

STATE OF MICHIGAN  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
OFFICE OF THE DIRECTOR

In the matter of administrative proceedings  
against **BASF CORPORATION**, a  
corporation organized under the laws of the  
State of Delaware and doing business at  
1609 Biddle Avenue in the City of Wyandotte,  
County of Wayne, State of Michigan

AQD No. 2018-03

SRN: B4359

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STIPULATION FOR ENTRY OF FINAL ORDER  
BY CONSENT

This proceeding resulted from allegations by the Michigan Department of Environmental Quality (MDEQ), Air Quality Division (AQD) against BASF Corporation (Company), a Delaware corporation doing business at 1609 Biddle Avenue in the City of Wyandotte, Wayne County, State of Michigan, with State Registration Number (SRN) B4359. The MDEQ alleges that the Company is in violation of Title 40 CFR, Part 60, Subpart Kb, Standards of Performance for Volatile Organic Liquid Storage Vessels; Mich Admin Code, R 336.1702(a), Mich Admin Code, R 336.1910, Mich Admin Code, R 336.1201, and Mich Admin Code, R 336.2802. Specifically, the MDEQ alleges that the Company exceeded the emission limit for ethylene oxide from the polyol manufacturing process, failed to operate and monitor exhaust temperature of the secondary condenser associated with EUCHEORGACT, failed to meet the stack dimension requirements of FG-PRODUCTS and FG-DRUMMING, failed to meet the minimum volatile organic compound (VOC) destruction efficiency from raw materials storage tanks and a regenerative thermal oxidizer identified as FG-RAWMATLS and FG-RTO in Permit to Install 113-07A, and installed four new natural gas fired burners on existing boilers without obtaining a permit to install (PTI), as cited herein and in the Violation Notices dated May 5, 2017, July 25, 2017, and December 15, 2017. The Company and MDEQ stipulate to the termination of this proceeding by entry of this Stipulation for Entry of a Final Order by Consent (Consent Order).

The Company and MDEQ stipulate as follows:

1. The Natural Resources and Environmental Protection Act, 1994 PA 451 (Act 451), MCL 324.101 *et seq.* is an act that controls pollution to protect the environment and natural resources in this State.

2. Article II, Pollution Control, Part 55 of Act 451 (Part 55), MCL 324.5501 *et seq.* provides for air pollution control regulations in this State.

3. The MDEQ was created as a principal department within the Executive Branch of the State of Michigan pursuant to Executive Order 2011-1 and has all statutory authority, powers, duties, functions and responsibilities to administer and enforce all provisions of Part 55.

4. The MDEQ Director has delegated authority to the Director of the AQD (AQD Director) to enter into this Consent Order.

5. The termination of this matter by a Consent Order pursuant to Section 5528 of Part 55 is proper and acceptable.

6. The Company and the MDEQ agree that the signing of this Consent Order is for settlement purposes only and does not constitute an admission by the Company that the law has been violated.

7. This Consent Order becomes effective on the date of execution (effective date of this Consent Order) by the AQD Director.

8. The Company shall achieve compliance with the aforementioned regulations in accordance with the requirements contained in this Consent Order.

#### COMPLIANCE PROGRAM AND IMPLEMENTATION SCHEDULE

##### 9. Permits and Recordkeeping

9.A. On and after the effective date of this Consent Order, the Company shall keep Online, and Offline system checks performed by the manufacturer (Durr, Inc.) and all checks to verify the proper function of the rotary valve and thrust bearing assembly performed by Durr, Inc. or the Company on the regenerative thermal oxidizer (RTO) identified as FG-RTO in PTI 113-07A, as amended. This information shall be kept on file at the plant for a period of at least 5 years from the effective date of this Consent Order and shall be made available to MDEQ upon written or verbal request.

9.B. No later than August 31, 2018, the Company shall have completed modifications to the stack associated with FG-DRUMMING, to bring it into compliance with the requirements of PTI 113-07A, as amended.

