



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF  
ENFORCEMENT AND  
COMPLIANCE ASSURANCE

**Wyoming Refining Co. Settlement Information Sheet**

**Wyoming Refining Co.**

**Geography:**

One refinery in Newcastle, Wyoming.

**Refining Capacity:**

Approximately 12,500 bbl/day.

Less than 0.1% percent of U.S. domestic refining capacity.

**Emissions reductions:**

Nitrogen oxide (NO<sub>x</sub>) reduced by more than 20 tons per year.

Sulfur dioxide (SO<sub>2</sub>) reduced by more than 788 tons per year.

Additional reductions of volatile organic compounds (VOCs), particulate matter (PM) and other pollutants

**Injunctive Relief:** \$14 million will be spent in injunctive relief through 2012.

New Source Review/Prevention of Significant Deterioration (NSR/PSD) -- Fluidized catalytic cracking units (FCCUs) and Heaters and Boilers:

- FCCU NO<sub>x</sub> limits of not more than 50 ppm (365-day) and 100 ppm (7-day)
  - If refinery converts FCCU to a "partial burn" operation, NO<sub>x</sub> limits are not more than 20 ppm (365-day) and 40 ppm (7-day).
- FCCU SO<sub>2</sub> limits of 25 ppm (365-day) and 50 ppm (7-day).
  - Installation of a wet gas scrubber.
- Installation of NO<sub>x</sub> and SO<sub>2</sub> continuous emission monitors.
- Installation of Ultra Low NO<sub>x</sub> Burners (or equivalent technology) that are designed to achieve an emission rate of 0.030 lb NO<sub>x</sub>/mmBTU for heaters and boilers greater than 40 MMBtu/hr.
- Particulate emissions limits of 0.5 pound per 1,000 pounds coke burned at the FCCU.
- Carbon monoxide emission limit of 500 ppm on a 1-hour average basis at the FCCU.

New Source Performance Standards (NSPS) and Flaring:

- Flare, heaters and boilers subject to NSPS Subpart J.
- No fuel oil burning except in limited circumstances.
- A “root cause” analysis for all future flaring events.

**Benzene Waste Operations National Emissions Standards for Hazardous Air Pollutants (NESHAP):**

- Total annual benzene (TAB) of less than 10 Mg/yr.
- Modified management of change procedures to ensure that new benzene streams are included in the TAB calculation.
- Conduct laboratory audits.
- Quarterly sampling and TAB calculation.
- Training for those who sample benzene.

**Leak Detection and Repair 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.

**Environmental Benefits:**

When all controls are installed, the settlement will result in substantial reductions of the following pollutants:

- Nitrogen oxide (**NO<sub>x</sub>**), which can cause or contribute to a variety of health problems and adverse environmental impacts, such as ground-level ozone, acid rain, global warming, water quality deterioration, and visual impairment. Affected populations include children, people with lung diseases such as asthma, and exposure to these conditions can cause damage to lung tissue for people who work or exercise outside.
- Sulfur dioxide (**SO<sub>2</sub>**), which in high concentrations can affect breathing and may aggravate existing respiratory and cardiovascular disease. Sensitive populations include asthmatics, individuals with bronchitis or emphysema, children, and the elderly. SO<sub>2</sub> is also a primary contributor to acid deposition, or acid rain.
- Volatile Organic Compounds (**VOCs**), which -- along with NO<sub>x</sub> -- plays 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.

- 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.

For more information on NO<sub>x</sub>, SO<sub>2</sub>, PM and VOCs, please visit [EPA's Air Pollutants Web Site](#).

**Penalty:** \$150,000 (split equally with the State of Wyoming)

**State Partner:** Wyoming.

**Comment Period:**

The proposed settlement, lodged in the U.S. District Court for the District of Wyoming, is subject to a 30-day public comment period and final court approval. Information on submitting comment is available at the [Department of Justice](#) website.