



ASHLAND OIL, AIR POLLUTION, AND HEALTH IN THE TRI-STATE

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THE BASIC PROBLEM

- "The refinery has been cited for hundreds of violations over the last few years, including failing to obtain permits and emitting too much air pollution".
- "The federal EPA last year ordered state officials to take action against Ashland Oil for using the malfunction allowance to cover up the refinery's pollution control problems. The EPA said the excess pollution was actually 'due to poor maintenance practices and operational problems'".
- "The director of the state Division for Air Quality told the EPA he agreed that many of the malfunctions were caused by poor maintenance and design problems. He said the state had cracked down, but Ashland then tied the cases up in court". (Lexington Herald-Leader, June 17, 1990).

STUDIES OF HEALTH AND AIR POLLUTION IN THE TRI-STATE

Residents of Kenova, WV reported higher rates of the types of illness associated with air pollution, than residents of Milton, WV. The study included several measures to detect response bias such as overreporting. No evidence of overreporting was found. Differences in illness rates were larger than those found in most other studies of the same type in other polluted areas. (Mermin, 1990)

Residents of Kenova, WV reported higher rates of the types of illness associated with air pollution, than residents of Barboursville, WV. Differences were "as large as we've seen in any study we've done". Residents of several communities were more likely to visit a hospital emergency room on days when industries reported malfunctions, as compared to non-malfunction days. The study's author, an epidemiologist from the University of Pittsburgh, commented on those who tried to deny the problem, saying: "You'd have to be out of your mind to say there's no pollution problem here." (US EPA, Epidemiological Study, 1990), (Lexington Herald-Leader, Dec. 11, 1990)

Because of meteorological conditions, the potential for air pollution in the Ashland--Huntington--Ironton Tri-State area is greater than for any other urban area in the eastern United States. (US EPA, Air Pollution Study, 1990)

Air pollution complaints from citizens of Kenova and Ceredo were correlated with malfunctions at Ashland Oil when the wind was in that direction. No correlations were found for other industries. Ashland Oil reported more malfunctions than all other area industries combined. Excess emissions during malfunctions are responsible for degradation of air quality and pose some additional risk to individuals. (US EPA, Air Pollution Study, 1990)

Industrial "clusters" in the Tri-State region were ranked according to health risk posed from the release of air pollutants. Data used to rate areas included the amount of chemicals released and toxicity of those chemicals. The "Kenova Area" cluster was rated at the greatest risk. Most emissions there are from Ashland Oil. (TGI, Sept. 1994)

THE CAUSES OF AIR PROBLEMS IN THE TRI-STATE

Serious air quality problems exist in the Tri-State largely as a result of frequent industry malfunctions. AOI accounted for 63% of all malfunctions from 1983 to 1988. (US EPA, Air Pollution Study, 1990)

EPA recommends that federal, state and local regulatory agencies should develop a plan to control malfunctions at their sources. (Smith, ADI, 1990)

"The solutions to many of the problems at Kentucky's Ashland Oil refinery were addressed years ago in Texas and are now routine." (KY DAQ, 1990)

Area exceedances of the sulfur dioxide health standard are a result of shutdowns and malfunctions at the Catlettsburg refinery. (KY DAQ, 1991)

Ambient levels of particulates in the Tri-State decreased during the period of increased monitoring for the US EPA study. The levels were the lowest in recent history, and increased to "normal" levels after the study was over. (OVEC, 1991)

Over 3 million pounds of toxic air pollutants (over and above criterion air pollutants) were reported released into the air in the immediate area. Ashland Oil was the leading emitter overall and of carcinogens in particular. (OVEC, July 1991)

The amount of criterion air pollutants emitted (per barrel of oil processed) was much larger for the Catlettsburg refinery than for similar facilities. Data did not include pollution emitted during malfunctions, but only during normal operation. State officials cited lack of proper equipment for the higher rates. (OVEC, Jan. 1992)

"We need to get out of the mode of operating that facility under agreed orders." --Philip Shepherd, Secretary of KY Natural Resources and Environmental Protection Cabinet. (ADI, Jan. 1993)

"...it has been determined that the exceedances are part of a recurring pattern indicative of inadequate design, operation or maintenance." --John Hornback, director KY Division for Air Quality. (ADI, Sept. 1993)