9.C. No later than August 31, 2018, the Company shall have completed any required modifications to the stack associated with FG-PRODUCTS to bring it into compliance with PTI 113-07A, as amended.

10. Emission Limits and Testing

10.A. On and after the effective date of this Consent Order, the Company shall comply with the VOC pounds per hour limit which is based on a daily average, for FGPOLEMCON.

10.B. On and after the effective date of this Consent Order, the Company shall comply with the minimum VOC destruction efficiency limits for FG-RAWMATLS and FG-RTO in PTI 113-07A, as amended.

10.C. No later than December 31, 2019, and continuing every two (2) years thereafter, subject to paragraph 10.G. herein, the Company shall submit a test plan for FG-RTO to determine the VOC destruction efficiency. The test plan shall meet the requirements specified in Exhibit A of this Consent Order and be submitted to the AQD Detroit District Supervisor and the Technical Programs Unit Supervisor for approval prior to testing.

10.D. Within thirty (30) days after AQD approval of a test plan submitted by the Authority pursuant to paragraph 10.C., the Company shall conduct stack testing for VOC destruction efficiency on FG-RTO.

10.E. Within sixty (60) days after the test completion, required as in paragraph 10.D herein, the Company shall submit to the AQD Detroit District Supervisor and the Technical Programs Unit Supervisor a test report that includes the test data and results.

10.F. Not less than seven (7) days prior to any stack testing which will be used to demonstrate compliance, the Company or an authorized agent shall notify the AQD Detroit District Supervisor and the Technical Programs Unit Supervisor, in writing, of the time and place of the tests and who shall conduct them. A representative of the AQD shall have the opportunity to witness the tests.

10.G. After two (2) consecutive testing events demonstrating compliance with the minimum VOC destruction efficiency limits for FG-RTO, the Company may return to the testing schedule required by PTI 113-07A, as amended.

### GENERAL PROVISIONS

11. This Consent Order in no way affects the Company's responsibility to comply with any other applicable state and federal, or local laws or regulations, including without limitation, any amendments to the federal Clean Air Act, 42 USC 7401 *et seq.*, Act 451, Part 55 or their rules and regulations, or to the State Implementation Plan.

12. This Consent Order constitutes a civil settlement and satisfaction as to the resolution of the violations specifically addressed herein; however, it does not resolve any criminal action that may result from these same violations.

13. Within thirty (30) days after the effective date of this Consent Order, the Company shall pay to the General Fund of the State of Michigan, in the form of a check made payable to the "State of Michigan" and mailed to the Michigan Department of Environmental Quality, Accounting Services Division, Cashier's Office, P.O. Box 30657, Lansing, Michigan 48909-8157, a settlement amount of \$185,000.00, which includes AQD costs for investigation and enforcement. This total settlement amount shall be paid within thirty (30) days of the effective date of this Consent Order. To ensure proper credit, all payments made pursuant to this Consent Order shall include the "Payment Identification Number AQD40185" on the front of the check and/or in the cover letter with the payment. This settlement amount is in addition to any fees, taxes, or other fines that may be imposed on the Company by law.

14. On and after the effective date of this Consent Order, if the Company fails to comply with paragraph 10.A., 10.B., 10.C., 10.D., 10.E., 10.F., or 10.G. of this Consent Order, the Company is subject to a stipulated fine of up to \$5,000.00 per violation per day. On and after the effective date of this Consent Order, if the Company fails to comply with paragraph 9.A., 9.B., or 9.C. of this Consent Order, the Company is subject to a stipulated fine of up to \$10,000.00 per violation. The amount of the stipulated fines imposed pursuant to this paragraph shall be within the discretion of the MDEQ. Stipulated fines submitted under this Consent Order shall be by check, payable to the State of Michigan within thirty (30) days of written demand and shall be mailed to the Michigan Department of Environmental Quality, Accounting Services Division, Cashier's Office, P.O. Box 30657, Lansing, Michigan 48909-8157. To ensure proper credit, all payments shall include the "Payment Identification Number AQD40185-S" on the front of the check and/or in the cover letter with the payment. Payment of stipulated fines shall not alter or

modify in any way the Company's obligation to comply with the terms and conditions of this Consent Order.

