

BEFORE THE

OHIO ENVIRONMENTAL PROTECTION AGENCY ENTERED DIRECTOR'S JOURNAL

In the Matter of:

Lanxess Corporation)
356 Three Rivers Parkway)
Addyston, Ohio 45001)

Director's Final Findings
and Orders

I. JURISDICTION

These Director's Final Findings and Orders ("Orders") are issued to Lanxess Corporation ("Respondent") pursuant to the authority vested in the Director of the Ohio Environmental Protection Agency ("Ohio EPA") under Ohio Revised Code ("ORC") § 3704.03.

II. PARTIES BOUND

These Orders shall apply to and be binding upon Respondent and successors in interest liable under Ohio law. No change in ownership of the Respondent or of the facility (as hereinafter defined) shall in any way alter Respondent's obligations under these Orders.

III. DEFINITIONS

Unless otherwise stated, all terms used in these Orders shall have the same meaning as defined in ORC Chapter 3704 and the rules promulgated thereunder.

IV. FINDINGS

The Director of Ohio EPA has determined the following findings:

1. Respondent owns and operates a thermoplastics manufacturing plant ("the facility") which is located at 356 Three Rivers Parkway in Addyston, Ohio, and is identified by Ohio EPA facility identification number 1431010054. Respondent is a "person" as defined by ORC § 3704.01(O) and Ohio Administrative Code ("OAC") Rule 3745-15-01(U).

2. At the facility, Respondent operates numerous pieces of equipment for the production of acrylonitrile butadiene styrene ("ABS") (predominant product), styrene acrylonitrile ("SAN"), and acrylonitrile styrene acrylate ("ASA") plastics. Among the equipment are various emissions units that emit acrylonitrile and 1,3-butadiene. These emissions units are each an "air contaminant source" as defined in OAC Rule 3745-

I certify this to be a true and accurate copy of the official documents as filed in the records of the Ohio Environmental Protection Agency.

By: Omaya Jackson Date: 11-7-06

15-01(C) and (W), and emit organic compounds as defined in OAC Rule 3745-21-01(B)(4), including acrylonitrile and 1,3-butadiene, which are "hazardous air pollutants" as defined in OAC Rule 3745-77-01(V).

3. OAC Rule 3745-15-07 prohibits any person from causing, permitting or maintaining a public nuisance due to the emission or escape into the open air from any source or sources of smoke, ashes, dust, dirt, grime, acids, fumes, gases, vapors, odors, or any other substances or combinations of substances, in such manner or in such amounts as to endanger the health, safety or welfare of the public, or cause unreasonable injury or damage to property.

4. On September 20, 2004, a Title V Permit to Operate ("Title V PTO") became effective for the facility pursuant to OAC Chapter 3745-77. The Title V PTO will expire on September 20, 2009. The permit requires, in part, that the air contaminants emitted by the facility not cause a public nuisance, in violation of OAC Rule 3745-15-07.

5. ORC § 3704.05(G) prohibits any person from violating any order, rule, or determination of the Director that was issued, adopted or made under ORC Chapter 3704. OAC Rule 3745-15-07 was adopted pursuant to ORC Chapter 3704.

6. ORC § 3704.05(J)(2) prohibits, in part, any person from violating any applicable requirement of a Title V permit.

7. The emissions of acrylonitrile from Respondent's facility, as measured by the Hamilton County Department of Environmental Services ("HCDOES") at a rooftop monitoring site located at Meredith Hitchens Elementary School, 190 Main Street, in Addyston beginning on May 10, 2005 through September 2006, have caused elevated ambient air concentrations of this pollutant in the vicinity of the facility, resulting in an ambient risk calculation of 1.34×10^{-4} (approximately in excess of 1.3 in 10,000 excess cancer risk to the surrounding affected population for a lifetime exposure at the measured concentrations, as defined by the U.S. Environmental Protection Agency ("USEPA")), which Ohio EPA considers to be unacceptable for protecting public health. The monitoring data collected to date shows acrylonitrile concentrations for 24-hour periods ranging from "not detectable" to 18.23 micrograms per cubic meter (or 8.4 parts per billion ("ppb") by volume), with an average concentration based on 79 samples of 1.97 micrograms per cubic meter (or 0.91 ppb by volume). (Any sample analysis indicating non-detectable levels of acrylonitrile was included in the calculation of the average concentration at a value of one-half the detection limit identified by the laboratory.) As a result, Respondent has violated and is violating the Title V PTO, OAC Rule 3745-15-07, and ORC § 3704.05(C), (G) and (J)(2).

