



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

JAN 4 2012

REPLY TO THE ATTENTION OF:

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Stanley A. Dabney, II
Environmental Engineer – Air Program Leader
SABIC Innovative Plastics US, LLC
2148 North 2753rd Road
Ottawa, Illinois 61350

Re: Finding of Violation and Notice of Violation

Dear Mr. Dabney:

This is to advise you that the U.S. Environmental Protection Agency has determined that SABIC Innovative Plastics US, LLC facility in Ottawa, Illinois (SABIC or facility) is in violation of the Clean Air Act (CAA) and associated state or local pollution control requirements. A list of the requirements violated is provided below. A Notice of Violation and Finding of Violation (NOV/FOV) for these violations is being issued and is enclosed for your review.

The CAA requires the development of Primary and Secondary National Ambient Air Quality Standards to protect public health and welfare. To attain and maintain these standards, each State is required to develop an implementation plan according to Section 7410, 42 U.S.C. § 7410. The Illinois State Implementation Plan (Illinois SIP) at Illinois Administrative Code 218.441 prohibits the release of certain waste gas streams to the environment unless they are appropriately controlled.

The CAA also requires that certain sources comply with standards appropriate for the source's category. In particular, the National Emissions Standards for Hazardous Air Pollutants (NESHAP) are required by Section 7411 of the CAA, 42 U.S.C. § 7411, with implementing regulations found at 40 C.F.R. Part 63. The NESHAP for Group IV Polymers and Resins (Subpart JJJ) and for Organic Hazardous Air Pollutants for Equipment Leaks (Subpart H), is codified in 40 C.F.R. § 63.1331 and 63.172(e) and specifies requirements to operate air pollution control devices in conformance with their design.

The purpose of these requirements is to reduce emissions that can compromise public health and welfare. Specifically, these requirements ensure that volatile organic compounds and hazardous air pollutants are being controlled to reduce the potential harm to the human respiratory system and reduce the risk of cancer.

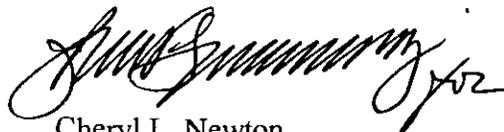
The EPA finds that SABIC has violated the Illinois State Implementation Plan, its Title V Permit No. 96010032 issued on November 25, 2003, the NESHAPs for Equipment Leaks of VOC in polymers and resins manufacturing at 40 C.F.R. § 63.1331, and the NESHAPs General Provisions for flares at 40 C.F.R. § 63.11(b)(6)(ii). Since SABIC violated its Title V permit, it has also violated Title V of the CAA and its associated regulations which require compliance with the terms and conditions of Title V permits.

Section 113 of the CAA gives the EPA several enforcement options to resolve these violations, including: issuing an administrative compliance order, issuing an administrative penalty order, bringing a judicial civil action, and bringing a judicial criminal action. The option we select, in part, depends on the efforts taken by SABIC to correct the alleged violations and the timeframe in which you can demonstrate and maintain continuous compliance with the requirements cited in the NOV/FOV.

We are offering you the opportunity to request a conference with us about the violations alleged in the NOV/FOV. A conference should be requested within 10 days following receipt of this notice. A conference should be held within 30 days following receipt of this notice. This conference will provide you a chance to present information on the identified violations, any efforts you have taken to comply and the steps you will take to prevent future violations. Please plan for your facility's technical and management personnel to take part in these discussions. You may have an attorney represent and accompany you at this conference.

The EPA contact in this matter is Gregory Gehrig. You may contact him at (312) 886-4434 or gehrig.greg@epa.gov if you wish to request a conference. The EPA hopes that this NOV/FOV will encourage SABIC to comply with the requirements of the Clean Air Act.

Sincerely,



Cheryl L. Newton
Director
Air and Radiation Division

Enclosure

cc: Ray Pilapil, Illinois Environmental Protection Agency

**United States Environmental Protection Agency
Region 5**

IN THE MATTER OF:)
)
SABIC Plastics Corporation)
Ottawa, Illinois) **NOTICE OF VIOLATION and**
) **FINDING OF VIOLATION**
)
Proceedings Pursuant to) **EPA-5-12-IL-3**
the Clean Air Act,)
42 U.S.C. §§ 7401 et seq.)

NOTICE AND FINDING OF VIOLATION

SABIC Plastics Corporation (you or SABIC) owns and operates a plastics manufacturing facility at 4128 North 2753rd Road in Ottawa, Illinois. SABIC utilizes one steam assisted flare at this facility.