15. The AQD, at its discretion, may seek stipulated fines or statutory fines for any violation of this Consent Order which is also a violation of any provision of applicable federal and state law, rule, regulation, permit, or MDEQ administrative order. However, the AQD is precluded from seeking both a stipulated fine under this Consent Order and a statutory fine for the same violation.

16. To ensure timely payment of the settlement amount assessed in paragraph 13 and any stipulated fines assessed pursuant to paragraph 14 of this Consent Order, the Company shall pay an interest penalty to the State of Michigan each time it fails to make a complete or timely payment under this Consent Order. The interest payment shall be determined at a rate of interest that is equal to one percent (1%) plus the average interest rate paid at auctions of 5-year United States treasury notes during the six (6) months immediately preceding July 1 and January 1, as certified by the state treasurer, compounded annually, and using the full increment of amount due as principal, calculated from the due date specified in this Consent Order until the date that delinquent payment is finally paid in full. Payment of an interest penalty by the Company shall be made to the State of Michigan in accordance with paragraph 15 of this Consent Order. Interest payments shall be applied first towards the most overdue amount or outstanding interest penalty owed by the Company before any remaining balance is applied to subsequent payment amount or interest penalty.

17. The Company agrees not to contest the legal basis for the settlement amount assessed pursuant to paragraph 13. The Company also agrees not to contest the legal basis for any stipulated fines assessed pursuant to paragraph 14 of this Consent Order but reserves the right to dispute in a court of competent jurisdiction the factual basis upon which a demand by MDEQ of stipulated fines is made. In addition, the Company agrees that said fines have not been assessed by the MDEQ pursuant to Section 5529 of Part 55 and therefore are not reviewable under Section 5529 of Part 55.

18. This compliance program is not a variance subject to the 12-month limitation specified in Section 5538 of Part 55.

19. This Consent Order shall remain in full force and effect for a period of at least four (4) years. Thereafter, this Consent Order shall terminate only upon written notice of termination issued by the AQD Director. Prior to issuance of a written notice of termination, the Company shall submit a request, to the AQD Director at the Michigan Department of Environmental Quality, Air Quality Division, P.O. Box 30260, Lansing, Michigan 48909-7760, consisting of a written certification that the Company has fully complied with all the requirements of this Consent Order and has made all payments including all stipulated fines required by this Consent Order. Specifically, this certification shall include: (i) the date of compliance with each provision of the compliance program and the date any payments or stipulated fines were paid; (ii) a statement that all required information has been reported to the AQD Detroit District Supervisor; (iii) confirmation that all records required to be maintained pursuant to this Consent Order are being maintained at the facility; and, (iv) such information as may be requested by the AQD Director.

20. In the event the Company sells or transfers the facility, with SRN B4359, it shall advise any purchaser or transferee of the existence of this Consent Order in connection with such sale or transfer. Within thirty (30) calendar days, the Company shall also notify the AQD Detroit District Office Supervisor, in writing, of such sale or transfer, the identity and address of any purchaser or transferee, and confirm the fact that notice of this Consent Order has been given to the purchaser and/or transferee. As a condition of the sale, the Company must obtain the consent of the purchaser and/or transferee, in writing, to assume all of the obligations of this Consent Order. A copy of that agreement shall be forwarded to the AQD Detroit District Supervisor within thirty (30) days of assuming the obligations of this Consent Order.

21. Prior to the effective date of this Consent Order and pursuant to the requirements of Sections 5511 and 5528(3) of Part 55, the public was notified of a 30-day public comment period and was provided the opportunity for a public hearing.

22. Section 5530 of Part 55 may serve as a source of authority but not a limitation under which this Consent Order may be enforced. Further, Part 17 of Act 451 and all other applicable laws and any other legal basis or applicable statute may be used to enforce this Consent Order.

