

State Registration Number  
B1677

**RENEWABLE OPERATING PERMIT  
STAFF REPORT**

ROP Number  
MI-ROP-B1677-2018a

**Allnex USA, Inc.**

State Registration Number (SRN): B1677

Located at

2715 Miller Road, Kalamazoo, Kalamazoo County, Michigan 49001

Permit Number: MI-ROP-B1677-2018a

Staff Report Date: September 3, 2018

Amended Date: June 19, 2019

This Staff Report is published in accordance with Sections 5506 and 5511 of Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451). Specifically, Rule 214(1) requires that the Michigan Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD), prepare a report that sets forth the factual basis for the terms and conditions of the Renewable Operating Permit (ROP).

## TABLE OF CONTENTS

|  |          |
|--|----------|
| <b>September 3, 2018 STAFF REPORT</b>                                  | <b>3</b> |
| <b>October 17, 2018 STAFF REPORT ADDENDUM</b>                          | <b>7</b> |
| <b>June 19, 2019 - STAFF REPORT FOR RULE 216(2) MINOR MODIFICATION</b> | <b>8</b> |

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**RENEWABLE OPERATING PERMIT**

ROP Number

MI-ROP-B1677-2018

**September 3, 2018 STAFF REPORT**

**Purpose**

Major stationary sources of air pollutants, and some non-major sources, are required to obtain and operate in compliance with an ROP pursuant to Title V of the federal Clean Air Act of 1990 and Michigan's Administrative Rules for Air Pollution Control pursuant to Section 5506(1) of Act 451. Sources subject to the ROP program are defined by criteria in Rule 211(1). The ROP is intended to simplify and clarify a stationary source's applicable requirements and compliance with them by consolidating all state and federal air quality requirements into one document.

This Staff Report, as required by Rule 214(1), sets forth the applicable requirements and factual basis for the draft ROP terms and conditions including citations of the underlying applicable requirements, an explanation of any equivalent requirements included in the draft ROP pursuant to Rule 212(5), and any determination made pursuant to Rule 213(6)(a)(ii) regarding requirements that are not applicable to the stationary source.

**General Information**

|   |   |
|---|---|
| Stationary Source Mailing Address:                          | Allnex USA, Inc.<br>2715 Miller Road<br>Kalamazoo, Michigan 49001 |
| Source Registration Number (SRN):                           | B1677   |
| North American Industry Classification System (NAICS) Code: | 325211  |
| Number of Stationary Source Sections:                       | 1   |
| Is Application for a Renewal or Initial Issuance?           | Initial Issuance  |
| Application Number:   | 201800009   |
| Responsible Official:                                       | Michael Szoke, Plant Manager<br>269-385-1249                      |
| AQD Contact:  | Monica Brothers, Environmental Quality Analyst<br>269-567-3552    |
| Date Application Received:                                  | January 16, 2018  |
| Date Application Was Administratively Complete:             | January 31, 2018  |
| Is Application Shield in Effect?                            | Yes   |
| Date Public Comment Begins:                                 | September 3, 2018   |
| Deadline for Public Comment:                                | October 3, 2018   |

## Source Description

Allnex USA Inc. (Facility) is a chemical manufacturer that makes a wide variety of resins, additives, and crosslinkers for use on wood, metal, plastic, and other surfaces. The Facility in Kalamazoo makes only one type of methylated resin molecule, but can make different forms of the same resin. The emissions from this process are controlled by a vapor balance system, methanol scrubber, cryogenic condenser, water scrubber, two bin vent filters, and two baghouses. The other major part of the Facility is the Cyrez production, which mixes the same resin made in the resin plant with different types of silica, depending on customer demands, to produce a powder product. These emissions are controlled by a baghouse. There are a number of storage tanks at the Facility that are associated with the resin production, along with various reactors, condensers, distillation systems, and solids separation equipment. The Facility also has two boilers, two emergency generators, and a parts washer.

The following table lists stationary source emission information as reported to the Michigan Air Emissions Reporting System for the year 2017.

### TOTAL STATIONARY SOURCE EMISSIONS

| Pollutant                          | Tons per Year |
|------------------------------------|---------------|
| Carbon Monoxide (CO)               | 15.7          |
| Lead (Pb)                          | 9.5E-05       |
| Nitrogen Oxides (NO <sub>x</sub> ) | 18.6          |
| Particulate Matter (PM)            | 2.5           |
| Sulfur Dioxide (SO <sub>2</sub> )  | 2.0           |
| Volatile Organic Compounds (VOC)   | 36.4          |
| Ammonia                            | 0.6           |

The following table lists Hazardous Air Pollutant (HAP) emissions as calculated for the year 2017 by the Facility:

| Individual HAPs **  | Tons per Year |
|---------------------|---------------|
| Methanol            | 7.8           |
| N-Hexane            | 0.4           |
| Formaldehyde        | 1.92E-04      |
| <b>Total (HAPs)</b> | <b>8.2</b>    |

\*\*As listed pursuant to Section 112(b) of the federal Clean Air Act.

