

United States Environmental Protection Agency  
Region 5

IN THE MATTER OF: )  
)  
Cytec Industries, Inc. ) **FINDING OF VIOLATION**  
Kalamazoo, Michigan )  
) **EPA-5-04-MI-04**  
)  
Proceedings Pursuant to )  
the Clean Air Act, )  
42 U.S.C. §§ 7401 et seq. )

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**FINDING OF VIOLATION**

The United States Environmental Protection Agency finds that Cytec Industries, Incorporated (Cytec) has violated Section 608 of the Clean Air Act (Act), 42 U.S.C. § 7471g. Specifically, Cytec has violated the Protection of Stratospheric Ozone Standards at 40 C.F.R. Part 82, Subpart F, Recycling and Emissions Reduction, as follows:

**Regulatory Authority**

1. The Stratospheric Ozone Standards, Subpart F, apply to any person servicing, maintaining, repairing, or owning an "appliance", as that term is defined at 40 C.F.R. § 82.152.
2. The Stratospheric Ozone Standards, at 40 C.F.R. § 82.152, define "industrial process refrigeration" as complex customized appliances used in the chemical pharmaceutical, petrochemical and manufacturing industries. These appliances are directly linked to the industrial process.
3. The Stratospheric Ozone Standards, at 40 C.F.R. § 82.156(i)(2), require that an owner or operator of industrial process refrigeration equipment normally containing more than 50 pounds of refrigerant must have leaks repaired if the appliance is leaking at a rate such that the loss of refrigerant will exceed 35 percent of the total charge during a 12-month period. Repairs must bring annual leak rates to below 35 percent during a twelve month period.
4. The Stratospheric Ozone Standards, at 40 C.F.R.

- § 82.156(i)(9), require that an owner or operator of industrial process refrigeration equipment must repair leaks pursuant to 40 C.F.R. § 82.156(i)(2) within 30 days after discovery of the leak.
5. The Stratospheric Ozone Standards, at 40 C.F.R. § 82.156(i)(3), require that an owner or operator of industrial process refrigeration equipment perform an initial verification at the conclusion of repair efforts.
  6. The Stratospheric Ozone Standards, at 40 C.F.R. § 82.156(i)(3), require that an owner or operator of industrial process refrigeration equipment perform a follow-up verification test within 30 days to ensure that repairs have been successful.
  7. The Stratospheric Ozone Standards, at 40 C.F.R. §§ 82.156(i)(3)(ii) and 82.156(i)(6), state that a one-year retrofit and retirement plan must be developed within 30 days of a failed follow-up verification test. The plan must be kept at the site of the appliance.
  8. The Stratospheric Ozone Standards, at 40 C.F.R. § 82.156(i)(3)(iii), require that an owner or operator must retrofit or replace industrial process refrigeration equipment within one year after a follow-up verification test showed that the repairs had not been successful.
  9. The Stratospheric Ozone Standards, at 40 C.F.R. § 82.156(i)(3)(iii), require that an owner or operator of industrial process refrigeration equipment that fails a follow-up verification test must notify U.S. EPA within 30 days of the failed follow-up verification test.
  10. The Stratospheric Ozone Standards, at 40 C.F.R. § 82.166(n), require that an owner of industrial process refrigeration equipment to maintain on site the following information for all leaks that require repair under 40 C.F.R. § 82.156(i)(2): identification of the facility; the leak rate; the method used to determine the leak rate and full charge; the date a leak rate of greater than the allowable annual leak rate was discovered; the location of leaks(s) to the extent determined to date; and any repair work that has been completed thus far and the date that work was completed.

**Finding of Facts**

11. Cytec owns and operates a chemical manufacturing plant at 2715 Miller Road, Kalamazoo, Michigan (Facility). This plant contains industrial process refrigeration units with a normal charge of over 50 pounds, including Unit #1 and Unit #5.
12. The industrial process refrigeration Unit #1 and industrial process refrigeration Unit #5 use the class II refrigerant R-22.
13. The industrial process refrigeration units referenced above experienced leaks during the time between May 1, 2001 and April 3, 2003 that resulted in an annual leak rate exceeding 35 percent.
14. Repairs performed by Cytec on the following dates did not result in the annual leak rate of the industrial process refrigeration Unit #1 being returned to below 35 percent:
  - A. May 31, 2001
  - B. July 19, 2001
  - C. October 21, 2002
15. Cytec failed to perform an initial verification test on July 19, 2001, to verify that the repairs performed in conjunction with the initial verification tests had brought the leak rate of Unit #1 to below 35 percent.
16. Cytec failed to perform follow-up verification tests by the following dates to verify that the repairs performed in conjunction with the initial verification tests had brought the leak rate of Unit #1 to below 35 percent:
  - A. June 30, 2001
  - B. August 18, 2001
  - C. July 20, 2002
  - D. November 20, 2002
  - E. May 3, 2003
17. Cytec did not develop retrofit or retirement plans for Unit #1 when repairs performed on the following days were unable to bring the leak rate to below 35 percent:
  - A. May 31, 2001
  - B. October 21, 2002