23. The Company hereby stipulates that entry of this Consent Order is a result of an action by MDEQ to resolve alleged violations of its facility located at 1609 Biddle Avenue, Wyandotte, Michigan. The Company further stipulates that it will take all lawful actions necessary

to fully comply with this Consent Order, even if the Company files for bankruptcy in the future. The Company will not seek discharge of the settlement amount and any stipulated fines imposed hereunder in any future bankruptcy proceedings, and the Company will take necessary steps to ensure that the settlement amount and any future stipulated fines are not discharged. The Company, during and after any future bankruptcy proceedings, will ensure that the settlement amount and any future stipulated fines remain an obligation to be paid in full by the Company to the extent allowed by applicable bankruptcy law.

The undersigned certifies that he/she is fully authorized by the Company to enter into this Consent Order and to execute and legally bind the Company to it.

**BASF CORPORATION**

Greg Pflum Vice President  
Print Name and Title

[Signature] Date: April 11, 2018  
Signature

The above signatory subscribed and sworn to before me this 11 day of April, 2018.



[Signature]  
Notary Public Signature  
MARIKA Paula Diamond  
Notary Public Printed Name

My Commission Expires: 10-21-2021

MARIKA PAULA DIAMOND  
NOTARY PUBLIC, STATE OF MI  
COUNTY OF WAYNE  
MY COMMISSION EXPIRES Oct 21, 2021  
ACTING IN COUNTY OF Wayne

Approved as to Content:

Approved as to Form:

[Signature]  
Mary Ann Dolehanty, Acting Director  
AIR QUALITY DIVISION  
DEPARTMENT OF  
ENVIRONMENTAL QUALITY

[Signature]  
Neil Gordon, Section Head  
ENVIRONMENTAL REGULATION SECTION  
ENVIRONMENT, NATURAL RESOURCES,  
AND AGRICULTURE DIVISION  
DEPARTMENT OF ATTORNEY GENERAL

Dated: 5/7/2018

Dated: 4/30/2018

FINAL ORDER

The Director of the Air Quality Division having had opportunity to review this Consent Order and having been delegated authority to enter into Consent Orders by the Director of the Michigan Department of Environmental Quality pursuant to the provisions of Part 55 of Act 451 and otherwise being fully advised on the premises,

HAS HEREBY ORDERED that this Consent Order is approved and shall be entered in the record of the MDEQ as a Final Order.

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

  
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Mary Ann Dolehanty, Acting Director  
Air Quality Division

Effective Date: 5/7/2018

## Submittal of Source Emission Test Plans and Reports

### INTRODUCTION

The source emission test is often the ultimate determination of compliance. The results of a test are of great significance to both the regulatory agency and the source. Since the results may determine the course of future enforcement discussions between the agency and the source, it is important that the test be performed in a valid and representative manner. The complex nature of the various sampling methods places great responsibility on both agency and testing personnel to assure each test is an accurate representation of a source's actual emissions.

The objective of this document is to describe the Air Quality Division's (AQD's) technical submittal requirements for a source test. The format described applies to the requirements of the Michigan Department of Environmental Quality (MDEQ) Rule 1001 (4), federal regulations (Part 60-New Source Performance Standards, Part 61- National Emission Standards for Hazardous Air Pollutants (NESHAP), Part 63-Maximum Achievable Control Technology) and to any other emission test submitted for reasons such as a permit requirement, for a consent order, consent judgment, or at the request of the AQD.

### TEST PLAN SUBMITTAL

In order to establish uniform requirements and help ensure proper test methods and procedures are employed, **the information specified below should be submitted to the appropriate AQD District Office (DO) and the Technical Programs Unit (TPU) in Lansing**, at least thirty (30) days prior to the scheduled test date. A complete submittal will minimize the possibility of a test rejection as a result of improper sampling or data collection methods. The proposed test date(s) must be included in the test plan to be considered complete.

