

State Registration Number
N2155

**RENEWABLE OPERATING PERMIT
STAFF REPORT**

ROP Number
MI-ROP-N2155-2010

Chrysler
Jefferson North Assembly

SRN: N2155

Located at

2101 Conner Avenue, Detroit, Michigan 48215

Permit Number: MI-ROP-N2155-2010

Staff Report Date: August 2, 2010

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 Natural Resources and Environment (MDNRE), 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

August 2, 2010 STAFF REPORT	3
November 4, 2010 STAFF REPORT ADDENDUM	7
I. Pre-Draft ROP - Section C – Emission Unit Conditions	7
1) EU-ECOAT1 (Page 22 of 92)	7
2) EU-ECOAT1 (Page 22 of 92)	8
3) EU-TOPCOAT1 (Page 24 of 92) and EU-TOPCOAT2 (Page 27 of 92)	9
II. Pre-Draft ROP - Section D – Flexible Group Conditions	10
1) FG-Facility	10

Michigan Department of Natural Resources & Environment
Air Quality Division

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August 2, 2010 STAFF REPORT

Purpose

Major stationary sources of air pollutants, and some non-major sources, are required to obtain and operate in compliance with a 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 report, as required by Rule 214(1), sets forth the applicable requirements and factual basis for the draft permit terms and conditions including citations of the underlying applicable requirements, an explanation of any equivalent requirements included in the draft permit 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:	Chrysler 2101 Conner Avenue Detroit, Michigan 48215
Source Registration Number (SRN):	N2155
North American Industry Classification System (NAICS) Code:	336112
Number of Stationary Source Sections:	1
Is Application for a Renewal or Initial Issuance?	Renewal
Application Number:	200800081
Responsible Official:	Patrick Walsh, Plant Manager 313-956-7721
AQD Contact:	Robert Byrnes, Senior Environmental Engineer 517-241-2182
Date Permit Application Received:	June 5, 2008
Date Application Was Administratively Complete:	June 20, 2008
Is Application Shield In Effect?	Yes
Date Public Comment Begins:	August 2, 2010
Deadline for Public Comment:	September 1, 2010

Source Description

Chrysler Jefferson North vehicle assembly plant. The facility consists of a body shop, a paint shop and a final assembly line used to produce the Jeep Commander and the Jeep Grand Cherokee vehicles.

The following table lists stationary source emission information as reported to the Michigan Air Emissions Reporting System in the **2008** submittal.

TOTAL STATIONARY SOURCE EMISSIONS

Pollutant	Tons per Year
Carbon Monoxide (CO)	29.5
Lead (Pb)	0
Nitrogen Oxides (NO _x)	37.5
Particulate Matter (PM)	2.2
Sulfur Dioxide (SO ₂)	0.2
Volatile Organic Compounds (VOCs)	233.9
Individual Hazardous Air Pollutants (HAPs) **	Not Calculated
Total Hazardous Air Pollutants (HAPs)	Not Calculated

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

See Parts C and D in the draft 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 part of the Staff Report and identified in Part E of the ROP.

The stationary source is located in Wayne County, which is currently designated by the U.S. Environmental Protection Agency (USEPA) as attainment/unclassified for all criteria pollutants except the PM 2.5 standard.

Wayne County is currently designated by the U.S. Environmental Protection Agency (USEPA) as a non-attainment area with respect to the PM 2.5 standard.

The stationary source is subject to Title 40 of the Code of Federal Regulations (CFR), Part 70, because:

The potential to emit volatile organic compounds exceeds 100 tons per year and the potential to emit of any single HAP regulated by the federal Clean Air Act, Section 112, is more than 10 tons per year and/or the potential to emit of all HAPs combined is more than 25 tons per year.

The stationary source has an emission units that were subject to new source review for major sources impacting non attainment areas under Act 451, Rule 220 at the time of New Source Review permitting.

EU-Ecoat, EU-Guidecoat, EU-Topcoat1, EU-Topcoat2, and EU-Topcoat3 at the stationary source are subject to the New Source Performance Standards for Automobile and Light Duty Truck Surface Coating Operations promulgated in 40 CFR, Part 60, Subparts A and MM.

EU-Boiler(1-4) at the stationary source are subject to the New Source Performance Standards for Small Industrial-Commercial-Institutional Steam Generating Units promulgated in 40 CFR, Part 60, Subparts A and Dc.