See Parts C and D in the ROP for summary tables of all processes at the stationary source that are subject to process-specific emission limits or standards.

## Regulatory Analysis

The following is a general description and history of the source. Any determinations of regulatory non-applicability for this source are explained below in the Non-Applicable Requirement section of the Staff Report and identified in Part E of the ROP.

The stationary source is located in Kalamazoo County, which is currently designated by the U.S. Environmental Protection Agency (USEPA) as attainment/unclassified for all criteria pollutants.

The stationary source is subject to Title 40 of the Code of Federal Regulations (CFR) Part 70, because the potential to emit of any single HAP regulated by the federal Clean Air Act, Section 112, is equal to or more than 10 tons per year and/or the potential to emit of all HAPs combined is equal to or more than 25 tons per year.

The stationary source is subject to Administrative Order EPA-5-17-113(a)-MI-03. In the order, the USEPA alleges that the Facility is a "major source" because the Facility emitted over 10 tons per year of methanol.

No emission units at the stationary source are currently subject to the Prevention of Significant Deterioration regulations of Part 18, Prevention of Significant Deterioration of Air Quality of Act 451, because at the time of New Source Review permitting the potential to emit of each criteria pollutant was less than 100 tons per year.

EUBOILER1 and EUBOILER3 at the stationary source are subject to the National Emission Standard for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters promulgated in 40 CFR Part 63, Subparts A and DDDDD.

EURECFORMTK, EUMFORMCELTK, EUFRMEOHTK, EURECMEOHTK, and EURXN at the stationary source are subject to the National Emission Standard for Hazardous Air Pollutants for Manufacture of Amino/Phenolic Resins promulgated in 40 CFR Part 63, Subparts A and OOO.

EUCUMMINS\_ENG and EUDET\_DIESEL\_ENG at the stationary source are subject to the National Emission Standard for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines promulgated in 40 CFR Part 63, Subparts A and ZZZZ.

EUMACT\_EEEE at the stationary source is subject to the National Emission Standard for Hazardous Air Pollutants for Organic Liquid Distribution (Non-Gasoline) promulgated in 40 CFR Part 63, Subparts A and EEEE.

The monitoring conditions contained in the ROP are necessary to demonstrate compliance with all applicable requirements and are consistent with the "Procedure for Evaluating Periodic Monitoring Submittals."

The emission limitation(s) or standard(s) for VOC from FGMRPT (EURECFORMTK, EUMFORMCELTK, EUNITRICTK, EUMELSTOR, EUFRMEOHTK, EURECMEOHTK, EURXN, EUCYMELTKA, and EUCYMELTKB) at the stationary source are subject to the federal Compliance Assurance Monitoring (CAM) rule under 40 CFR Part 64. These emission units have a control device and potential pre-control emissions of VOC greater than the major source threshold level.

FGCYREZ and water scrubber (ID 631-509) in FGMRPT do not have emission limitations or standards that are subject to the federal CAM rule pursuant to 40 CFR Part 64, because the units do not have potential pre-control emissions over the major source thresholds. This is based on calculations using the efficiency of the control device.

The emission limitations for formaldehyde and methanol in FGMRPT are not subject to the federal CAM rule pursuant to 40 CFR Part 64, because the underlying applicable requirement of R 336.1225 is not federally enforceable.

| <b>Emission Unit/Flexible Group ID</b> | <b>Pollutant/Emission Limit</b> | <b>UAR(s)</b> | <b>Control Equipment</b> | <b>Monitoring</b>        | <b>Presumptively Acceptable Monitoring?</b> |
|--|---------------------------------|---------------|--------------------------|--------------------------|---|
| FGMRPT                                 | VOC/49 TPY                      | R 336.1702(a) | Cryogenic condenser      | Outlet vapor temperature | No  |

Please refer to Parts B, C, and D in the draft ROP for detailed regulatory citations for the stationary source. Part A contains regulatory citations for general conditions.

### **Source-wide Permit to Install (PTI)**

Rule 214a requires the issuance of a Source-wide PTI within the ROP for conditions established pursuant to Rule 201. All terms and conditions that were initially established in a PTI are identified with a footnote designation in the integrated ROP/PTI document.

### **Streamlined/Subsumed Requirements**

This ROP does not include any streamlined/subsumed requirements pursuant to Rules 213(2) and 213(6).

### **Non-applicable Requirements**

Part E of the ROP lists requirements that are not applicable to this source as determined by the AQD, if any were proposed in the ROP Application. These determinations are incorporated into the permit shield provision set forth in Part A (General Conditions 26 through 29) of the ROP pursuant to Rule 213(6)(a)(ii).

### **Processes in Application Not Identified in Draft ROP**

There were no processes listed in the ROP Application as exempt devices under Rule 212(4). Exempt devices are not subject to any process-specific emission limits or standards in any applicable requirement.

### **Draft ROP Terms/Conditions Not Agreed to by Applicant**

This draft ROP does not contain any terms and/or conditions that the AQD and the applicant did not agree upon pursuant to Rule 214(2).