8. The emissions of 1,3-butadiene from Respondent's facility, as measured by Hamilton County Department of Environmental Services ("HCDOES") at a rooftop monitoring site located at Meredith Hitchens Elementary School, 190 Main Street, in Addyston beginning on May 10, 2005 through September 2006, have caused elevated ambient air concentrations of this pollutant in the vicinity of the facility, resulting in an ambient risk calculation of 1.67×10^{-4} (approximately in excess of 1.6 in 10,000 excess cancer risk to the surrounding affected population for a lifetime exposure at the measured concentrations, as defined by the U.S. Environmental Protection Agency ("USEPA")), which Ohio EPA considers to be unacceptable for protecting public health. The monitoring data collected to date shows 1,3-butadiene concentrations for 24-hour periods ranging from "not detectable" to 33.18 micrograms per cubic meter (or 15 parts per billion ("ppb") by volume), with an average concentration based on 79 samples of 5.57 micrograms per cubic meter (or 2.52 ppb by volume). (Any sample analysis indicating non-detectible levels of 1,3-butadiene was included in the calculation of the average concentration at a value of one-half the detection limit identified by the laboratory.) As a result, Respondent has violated and is violating the Title V PTO, OAC Rule 3745-15-07, and ORC § 3704.05(C), (G) and (J)(2).

9. In a letter dated June 21, 2006, Ohio EPA requested that Respondent provide an expeditious schedule for completing an engineering and cost-effectiveness study to determine additional technically feasible and economically reasonable control measures for acrylonitrile and 1,3-butadiene emissions from the facility.

10. In a letter dated July 5, 2006, legal counsel for Respondent submitted a plan and schedule in response to Ohio EPA's letter of June 21, 2006.

11. In a letter dated July 19, 2006, Ohio EPA requested that Respondent submit certain information and progress reports for the identification and implementation of additional technically feasible and economically reasonable control measures for acrylonitrile and 1,3-butadiene emissions from the facility.

12. Ohio EPA finds that the measured ambient air concentrations are trending downward for 1,3-butadiene. Specifically, of the last 13 measured values spanning the period from July 17 through September 26, 2006, all of the values had non-detectable concentrations of 1,3-butadiene except for a 0.289 ppb, by volume, measurement on August 21, 2006 and a 7.16 ppb, by volume, measurement on September 26, 2006. Because not all of the ambient air concentrations are at non-detectable levels, it is premature at this time to say that the nuisance due to 1,3-butadiene has been corrected. Therefore, information concerning additional control measures for 1,3-butadiene are necessary in the event that the measured concentrations do not continue the downward trend.

13. The Director has given consideration to, and based his determination on, evidence relating to the technical feasibility and economic reasonableness of complying with the following Orders and their benefits to the people of the State to be derived from such compliance.

V. ORDERS

The Director hereby issues the following Orders:

1. To identify control measures to reduce the emissions of acrylonitrile and 1,3-butadiene that are causing the violations of OAC Rule 3745-15-07, Respondent shall comply with the requirements of Orders 2 and 3 as expeditiously as practicable, but not later than the deadlines specified therein.

