for flares. Petition at 23, quoting *ConocoPhillips* at 35-36.

The Petitioners claim that emissions from flares generally cannot be controlled through end-of-pipe emissions controls, and can only be effectively reduced through prevention of flaring events. The Petitioners discuss measures which, they claim, have succeeded in achieving large and quantifiable reductions in flare emissions at other refineries, including additional compressor capacity and flare prevention measures such as heightened monitoring, to be established in an enforceable flare minimization plan. Petition at 23-24, citing May comments at 31-41. The Petitioners further assert that the BP permit must establish numeric BACT and/or LAER limits for the flares, or include a design, equipment, work practice, or operational standard and a numeric evaluation of emission reductions expected to be achieved through such a standard. Petition at 24, citing 40 C.F.R. § 51.166(b)(12); 3236 IAC 2-2-1(i); *In re Indeck-Elwood, LLC*, PSD Appeal 03-04 (Sept. 27, 2006). The Petitioners conclude that the omission of actual

limits of any kind on the frequency with which flares may be used or on flaring emissions constitutes a violation of the BACT/LAER requirements and also results in a failure to limit the PTE to zero emissions assumed in the netting analysis. Petition at 25.

Response

As noted above, EPA is granting on the issue of IDEM's consideration of emissions from flares. To implement IDEM's intended approach for addressing emissions during periods of start-up, shut-down, and malfunctions, EPA has ordered IDEM to place a prohibition on such emissions that is legally and practically enforceable. IDEM may in the alternative follow any other approach to address flaring emissions during periods of start-up, shut-down and malfunctions that is consistent with its NNSR/PSD rules. If IDEM concludes that NNSR/PSD is triggered, IDEM would need to act consistent with its NNSR/PSD rules in establishing appropriate requirements. It would be premature for EPA to address in this Order what the appropriate requirements might be.

2. Petitioners' Allegation Regarding Other BACT/LAER Issues

The Petitioners allege that the BP permit fails to require all practical and economically reasonable control methods for virtually all new emission units and modifications of existing emission units, and specify a number of emissions units with specific control methods. *Id.* at 25-26. The Petitioners further assert that BP must demonstrate that all of its existing major sources are in compliance with all applicable emissions limits. *Id.* at 26. The Petitioners conclude that the Administrator must object to the BP permit and remand it for the application of BACT/LAER to new flares and new emissions units and modifications of existing emissions units, as well as to address the lack of a demonstration that all of BP's existing major sources are in compliance. *Id.*

Response

As directed in other parts of this order, EPA is granting on the issue of IDEM's consideration of emissions from flares. To implement IDEM's intended approach for addressing emissions during periods of start-up, shut-down, and malfunctions, EPA has ordered IDEM to place a prohibition on such emissions that is legally and practically enforceable. IDEM may in the alternative follow any other approach to address flaring emissions during periods of start-up, shut-down and malfunctions that is consistent with its NNSR/PSD rules. If IDEM concludes that NNSR/PSD is triggered, IDEM would need to act consistent with its NNSR/PSD rules in establishing appropriate requirements. It would be premature for EPA to address in this Order what the appropriate requirements might be.

D. Petitioners' Allegation that the Permit Fails to Include a Schedule of Compliance for the Violations Identified in the NOV Issued to BP in Connection with the Whiting Refinery

The Petitioners claim that the BP permit omits compliance schedules that title V requires to ensure compliance with all applicable requirements, "as supported by the Notice of Violation ('NOV') issued by USEPA to BP for its Whiting Refinery." *Id.* at 37. The Petitioners assert that, under title V and associated regulations, IDEM was required to "mandate submission of a schedule of compliance" addressing the violations alleged in the NOV, and to include the schedule in the Permit, and that IDEM's failure to do so violated the Act. *Id.* at 38. The Petitioners state that section 504 of the Act provides that each title V permit must include "a schedule of compliance ... and such other conditions as are necessary to assure compliance with applicable requirements of this chapter...." *Id.*, quoting 42 U.S.C. § 7661c(a).

The Petitioners state that the Second Circuit made clear in *New York Public Interest Group, Inc. v. Johnson*, 427 F.3d 172 (2d Cir. 2005) (*NYPIRG*) that, "where non-compliance has been demonstrated, agencies are obligated under the CAA to require a schedule of compliance in a title V permit regardless of whether there has been an adjudicated determination of liability," and that an NOV was sufficient evidence of violations to require a schedule of compliance. Petition at 39, citing *NYPIRG*, 427 F.3d at 176 and 181. The Petitioners further claim that the Court concluded that "a private citizen is not required to duplicate complicated and expensive effort by conducting its own fact-finding where the enforcement agency had issued an NOV." Petition at 39, citing *NYPIRG*, 427 F.3d at 182. The Petitioners assert that *NYPIRG* remains the governing law on the significance of an NOV issued prior to a title V permit and cited in a title V petition. Petition at 39. The Petitioners claim that this position was supported by *Citizens Against Ruining the Environment v. EPA*, slip op. (July 28, 2008) (*CARE*), in which, according to Petitioners, the Seventh Circuit held that the evidence of ongoing violations provided in the petition submitted in that case did not rise to the level of demonstrating the need for compliance plans. *Id.*, citing *CARE* at 14-16. The Petitioners claim that the Court "specifically distinguished the case from NYPIRG because the NOV setting forth the violations was issued after both the title V permit and the title V petition deadline." Petition at 39, citing *CARE* at 12. The Petitioners conclude that "since the NOV [in the present case] was issued well before the title V permit and Petitioners are citing the NOV in this petition, the law is clear that the violations set forth in the NOV must be addressed through a schedule of compliance, as the NYPIRG court held." Petition at 40.