The EPA is sending this Notice and Finding of Violation (NOV/FOV) to you for not properly controlling emissions of organic material from your flare. The underlying statutory and regulatory requirements include provisions of the Clean Air Act (the Act or CAA), its implementing regulations and the Illinois Title V Permit Program.

Regulatory and Statutory Authority

The regulations and permit conditions relevant to this NOV/FOV are as follows:

1. The Illinois State Implementation Plan (Illinois SIP) at Illinois Administrative Code (IAC) 215.301 and 302(a) prohibits the release of volatile organic material (VOM) waste gas streams containing more than 100 ppm organic material unless the waste stream is reduced to less than 8 lb/hr or 10 ppm of organic material, or treated with a device that achieves a combustion efficiency of 85% or more. This provision is incorporated into SABIC's Title V Permit No. 96010032 at section 7.1.3(d)(i) and (ii).
2. Equipment within the latex process is subject to National Emissions Standards for Hazardous Air Pollutants (NESHAP) Group IV Polymers and Resins (Subpart JJJ) and for Organic Hazardous Air Pollutants for Equipment Leaks (Subpart H). Codified in 40 C.F.R. § 63.1331 and 63.172(e) are specific requirements to operate air pollution control devices in conformance with their design. Specifically, Subpart H at 40 C.F.R. § 63.172(e) states "Owners or operators of control devices that are used to comply with the provisions of this subpart shall monitor these control devices to ensure that they are operated and maintained in

conformance with their design". The applicability of Subpart JJJ and Subpart H by reference is set forth in SABIC's Title V Permit No. 099829AAA at section 7.1.3.e.

3. NESHAP Subpart A codifies specific requirements for flares. Specifically, 40 C.F.R. § 63.11(b)(6)(ii) states "Flares shall be used only with the net heating value [NHV] of the gas being combusted at 11.2 MJ/scm (300 BTU/scf) or greater if the flare is steam-assisted". The applicability of Subpart A is set forth in SABIC's Title V Permit No. 099829AAA at section 7.1.3.e.
4. On March 7, 1995, EPA gave the Illinois Title V Clean Air Act Permit Program (CAAPP) interim approval as a 40 C.F.R. Part 70 permit program under the authority of Section 502 of the Act, 42 U.S.C. § 7661(a) (60 Fed. Reg. 12478). On December 4, 2001, EPA gave the Illinois Title V CAAPP final approval as a 40 C.F.R. Part 70 permit program (66 Fed. Reg. 62946). The regulation at 40 C.F.R. § 70.6(b)(1) specifies that all terms and conditions in a permit issued under a Part 70 program are enforceable by the EPA under the Act. SABIC was issued Title V Permit No. 96010032 for source 099829AAA on November 25, 2003.

Explanation of Violations

5. SABIC uses a flare to control emissions from their latex process (latex flare). The latex flare is steam-assisted, which means that steam is added to the waste, or vent gas stream, to enhance combustion and prevent the formation of smoke. Steam is added in proportion to the amount of vent gas. It is common practice to measure the amount of steam as a ratio of the mass of steam per unit mass of vent gas (lb/lb).
6. In July 1983, the EPA released report "EPA 600/2-83-052", titled Flare Efficiency Study (1983 Flare Study). This study, partially funded by EPA and the Chemical Manufacturers Association (CMA), included various tests to determine the combustion efficiency and hydrocarbon destruction efficiency of flares under a variety of operating conditions. Certain tests were conducted on a steam-assisted flare provided by John Zink Company. The tests performed included a wide range of steam flows and steam-to-vent gas ratios. The data collected showed decreasing combustion efficiencies when the steam-to-vent gas ratio was above 3.5. The tests showed the following efficiencies at the following steam-to-vent gas (S/V) ratios:

Pounds of Steam to One Pound of Vent Gas	Combustion Efficiency (%)
3.45	99.7
5.67	82.18

6.86	68.95
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The report concluded that excessive steam-to-vent gas ratios caused steam quenching of the flame during the tests which resulted in lower combustion efficiency.