2. Respondent shall submit to the Hamilton County Department of Environmental Services and Ohio EPA, as expeditiously as practicable, but not later than December 31, 2006, an engineering study of the facility, containing the following information and prepared in accordance with the following instructions:

- a. Identify the technically feasible control measures for each source of acrylonitrile and 1,3-butadiene emissions listed in the emissions inventory submitted by Respondent to Ohio EPA on March 3, 2006. Special attention shall be given to the top 17 individual culpable sources of acrylonitrile listed in Table 2 of the air dispersion computer modeling results submitted by Respondent to Ohio EPA on April 5, 2006, and to the top 4 individual culpable sources of 1,3-butadiene listed in Table 4 of the air dispersion computer modeling results submitted by Respondent to Ohio EPA on April 5, 2006.
- b. For each of the technically feasible control measures identified pursuant to Order 2a, determine and report the following:
 - i. The total installed capital cost;
 - ii. The annual operating and maintenance cost;
 - iii. The total annual cost, including the annualized capital cost;
 - iv. The emission reductions of acrylonitrile or 1,3-butadiene to be provided, in tons; and
 - v. The cost-effectiveness, in dollars per ton of acrylonitrile or 1,3-butadiene removed.

Respondent may use the guidance in Ohio EPA, Division of Air Pollution Control's Engineering Guide #46 in calculating the cost-effectiveness for each technically feasible control measure for each source of acrylonitrile and 1,3-butadiene emissions.

- c. For each technically feasible control measure that has a cost-effectiveness of less than \$15,000 per ton of acrylonitrile or 1,3-butadiene removed, Respondent shall estimate the amount of time required to expeditiously implement each control measure and provide an explanation of the basis for the time estimate. In the case where an emissions source has more than one control measure with a cost-effectiveness value that is less than \$15,000 per ton of pollutant removed, Respondent shall estimate the amount of time for implementation of the control measure that will provide the greatest reduction in emissions in determining the time for implementation for that emissions source.

3. Respondent shall perform air quality dispersion modeling that documents the maximum, annual average, off-site ambient air concentrations of acrylonitrile and 1,3-butadiene resulting from the emissions from the facility. The air quality modeling shall be performed using USEPA-approved modeling techniques [40 CFR, Part 51, Appendix W (The Guideline on Air Quality Models)], five years of meteorological data, the emission inventory data submitted by Respondent on March 3, 2006, and the results of the engineering and cost-effectiveness studies that are required to be submitted by the Respondent not later than December 31, 2006. Respondent also may use Ohio EPA Division of Air Pollution Control's Engineering Guide #69 as guidance in determining the proper air quality modeling procedures. The emission inventory data submitted by Respondent on March 3, 2006 shall be modified, based upon the results of the engineering study, to incorporate all the technically feasible control measures with cost-effectiveness values that are less than \$15,000 per ton of acrylonitrile or 1,3-butadiene removed. In the case where an emissions source has more than one control measure with a cost-effectiveness value that is less than \$15,000 per ton of acrylonitrile or 1,3-butadiene removed, Respondent shall use the control measure that will provide the greatest reduction in emissions in the emission inventory for the air quality modeling. Respondent shall submit the results of the air quality modeling for acrylonitrile and 1,3-butadiene to the HCDOES and Ohio EPA by not later than February 15, 2007. The submittal shall include all source parameters, emission rates, resulting concentrations, and a source cross reference. In addition, all input and output files shall be submitted.

4. Ambient air concentrations of 1,3-butadiene and acrylonitrile will continue to be monitored by HCDOES at the current rooftop location at Meredith Hitchens Elementary

School, 190 Main Street, in Addyston, and/or at any other locations as determined by HCDOES to best measure ambient air quality and affected populations. Monitoring will be conducted using the methods prescribed by USEPA in the publication titled "Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air (Second Edition); Compendium Method TO-15, Determination of Volatile Organic Compounds (VOCs) in Air Collected in Specially-Prepared Canisters And Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS)." Samples will be collected on, at least, an every six-day schedule for 24 hours until the requirements of these Orders have been terminated pursuant to Section VI of these Orders. Concentrations of 1,3-butadiene and acrylonitrile shall be measurable to detection limits not greater than 0.1 ppb and 0.2 ppb, respectively. Respondent shall continue to reimburse HCDOES for costs associated with the analysis of samples collected at the monitoring location at Meredith Hitchens Elementary School, in a manner required by HCDOES and in consultation with Respondent, until these Orders are terminated pursuant to Section VI of these Orders.

