BP Whiting Settlement

(Washington, DC - May 23, 2012) The U.S. Environmental Protection Agency (EPA) and the U.S. Department of Justice announced that BP North America Inc. has agreed to pay an $8 million penalty and invest more than $400 million to install state-of-the-art pollution controls and cut emissions from BP's petroleum refinery in Whiting, Ind. When fully implemented, the agreement is expected to reduce harmful air pollution that can cause respiratory problems such as asthma and are significant contributors to acid rain, smog and haze, by more than 4,000 tons per year.

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Overview of Company and Location of Facility

BP Products North America Inc., headquartered in Warrenville IL, engages in the exploration, development, production and marketing of oil and natural gas, and additionally operates petroleum refineries in California, Indiana, Ohio, Texas and Washington. BP North America Inc. is a subsidiary of BP p.l.c., headquartered in London, England. The Whiting Refinery has a refining capacity of approximately 405,000 barrels per day (bpd), and is the 6th largest refinery in the United States.

Violations

The complaint alleges violations of Clean Air Act requirements at the Whiting Refinery relating to BP’s compliance with a 2001 Consent Decree as well as, inter alia, violations of the following federal and state requirements in connection with construction and expansion of the Whiting Refinery:
• New Source Review/Prevention of Significant Deterioration (NSR/PSD), 40 C.F.R. Parts 51 and 52.
• New Source Performance Standards (NSPS), 40 C.F.R. Part 60, Subparts A, J, VV, VVa, GGG, and GGGa; and Part 61 Subparts J and V.
• National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 C.F.R. Part 63, Subpart CC.
• Title V of the Clean Air Act, 40 C.F.R. Part 70.
• Indiana State Implementation Plan (SIP) Rule 326 IAC 2-1-03 and 326 IAC 2-2-3(2).

**Injunctive Relief**

**NSR/PSD**

- Final FCCU nitrogen oxides (NO\(_x\)) emission limits, as follows:
  - FCU 500, not more than:
    - 35 parts per million (ppm) on a 365-day rolling average basis
    - 80 ppm on a 7-day rolling average basis
  - FCU 600, not more than:
    - 10 ppm on a 365-day rolling average basis
    - 20 ppm on a 7-day rolling average basis
- Final FCCU sulfur dioxide (SO\(_2\)) limits of 10 ppm on a 365-day rolling average basis and 50 ppm on a 7-day rolling average basis for both FCU 500 and FCU 600.
- Operation of NO\(_x\) and SO\(_2\) continuous emission monitors.
- Particulate emissions limits, as follows:
  - FCU 500:
    - 1.0 pound of particulate matter (PM) per 1,000 pounds of coke burned
    - 0.9 pound of particulate matter with a diameter of 10 microns or less (PM\(_{10}\)) per 1,000 pounds of coke burned
    - 1.2 pounds of all particulate matter regardless of size (PM\(_{TOTAL}\)) per 1,000 pounds of coke burned
  - FCU 600:
    - 1.0 pound of PM per 1,000 pounds of coke burned
    - 0.7 pounds of PM\(_{10}\) per 1,000 pounds of coke burned
    - 0.2 pounds of PM\(_{TOTAL}\) per 1,000 pounds of coke burned.
- Carbon monoxide emission limit of 500 ppm on a 1-hour average basis at each FCCU.
- Installation of Selective Catalytic Reduction and Ultra Low NO\(_x\) Burners on refinery heaters and boilers, and a sulfur limit of 70 ppm on any refinery fuel gas that is burned in heaters and boilers.

**NSPS and Flaring**

- Compliance with SO\(_2\) standards of Subpart J and/or Ja for combustion devices burning refinery fuel gas, including flaring devices.
- Compliance with SO\(_2\) standards of Subpart Ja at all sulfur recovery processes, including the sulfur pit.
- Installation of flare gas recovery systems.
- Flare Minimization:
  - Implementation of a waste gas minimization plan (a detailed plan for reducing waste gas to flares).
  - Root cause analysis and implement corrective action for flaring incidents greater than 500 lb/day SO\(_2\) or 500,000 standard cubic feet per day (scf) waste gas flow.
  - An overall limit on flaring (a “flare cap”).
- Flare Efficiency:
  - Install and operate monitoring systems and equipment on all flaring devices.
  - Automated controls and standards to achieve a 98% combustion efficiency of waste gas burned in each flaring device.
Benzene Waste NESHAP

- Compliance with the EPA-preferred “6 BQ” benzene compliance option
- Modified management of change procedures to ensure that new benzene streams are included in the total annual benzene (TAB) calculation
- Conduct laboratory audits
- Quarterly sampling and TAB calculation
- Training for those who sample benzene
- Control of benzene leaks to cooling tower waters.
- Installation of a new Dissolved Air Flotation unit and to install new covers for the API Separator at the Whiting Refinery to control fugitive benzene emissions

Leak Detection and Repair (LDAR) Program

- Refinery-wide compliance with LDAR requirements
- Training, including refresher courses, for refinery personnel with LDAR responsibility
- Required LDAR compliance audits
- Strict internal leak definitions (500 ppm for valves and 2000 ppm for pumps)
- Internal first attempt at repair at 200 ppm for valves
- More frequent monitoring than required by regulation
- Limitation on use of “Delay of Repair” exception
- Installation of “low-leaking” valve or valve packing technology in all new applications

Best Available Control Technology (BACT) Controls for the Delayed Coking Unit

- A coke drum depressurization standard of 2.0 pounds per square inch gauge to control volatile organic compounds (VOCs) and other pollutants, including greenhouse gas (GHG) emissions.
- An enclosed “coke pit” and coke conveyance system to control dust and PM.
- An enclosed coker quench water system to control VOCs.