### **Compliance Status**

The AQD finds that the stationary source is expected to be in compliance with all applicable requirements as of the effective date of this ROP.

### **Action Taken by the MDEQ, AQD**

The AQD proposes to approve this ROP. A final decision on the ROP will not be made until the public and affected states have had an opportunity to comment on the AQD's proposed action and draft permit. In addition, the USEPA is allowed up to 45 days to review the draft ROP and related material. The AQD is not required to accept recommendations that are not based on applicable requirements. The delegated decision maker for the AQD is Ms. Mary Douglas, Kalamazoo District Supervisor. The final determination for ROP approval/disapproval will be based on the contents of the ROP Application, a judgment that the stationary source will be able to comply with applicable emission limits and other terms and conditions, and resolution of any objections by the USEPA.

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**RENEWABLE OPERATING PERMIT**

ROP Number  
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**October 17, 2018 STAFF REPORT ADDENDUM**

**Purpose**

A Staff Report dated September 3, 2018, was developed to set forth the applicable requirements and factual basis for the draft ROP terms and conditions as required by Rule 214(1) of the administrative rules promulgated under Act 451. The purpose of this Staff Report Addendum is to summarize any significant comments received on the draft ROP during the 30 day public comment period as described in Rule 214(3). In addition, this addendum describes any changes to the Draft ROP resulting from these pertinent comments.

**General Information**

|                       |  |
|-----------------------|--|
| Responsible Official: | Michael Szoke, Plant Manager<br>269-385-1249                   |
| AQD Contact:          | Monica Brothers, Environmental Quality Analyst<br>269-567-3552 |

**Summary of Pertinent Comments**

No pertinent comments were received during the 30 day public comment period.

**Changes to the September 3, 2018 Draft ROP**

No changes were made to the Draft ROP.

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## RENEWABLE OPERATING PERMIT

ROP Number

June 19, 2019 - STAFF REPORT FOR RULE 216(2)  
MINOR MODIFICATION

MI-ROP-B1677-2018a

### Purpose

On December 6, 2018, the Department of Environment, Great Lakes, and Energy (EGLE), AQD, approved and issued ROP No. MI-ROP-B1677-2018 to Allnex USA, Inc. pursuant to Rule 214 of the administrative rules promulgated under Act 451. Once issued, a company is required to submit an application for changes to the ROP as described in Rule 216. The purpose of this Staff Report is to describe the changes that were made to the ROP pursuant to Rule 216(2).

### General Information

|  |   |
|--|---|
| Responsible Official:                                  | Michael Szoke, Plant Manager<br>269-385-1249        |
| AQD Contact:   | Caryn Owens, Environmental Engineer<br>231-878-6688 |
| Application Number:                                    | 201900072   |
| Date Application for Minor Modification was Submitted: | April 15, 2019                                      |

### Regulatory Analysis

The AQD has determined that the change requested by the stationary source meets the qualifications for a Minor Modification pursuant to Rule 216(2).

### Description of Changes to the ROP

Minor Modification Application No. 201900072 was to incorporate PTI 418-96I which was to add requirements to the PTI based on a USEPA consent agreement and final order (CAFO). The company also identified four tanks in FGYZEZ (EUCYZEZSTTK, EUCYZEZHDTK, EUCYZEZBLND, and EUCYZEZPKG). And added requirements to use the newly-installed water scrubber when operating FGYZEZ. (The CAFO required 90% removal of organic HAP.)

Along with the CAFO-related requirements, the company removed the requirements to read visible emissions from FGYZEZ equipment.

Additional changes to the facility included:

- FGYZEZ: include Group 1 requirements under the National Emission Standards for NESHAP in 40 CFR Part 63, Subpart FFFF [the Miscellaneous Organic NESHAP (MON)]. This would involve replacing the 10,000 pounds per year emission limit for uncontrolled organic HAP with a 98% removal requirement for organic HAP, verified by the results of the stack test required by the CAFO. And change the condition related to the MON, related to the change from Group 2 to Group 1
- FGMRPT: Based on recent stack test data, the PTI removed the restriction on hours of operation using fresh methanol in the methanol scrubber.
- The excursion range for CAM was updated for FGMRPT.

PTI 418-96I application was not required to go through the public participation process.



### **Compliance Status**

The AQD finds that the stationary source is expected to be in compliance with all applicable requirements associated with the emission unit(s) involved with the change as of the date of approval of the Minor Modification to the ROP.

### **Action Taken by the EGLE**

The AQD proposes to approve a Minor Modification to ROP No. MI-ROP-B1677-2018, as requested by the stationary source. A final decision on the Minor Modification to the ROP will not be made until any affected states and the United States Environmental Protection Agency (USEPA) has been allowed 45 days to review the proposed changes to the ROP. The delegated decision maker for the AQD is the District Supervisor. The final determination for approval of the Minor Modification will be based on the contents of the permit application, a judgment that the stationary source will be able to comply with applicable emission limits and other requirements, and resolution of any objections by any affected states or the USEPA.