VI. TERMINATION

Respondent's obligations under these Orders shall terminate when Respondent certifies in writing and demonstrates to the satisfaction of Ohio EPA that Respondent has performed all obligations under these Orders and the Chief of Ohio EPA's Division of Air Pollution Control acknowledges, in writing, the termination of these Orders. If Ohio EPA does not agree that all obligations have been performed, then Ohio EPA will notify Respondent of the obligations that have not been performed, in which case Respondent shall have an opportunity to address any such deficiencies and seek termination as described above.

The certification shall contain the following attestation: "I certify that the information contained in or accompanying this certification is true, accurate and complete."

This certification shall be submitted by Respondent to Ohio EPA and shall be signed by a responsible official of Respondent. For purposes of these Orders, a responsible official is as defined in OAC Rule 3745-35-02(B)(1) for a corporation.

VII. OTHER APPLICABLE LAWS

All actions required to be taken pursuant to these Orders shall be undertaken in accordance with the requirements of all applicable local, State and federal laws and regulations. These Orders do not waive or compromise the applicability and enforcement of any other statutes or regulations applicable to Respondent.

VIII. NOTICE

All documents required to be submitted by Respondent pursuant to these Orders shall be addressed to:

Hamilton County, Department of Environmental Services
250 William Howard Taft Road
Cincinnati, Ohio 43138
Attention: Kerri Castlen

and:

Ohio Environmental Protection Agency
Division of Air Pollution Control
P.O. Box 1049
Columbus, Ohio 43216-1049
Attention: Thomas Kalman, Manager, Enforcement Section

or to such persons and addresses as may hereafter be otherwise specified in writing by Ohio EPA.

IX. RESERVATION OF RIGHTS

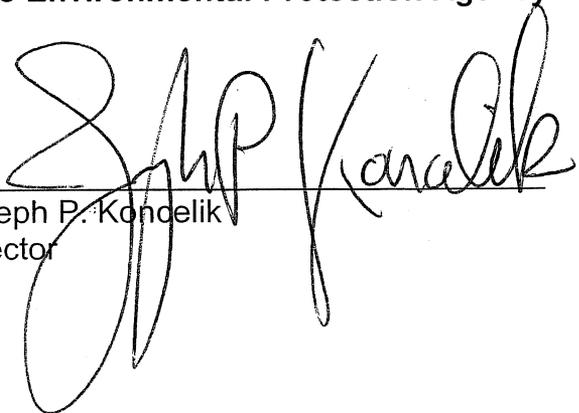
Nothing contained herein shall be construed to prevent Ohio EPA from seeking legal or equitable relief to enforce the terms of these Orders or from taking other administrative, legal or equitable action as deemed appropriate and necessary, including seeking penalties against Respondent for noncompliance with these Orders and/or for the violations described herein. Nothing contained herein shall be construed to prevent Ohio EPA from exercising its lawful authority to require Respondent to perform additional activities pursuant to ORC Chapter 3704 or any other applicable law in the future. Nothing herein shall restrict the right of Respondent to raise any administrative, legal or equitable claim or defense with respect to such further actions which Ohio EPA may seek to require of Respondent. Nothing in these Orders shall be construed to limit the authority of Ohio EPA to seek relief for violations not addressed in these Orders.

X. EFFECTIVE DATE

The effective date of these Orders is the date these Orders are entered into the Ohio EPA Director's journal.

IT IS SO ORDERED:

Ohio Environmental Protection Agency

A handwritten signature in black ink, appearing to read "Joseph P. Koncelik". The signature is written over a horizontal line that spans across the signature and the date field.

Joseph P. Koncelik
Director

NOV 07 2006

Date