Additional Projects

As part of the settlement, BP will undertake additional projects at the Whiting Refinery, including:

- A study of energy efficiency measures at the refinery to reduce GHG emissions, and the expenditure of $9.5 million to implement GHG reducing measures.
- A study of energy efficiency measures and the effect of such practices on reduction of GHG emissions.
- Measures to enhance the reliability and operation of continuous emissions monitors.

Supplemental Environmental Project

As a supplemental environmental project, BP will install, operate and maintain a $2 million fence line monitoring system at the Whiting Refinery and will make the data collected available to the public by posting the information on a publicly-accessible website. Fenceline monitors will continuously monitor benzene, toluene, pentane, hexane, SO₂, hydrogen sulfide (H₂S) and all “reduced sulfur compounds” (all compounds containing reduced sulfur).

Pollutant Reductions

http://www.epa.gov/compliance/resources/cases/civil/CAA/bp-whiting.html
When fully implemented, the new controls and requirements under the Consent Decree are estimated to reduce emissions by over 4,000 tons per year (tpy) of the following pollutants, as follows:

- **NO\textsubscript{x}** will be reduced by approximately 328 tpy
- **SO\textsubscript{2}** by approximately 377 tpy
- **VOCs** by approximately 3,224 tpy
- **Hazardous Air Pollutants** by approximately 85 tpy
- Additional reductions of **PM**, **PM\textsubscript{10}**, **PM\textsubscript{TOTAL}**, **carbon monoxide (CO)** and **H\textsubscript{2}S**

In addition, the controls required by the Consent Decree will result in a reduction of **GHGs** by approximately 108,009 tpy (as carbon dioxide equivalents, or CO\textsubscript{2}e).

**Health and Environmental Effects**

- **Nitrogen Oxides** – Nitrogen oxides can cause ground-level ozone, acid rain, particulate matter, global warming, water quality deterioration, and visual impairment. Nitrogen oxides play a major role, with volatile organic chemicals, in the atmospheric reactions that produce ozone. Children, people with lung diseases such as asthma, and people who work or exercise outside are susceptible to adverse effects such as damage to lung tissue and reduction in lung function.

- **Sulfur Dioxide** – High concentrations of SO\textsubscript{2} affect breathing and may aggravate existing respiratory and cardiovascular disease. Sensitive populations include asthmatics, individuals with bronchitis or emphysema, children and the elderly. Sulfur dioxide is also a primary contributor to acid deposition, or acid rain.

- **Volatile Organic Compounds** - VOCs, along with NO\textsubscript{x}, play a major role in the atmospheric reactions that produce ozone, which is the primary constituent of smog. People with lung disease, children, older adults, and people who are active can be affected when ozone levels are unhealthy. Ground-level ozone exposure is linked to a variety of short-term health problems, including lung irritation and difficulty breathing, as well as long-term problems, such as permanent lung damage from repeated exposure, aggravated asthma, reduced lung capacity, and increased susceptibility to respiratory illnesses such as pneumonia and bronchitis.

- **Benzene** – Acute (short-term) inhalation exposure of humans to benzene may cause drowsiness, dizziness, headaches, as well as eye, skin, and respiratory tract irritation, and, at high levels, unconsciousness. Chronic (long-term) inhalation exposure has caused various disorders in the blood, including reduced numbers of red blood cells and anemia in occupational settings. Reproductive effects have been reported for women exposed by inhalation to high levels, and adverse effects on the developing fetus have been observed in animal tests. Increased incidences of leukemia have been observed in humans occupationally exposed to benzene. EPA has classified benzene as a Group A human carcinogen.

- **Greenhouse Gases** – The release of GHGs into the atmosphere traps heat. The continued release of GHGs at or above the current rate will increase average temperatures around the globe. Increases in global temperatures will most likely change our planet’s climate in ways that will have significant long-term effects on people and the environment.

- **Particulate Matter** – PM, especially fine particles, contain microscopic solids or liquid droplets that are so small that they can get deep into the lungs and cause serious health problems. PM is linked to a variety of problems, including increased respiratory symptoms such as irritation of the airways, coughing, or difficulty breathing, decreased lung function, aggravated asthma, and premature death in people with heart or lung disease.
Civil Penalty

BP will pay an $8 million civil penalty as follows:

- $7.2 million to the United States
- $800,000 to the State of Indiana

Other Plaintiffs

The State of Indiana participated in the settlement negotiations and is a party to the Consent Decree. In addition, the following organizations and individuals also participated in and/or are also a party to the Consent Decree:

- The Sierra Club
- Save the Dunes
- The Natural Resources Defense Council
- The Hoosier Environmental Council
- The Environmental Law and Policy Center
- The Environmental Integrity Project
- Susan Eleuterio and Tom Tsourlis

Comment Period

The proposed settlement is lodged in the U.S. District Court for the Northern District of Indiana. The consent decree will be subject to a 30-day public comment period and final court approval. Information on submitting comment is available at the Department of Justice website.

For more information, contact:

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