Testing shall be performed in strict accordance with the procedures specified in Title 40 of the Code of Federal Regulations, Part 60 (Standards of Performance for New Stationary Sources, Appendix A, as amended), Part 61 (NESHAP, Appendix B), and Part 51 (Requirements for Preparation, Adoption, and Submittal of Implementation Plans, Appendix M); and the MDEQ Rules, Part 10, Intermittent Testing and Sampling. Any variations in the sampling or analytical procedures must be described in the test plan and receive approval from the AQD prior to testing. If state or federal test methods are not available for the pollutants of concern or the nature of the test site makes it impractical to use them, other methods may be proposed as necessary.

While the specific items in the test plan will vary depending on the source and pollutants of interest, the following format should be utilized:

1. Identification and a brief description of the source to be tested. The description should include:
  - a. Names, addresses, and contact information for the facility and consultant/personnel who will be performing the test. Expected test date(s).
  - b. Type of industrial process or combustion facility.
  - c. Type and quantity of raw and finished materials used in the process.
  - d. Description of any cyclical or batch operations, which would tend to produce variable emissions with time.
  - e. Basic operating parameters used to regulate the process.
  - f. Rated capacity of the process. Process capacity can be demonstrated by calculating an average and maximum production rate using facility records. Based on these figures the facility shall include a production rate to be maintained during emission testing.

2. A brief description of any air pollution control equipment associated with the process:
  - a. Type of control device.
  - b. Operating parameters.
  - c. Rated capacity and efficiency.
  - d. Any maintenance activity on the air pollution control equipment within the last three months.
3. Applicable facility SRN, permit number and emission limits for the process to be tested.
4. Identify all pollutants to be measured.
5. Describe in detail the sampling and analysis procedures, including the applicable standard methods reference. Provide a description of the sampling train(s) to be used, including schematic diagrams if appropriate. Justify any proposed sampling or analytical modifications.
6. The number and length of sampling runs, which will constitute a complete test.
7. Dimensioned sketch showing all sampling ports in relation to breeching and to upstream and downstream disturbances or obstructions of gas flow.
8. Estimated flue gas conditions such as temperature, moisture, and velocity.
9. Projected process operating conditions during which the tests will be run (e.g., production rate). **These conditions should match the operating conditions stated in the facility's permit or facility operations shall be at the maximum routine operating conditions during the test.**
10. A description of any process or control equipment data to be collected during the test period. This should include any permit required information used to demonstrate the acceptable operations of emissions control processes and production rates.
11. A description of any monitoring data to be collected during the test period and subsequently reported (e.g., stationary continuous emission monitor data).
12. Field quality assurance/quality control (QA/QC) procedures (e.g., field blanks, sample storage, and transport methods) and chain of custody procedures.
13. Laboratory QA/QC procedures utilized as part of the testing (e.g., manner and frequency of blanks, spikes, and standards). This should include analysis of audit samples where required as a component of the approved test method.

**If the source operates under a Renewable Operating Permit (ROP), certification by a responsible official, as defined in the Michigan Air Pollution Control Rule 336.1118(j), using the Renewable Operating Permit Certification (ROPC) form (EQP 5736), must be included with the test plan and cover letter. This form shall certify that the testing will be conducted in accordance with the attached test plan and that the facility will be operated in compliance with permit conditions or at the maximum routine operating conditions for the facility.**

## **EMISSION TEST REPORTING**

The emission test report should contain all pertinent data concerning the test program. In addition to reporting the results, it should include descriptions of the source, the sampling and analytical methodologies, the process operating conditions, and all raw field data, laboratory analytical data, and calculation methods. Since the report will serve as evidence to both the agency and the source as a demonstration of the compliance status of the facility, it is important it be complete in content and adequate in quality. Its contents should be presented in an understandable and organized manner. **The information listed below shall be submitted to the appropriate AQD DO and the TPU** by the date specified in an applicable air use permit, consent order, consent judgment, or state or federal regulation. Otherwise, pursuant to the MDEQ Rule 1001(4), a complete test report shall be submitted to the AQD within sixty (60) days following the last date of testing. In the event that the test report is not complete, additional information will be requested for submittal. If the information is not received following two written requests to the facility, the test results may be rejected by the AQD.