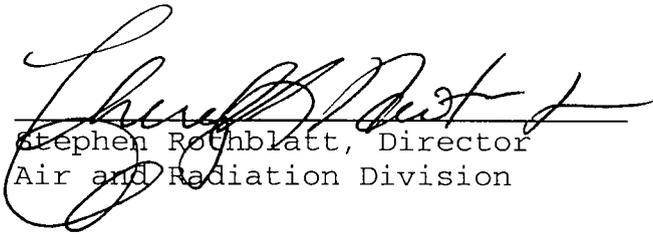
18. Cytec did not retrofit or retire Unit #1 when repairs performed on the following days were unable to bring the leak rate to below 35 percent:
  - A. May 31, 2001
  - B. October 21, 2002
19. Cytec did not notify the U.S. EPA after repairs on Unit #1 on the following days failed to bring the leak rates to below 35 percent:
  - A. May 31, 2001
  - B. July 19, 2001
  - C. October 21, 2002
20. Cytec did not record the leak rate or the method used to determine the leak rate after leaks were identified on Unit #1 on the following days:
  - A. May 31, 2001
  - B. July 19, 2001
  - C. June 20, 2002
  - D. October 21, 2002
  - E. April 3, 2003
21. Cytec failed to perform an initial verification test on November 13, 2002, to verify that the repairs performed in conjunction with the initial verification tests had brought the leak rate of Unit #5 to below 35 percent.
22. Cytec failed to perform follow-up verification tests by December 12, 2002 to verify that the repairs performed in conjunction with the initial verification tests had brought the leak rate of Unit #5 to below 35 percent.
23. Cytec did not record the leak rate or the method used to determine the leak rate after leaks were identified on Unit #5 on November 13, 2002.

#### **Violations**

24. Cytec is in violation of 40 C.F.R. § 82.156(i)(2) and Section 608 of the Act, 42 U.S.C. § 7471g, for failing to repair leaking appliances such that the annual leak rate is brought below 35 percent.

25. Cytec is in violation of 40 C.F.R. § 82.156(i)(3) and Section 608 of the Act, 42 U.S.C. § 7471g, for failing to properly conduct initial verification tests.
26. Cytec is in violation of 40 C.F.R. § 82.156(i)(3) and Section 608 of the Act, 42 U.S.C. § 7471g, for failing to properly conduct follow-up verification tests.
27. Cytec is in violation of 40 C.F.R. §§ 82.156(i)(3)(ii) and 82.156(i)(6) and Section 608 of the Act, 42 U.S.C. § 7471g, for failing to develop one-year retrofit and retirement plans for leaking refrigeration equipment following failed follow-up verification tests.
28. Cytec is in violation of 40 C.F.R. § 82.156(i)(3)(ii) and Section 608 of the Act, 42 U.S.C. § 7471g, for failing to retrofit or retire leaking refrigeration equipment following failed follow-up verification tests.
29. Cytec is in violation of 40 C.F.R. § 82.156(i)(3)(iii) and Section 608 of the Act, 42 U.S.C. § 7471g, for failing to notify the U.S. EPA of failed follow-up verification tests.
30. Cytec is in violation of 40 C.F.R. § 82.166(n) and Section 608 of the Act, 42 U.S.C. § 7471g, for failing to record and maintain on site the leak rates and method for calculating the leak rates.

12/11/03  
Date

  
Stephen Rothblatt, Director  
Air and Radiation Division

**CERTIFICATE OF MAILING**

I, Shanee Rucker, certify that I sent a Finding of Violation, No. EPA-5-04-MI-04, by Certified Mail, Return Receipt Requested, to:

Cytec Industries, Inc.  
2715 Miller Road  
Kalamazoo, Michigan 49001  
Attn: Richard Maxwell, Environmental Superintendent

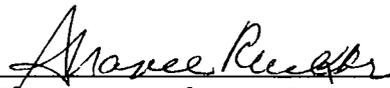
I also certify that I sent copies of the Finding of Violation by first class mail to:

Cytec Industries, Incorporated  
Five Garret Mountain Plaza  
West Paterson, NJ 07424  
Attn: Karen E. Koster, Vice President

Michigan Department of Environmental Quality  
Air Quality Division  
525 West Allegan Street  
P.O. Box 30260  
Lansing, Michigan 48933  
Attn: Tom Hess, Section Supervisor  
Compliance and Enforcement

Michigan Department of Environmental Quality  
Kalamazoo District Office  
7953 Adobe Road  
Kalamazoo, MI 49009-5026  
Attn: Mary Douglas, District Supervisor

on the 12<sup>th</sup> day of December, 2003.

  
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Shanee Rucker, Secretary  
AECAS (MI/WI)

CERTIFIED MAIL RECEIPT NUMBER: 7001032000602960824