"The company should be willing to admit its weaknesses and failures". "the cost to federal and state taxpayers is enormous to defend agencies against challenges the company makes regarding documented, well-proved violations." The company should "expend more energy on prevention of future violations of a similar type". --John Hornback, director KY Division for Air Quality. (ADI, Oct. 1993)

Ashland Oil should:

- Set up a council or committee to supplement the existing citizens' advisory panel which is "clearly pro-Ashland".
- "Be open to disclosing the true nature of incidents immediately upon their occurrence".
- Install SO₂ scrubbers at the FCC Unit, (a major unit that is grandfathered).
- Accelerate accidental release program to minimize risk of release of hydrogen fluoride. The company's commitment "to make rapid progress toward completion is very weak".
- Better train refinery operators.

--John Hornback, director KY Division for Air Quality. (ADI, Oct. 1993)

Number of reported malfunctions in both 1991 and 1992 were higher than in 1990. Data showed a major increase in problems with air analyzers and continuous emissions monitors, which prevents the obtaining of data on excess emissions during malfunctions. Data submitted by AOI on emissions during malfunctions was often inadequate to quantify emissions, incomplete or missing completely, in violation of reporting regulations. (OVEC 1993)

Kentucky should:

- Develop worst case and most credible case scenarios for the facilities in KY with the most accidents. The results should be made available to the public.
- Find a way to fund a state chemical safety audit program.
- Perform a more in-depth analysis of incidents and releases.

--(TGI, Nov. 1994)

Kentucky ranked sixth among all states in terms of most chemical accidents. During 1992-1994, Ashland Oil had more environmental accidents than any other facility in KY. (TGI, Nov. 1994)

REFERENCES

- ADI, 1990. Ashland Daily Independent, Dec. 8, 1990. Air problems serious, says EPA official.
- ADI, Jan. 1993 Ashland Daily Independent, Jim Malone, Jan 29, 1993. Refinery Air Issues settled.
- ADI, Sept., 1993. Ashland Daily Independent, Sam Adams, Sept. 22, 1994. Regulators issue AOI "do" list.
- ADI, Oct. 1993. Ashland Daily Independent, Sam Adams, Oct. 19, 1993. State cites AOI for 3 August Incidents.
- KY DAQ, 1990. Internal memorandum following study of Texas refineries, William Clements, April 6, 1990.
- KY DAQ, 1991. Major requirements of the clean air act amendments of 1990. Lexington Herald-Leader, June 17, 1990.
- Lexington Herald-Leader, Dec. 11, 1990.
- Mermin, 1990. Jonathan Mermin, Health Study of Kenova, West Virginia. Funded in part by Stanford University
- OVEC, 1991. Air Pollution and Health: Two case studies in WV.
- OVEC, July 1991 Release of Hazardous Air Pollutants in the Tri-State. Toxic Release Inventory for 1989.
- OVEC, Jan. 1992 Air Pollution from the Catlettsburg Refinery compared to other large US refineries.
- OVEC June, 1993 A Review of Reported Problems at the Ashland Petroleum refinery from Jan. 1990 to Dec. 1992.
- Smith, ADI. 1990. Winston Smith, Director--Air Management, US EPA, Region IV, Announcement at public meeting about study results as quoted in Ashland Daily Independent, page 1, Dec. 8, 1990
- TGI. Tri-State Geographic Initiative, Sept. 1994. Preliminary Results of Risk Screening Project. Brian Holtzclaw, TGI Coordinator, KY DEP.
- TGI. Tri-State Geographic Initiative, Nov. 1994. Report on Environmental Incidents in Kentucky-- Frequency by County and by Industry. Brian Holtzclaw, TGI Coordinator, KY DEP.
- US EPA, 1990 Epidemiological Study for the Kenova and Ceredo, West Virginia and Cattlettsburg Kentucky Area. (Study conducted by doctors from Univ. of Pittsburgh, Dept. of Public Health. Report prepared by Alliance Technologies under contract to US EPA) Alliance Technologies Corporation, 100 Europa Dr. Suite 100, Chapel Hill, North Carolina 27514
- US EPA, Air Pollution Study, 1990. Air Pollution study of Ashland, KY--Huntington, WV--Ironton, OH Tri-State Area. Final Report volume I, (Study conducted by EPA officials and Alliance Technologies personnel)