While the exact format of the report and the applicable information necessary will vary depending on the source and the pollutants of interest, the following format should be utilized.

1. Introduction:
  - a. Identification, location, and dates of tests.
  - b. Purpose of testing.
  - c. Brief description of source.
  - d. Names, addresses, and telephone numbers of the contacts for information regarding the test and the test report, and names and affiliation of all personnel involved in conducting the testing.
2. Summary of Results:
  - a. Operating data (e.g., production rate, fuel type, or composition).
  - b. Applicable permit number, State Registration Number (SRN), and Emission Unit ID or designation for the source.
  - c. Results expressed in units consistent with the emission limitation applicable to the source, and comparison with emission regulations.
3. Source Description:
  - a. Description of process, including operation of emission control equipment.
  - b. Process flow sheet or diagram (if applicable).
  - c. Type and quantity of raw and finished materials processed during the tests.
  - d. Maximum and normal rated capacity of the process.
  - e. A description of process instrumentation monitored during the test.
4. Sampling and Analytical Procedures:
  - a. Description of sampling train(s) and field procedures.
  - b. Description of recovery and analytical procedures.
  - c. Dimensioned sketch showing all sampling ports in relation to breeching and to upstream and downstream disturbances or obstructions of gas flow.
  - d. A sketch of cross-sectional view of stack indicating traverse point locations and exact stack dimensions.

5. Test Results and Discussion:
  - a. Detailed tabulation of results including process operating conditions and flue gas conditions.
  - b. Discussion of significance of results relative to operating parameters and emission regulations.
  - c. Discussion of any variations from normal sampling procedures or operating conditions, which could have affected the results.
  - d. Documentation of any process or control equipment upset condition, which occurred during the testing.
  - e. Description of any major maintenance performed on the air pollution control device(s) during the three-month period prior to testing.
  - f. In the event of a re-test, a description of any changes made to the process or air pollution control device(s) since the last test.
  - g. Results of any quality assurance audit sample analyses required by the reference method.
  - h. Calibration sheets for the dry gas meter, orifice meter, pitot tube, and any other equipment or analytical procedures, which require calibration.
  - i. Sample calculations of all the formulas used to calculate the results.
  - j. Copies of all field data sheets, cyclonic flow checks, including any pre-testing, aborted tests, and/or repeat attempts.
  - k. Copies of all laboratory data including QA/QC (e.g. blanks, spikes, standards).

**If the source operates under an ROP, certification by a responsible official, as defined in the Michigan Air Pollution Control Rule 336.1118(j), using the ROPC form (EQP 5736), must be included with the emission test results and cover letter. This form shall certify that the testing was conducted in accordance with the approved test plan and that the facility operating conditions were in compliance with permit requirements or were at the maximum routine operating conditions for the facility.**

#### **REFERENCES**

<sup>1</sup> Michigan Department of Environmental Quality Rules, Part 10, Intermittent Testing and Sampling.

<sup>2</sup> United States Environmental Protection Agency, Plant Inspection Workshop-Techniques for Evaluating Performance of Air Pollution Control Equipment: Observing Compliance Tests, February 1981.

#### **Mailing Address for the Technical Programs Unit**

Michigan Department of Environmental Quality  
Air Quality Division – Technical Programs Unit  
P.O. Box 30260  
Lansing, MI 48909-7760

#### **Street Address for Technical Programs Unit (needed for Federal Express, UPS, etc.)**

Michigan Department of Environmental Quality  
Air Quality Division – Technical Programs Unit  
Constitution Hall, 2<sup>nd</sup> Floor South Tower  
525 West Allegan Street  
Lansing, MI 48933-1502