7. The EPA has identified other publicly available studies and EPA reports that evaluate how flare combustion efficiency is affected by steam addition. The conclusions of these studies support those of EPA 600/2-83-052.
8. On July 1, 2011, and August 31, 2011, SABIC provided information to the EPA in response to an EPA information request, including design documents and operating data on the latex flare for the period from January 19, 2007, to May 26, 2011. Documents provided by SABIC include the Material Requisition; and Operation, Maintenance and Installation Instructions. EPA reviewed all information provided by SABIC.
9. Documents provided by SABIC set forth both steam and vent gas flow rates. These documents indicate a S/V ratio of 0.25 to 0.4. Specifically:
 - a. In the Material Requisition from Crawford & Russell dated May 30, 1973, On page 2 in the Design Summary 3.2.D, it calls for “150 psig steam – 0.4 lb steam/lb waste”, or an S/V ratio of 0.4;
 - b. In the Operating & Installation Instructions (undated), under V – Waste Design Rates, it calls for a Waste Flow Rate of 1275 lb/hr and steam flow rate of 320 lb/hr providing a S/V ratio of 0.25; and,
 - c. In the Operating, Maintenance and Installation Instructions for a John Zink ZTOF Ground Flare (undated), on the Specifications Sheet (page 5), under A. Waste Data, it indicates a flow rate of 1,275 lb/hr, and under C. Purging it indicates a flow rate of 320 lb/hr of steam. This yields a S/V ratio of 0.25.

Actual operating information provided by SABIC indicates operation of the flare above S/V of 0.4 at all times the flare was operated for the period of 2007 through May 26, 2011. Failure to adhere to the design and operating instructions for the flare constitutes a violation of the requirement to operate the flare according to its design required by 40 C.F.R. § 63.1331 and 63.172(e). Flare testing data indicates that these actions would have reduced the efficiency of the flare and subsequently increased emissions. Moreover, the flare was operated at an S/V ratio greater than ten times above 0.4 (i.e. a S/V ratio of 4.0) for an estimated 13,990 hours during this period.

10. By supplying excess steam, SABIC reduced the combustion efficiency of the latex flare on a consistent basis below 85% and released a waste gas stream to the environment with an organic material concentration greater than 10 ppm and at a rate exceeding 8 lb/hr. This constitutes a violation of the Illinois SIP at IAC 215.301 and 302(a) and SABIC's Title V No. 96010032 Permit at section 7.1.3(d)(i) and (ii). Information provided by SABIC and the 1983 Flare Study suggests this prohibited condition occurs when the S/V ratio exceeds 5.31.

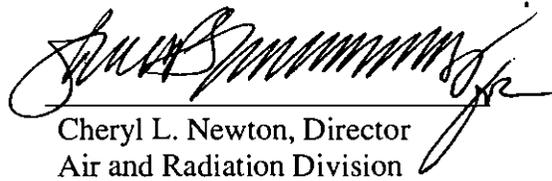
SABIC operated in this condition for a total of 13,951 hours for the period of 2007 through May 26, 2011.

11. SABIC provided NHV values for operating scenarios for the period of 2007 through May 26, 2011. Some of the NHV values are below the requirement for steam-assisted flares of 300 BTU/scf specified in 40 C.F.R. § 63.11(b)(6)(ii). Based on information provided by SABIC, the EPA determined that SABIC violated this condition for a total of 1,035 hours for the period of 2007 through May 26, 2011.

Environmental Impact of Violations

12. These violations have caused or can cause excess emissions of volatile organic compounds (VOC) and/or hazardous air pollutants (HAP). VOC cause ground level ozone, which can irritate the human respiratory system and reduce lung function.

1/4/12
Date


Cheryl L. Newton, Director
Air and Radiation Division

CERTIFICATE OF MAILING

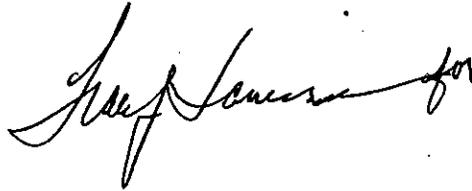
I, Loretta Shaffer, certify that I sent a Notice and Finding of Violation, No. EPA-5-12-IL-3, by Certified Mail, Return Receipt Requested, to:

Stanley A. Dabney, II
Environmental Engineer – Air Program Leader
SABIC Innovative Plastics US, LLC
2148 North 2753rd Road
Ottawa, Illinois 61350

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

Ray Pilapil, Manager
Compliance and Enforcement Section
Illinois Environmental Protection Agency
1012 North Grand Avenue East
Springfield, Illinois 62702

on the 9 day of January, 2011.



CERTIFIED MAIL RECEIPT NUMBER: 7009 1680 0000 7672 8355