The Petitioners claim that EPA found in the November 29, 2007 NOV that "(1) BP failed to obtain a permit when it made major modifications to its fluidized catalytic cracking unit that caused significant increases of nitrogen oxide (NO_x), sulfur dioxide (SO_2), particulate matter (PM_{10}), and carbon monoxide (CO) emissions in violation of NSR requirements; (2) installed and modified flares, exceeded SO_2 emission limits, and failed to monitor emissions from several sources in violation of the New Source Performance Standards for Petroleum Refineries; and (3) failed to conduct timely performance tests of its catalytic reforming units to determine hydrogen chloride emissions in violation of the Refinery [Maximum Achievable Control Technology (MACT)] II." *Id.* The Petitioners state that IDEM provided in its response to comments its "purported justifications" for not including a compliance schedule in the permit

despite the violations documented in the NOV, claiming that "none of these justifications provide valid grounds for omitting the required compliance schedule." *Id.* at 40-41. The Petitioners claim that, despite characterizing them as intermittent, IDEM admits in its response to comments that violations occurred at BP's Whiting facility, and asserts that this alone triggers the requirement for a compliance schedule. *Id.* at 41. The Petitioners allege that at least two of the violations detailed in the NOV - the failure to obtain a permit when making a major modification and the installation and modification of flares in violation of NSPS requirements - are ongoing, and assert that IDEM's claim that the cause of the emissions limits violations will be remedied by the CXHO project is "nothing more than an empty assurance," and not a substitute for a compliance schedule. *Id.* The Petitioners claim that the purpose of the title V program is to provide for practical enforceability of the permit requirements, and that, if there are "concrete elements" of the CXHO project that will address the violations, those elements must be documented and included as steps in a compliance schedule. *Id.*

The Petitioners assert that BP's reported compliance with MACT requirements neither constitutes nor substitutes for adherence to the title V compliance schedule requirements. *Id.* The Petitioners further claim that IDEM's assertion that "placeholder language" substitutes for a compliance schedule has no basis in law. *Id.* at 42. Finally, the Petitioners argue that IDEM cannot "punt" its permitting duties to later enforcement. The Petitioners assert that the determination that NSR violations have been made with the issuance of the NOV, and that EPA's "finding of violations" triggers the requirement for the inclusion of a compliance schedule in the permit. *Id.* The Petitioners conclude that the Administrator must object and require IDEM to incorporate a schedule of compliance to address all violations identified in EPA's NOV. *Id.* at 43.

Response

Contrary to the Petitioners' views, and as explained below and in previous title V orders, the issuance of an NOV, and reference to information contained therein, alone are not sufficient to satisfy the demonstration requirement under section 505(b)(2) of the Act. *See generally CEMEX* at 6-7; *In the Matter of Georgia Power Company, Bowen Steam - Electric Generating Plant, et al,* Final Order (January 8, 2007), at 5-9; and *In re East Kentucky Power Cooperative, Inc.* (Hugh L. Spurlock Generating Station) Petition No. IV-2006-4 (August 30, 2007), at 13-18. Under section 113(a)(1) of the Act, "[w]henever, on the basis of any information available to the Administrator, the Administrator finds that any person has violated or is in violation of any requirement or prohibition of an applicable implementation plan or permit, the Administrator shall [issue an NOV]." An NOV is simply one early step in the EPA's process of determining whether a violation has, in fact, occurred. This step commonly is followed by additional investigation or discovery, information gathering, and exchange of views that occur in the context of an enforcement proceeding and that are considered important means of fact-finding under our system of civil litigation. An NOV is not a final agency action and is not subject to judicial review. It is well-recognized that no binding legal consequences flow from an NOV, and an NOV does not have the force or effect of law. *See CEMEX* at 6.

EPA may consider an NOV's issuance or complaint's filing as a relevant factor when determining whether the overall information presented by the petitioner - in light of all the factors that may be relevant - demonstrates the applicability of a requirement for title V purposes. Other factors that may be relevant in this determination include the quality of the information, whether the underlying facts are disputable, the types of defenses available to the source, and the nature of any disputed legal questions, all of which would need to be considered within the constraints of the title V process. If, in any particular case, these factors are relevant and the petitioner does not present information concerning them, then EPA may find that the petitioner has failed to present sufficient information to demonstrate that the requirement is applicable.

Another factor that EPA considers is the potential impact enforcement cases and title V decisions have on one another. In cases where EPA has initiated an enforcement action at the same time as the permitting authority is taking action on a title V permit application, the source and EPA could find themselves in two separate fora, litigating essentially the same issues -- whether a substantive rule was violated and the appropriateness of a compliance schedule -- with the risk of potentially different and conflicting results. *Id.*

Further, while the permit does not contain a compliance schedule addressing the violations of applicable requirements alleged in the NOV, the State has made clear that it also does not provide any safe harbor from enforcement of these requirements. TSD Addendum at 57-58. Thus, the permit does not disturb any ongoing or future enforcement action for violations of these requirements.

In light of the foregoing, I find that the Petitioners have not demonstrated that the title V operating permit does not comply with the Act. Petitioners have failed to demonstrate that the BP Whiting facility is out of compliance with the requirements addressed in the NOV, and that the permit must include a compliance plan and schedule with regard to such requirements. I therefore deny the petition with respect to this issue.

V. CONCLUSION

For the reasons set forth above and pursuant to section 505(b)(2) of the Clean Air Act, I grant in part and deny in part Petitioners' request for an objection to the issuance of the BP Whiting title V operating permit.

Dated: 10/16/09

Lisa P. Jackson
Administrator