EU-Ecoat, EU-Sealers, EU-Guidecoat, EU-Topcoat1, EU-Topcoat2, EU-Topcoat3, EU-Touchup, EU-Final Sealer, EU- Windshield, EU-Lowbake, EU-Wipe, and EU-Purge at the stationary source are subject to the Maximum Achievable Control Technology Standards for Surface Coating of Automobiles and Light-Duty Trucks promulgated in 40 CFR, Part 63, Subparts A and IIII.

EU-Methanol Tank at the stationary source is subject to the Maximum Achievable Control Technology Standards for Organic liquids Distribution 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."

EU-Ecoat, EU-Topcoat1, EU-Topcoat2, and EU-Topcoat3 at the stationary source is 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 volatile organic compounds greater than the major source threshold level.

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.

The following table lists all individual PTIs that were incorporated into previous ROPs. PTIs issued after the effective date of ROP No. MI-ROP-N2155-2010 are identified in Appendix 6 of the ROP.

PTI Number			
18-08			

Equivalent Requirements

This permit does not include any equivalent requirements pursuant to Rule 212(5). Equivalent requirements are enforceable applicable requirements that are equivalent to the applicable requirements contained in the original PTI, a Consent Order/Judgment, and/or the State Implementation Plan.

Non-applicable Requirements

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

Processes in Application Not Identified in Draft ROP

The following table lists processes that were included in the ROP application as exempt devices under Rule 212(4). These processes are not subject to any process-specific emission limits or standards in any applicable requirement.

Exempt Emission Unit ID	Description of Exempt Emission Unit	ROP Exemption	PTI Permit Exemption
EU-Heaters	Natural gas fired sources less than 50 MM BTU/hr.	R336.12123(4)	R336.1288(b)(i)

Draft ROP Terms/Conditions Not Agreed to by Applicant

This permit 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 DNRE

The AQD proposes to approve this permit. 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 U.S. Environmental Protection Agency (USEPA) is allowed up to 45 days to review the draft permit 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 Teresa Seidel, Southeast Michigan District Supervisor. The final determination for ROP approval/disapproval 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 terms and conditions, and resolution of any objections by the USEPA.

State Registration Number
N2155

RENEWABLE OPERATING PERMIT

ROP Number
MI-ROP-N2155-201X

November 4, 2010 STAFF REPORT ADDENDUM

Purpose

A Staff Report dated August 2, 2010, was developed in order to set forth the applicable requirements and factual basis for the draft Renewable Operating Permit (ROP) terms and conditions as required by R 336.1214(1). 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 R 336.1214(3). In addition, this addendum describes any changes to the draft ROP resulting from these pertinent comments.

General Information

Responsible Official:	Patrick Walsh, Plant Manager 313-956-7721
AQD Contact:	Robert Byrnes, Senior Environmental Engineer 517-241-2182

Company Comment:

I. Pre-Draft ROP - Section C – Emission Unit Conditions

1) EU-ECOAT1 (Page 22 of 92)

- Chrysler is requesting the removal of references to the number of control devices throughout the ROP. The numbers are merely a description but will require superfluous modifications to the ROP if the current oxidizers must be replaced in the future. Since the level of control is dictated by BACT or LAER and the number of oxidizers is not, the number of oxidizers is irrelevant. In addition, current oxidizer technology may allow the combination of exhausts from the oven while maintaining or improving the destruction efficiency. Further, Chrysler has reduced the VOC emissions from the originally permitted E-coat operations by lowering the VOC content of the materials used therein. This has resulted in lower solvent loading to the control devices which reduces VOC emissions, but may negatively impact the destruction efficiency. Therefore, should the need for replacement arise, Chrysler may use that as an opportunity to combine the oven exhausts, reduce the number of oxidizers, and thereby improve overall destruction efficiencies of VOCs as well reduce energy use and the resulting GHG and other combustion pollutants.

This request to remove the number associated with the control device pertains to the following sections of the permit for EU-ECOAT as well as the same sections for EU-Topcoat 1, 2, and 3 and FG-Facility. Please revise these descriptions as follows:

DESCRIPTION

VOC emissions from the curing oven are controlled by ~~two~~ thermal oxidizer~~s~~(s).

POLLUTION CONTROL EQUIPMENT

~~TWO~~ OVEN THERMAL OXIDIZERS(S).

IV. DESIGN/EQUIPMENT PARAMETER(S)

The permittee shall not operate EU-ECOAT unless the ~~two~~ thermal oxidizers(s) are both installed

This same corrections should be applied to the following emission units.

EU-TOPCOAT1; (Page 24 of 92)

EU-TOPCOAT2; (page 27 of 92)

EU-TOPCOAT3; (page 30 of 92)

FG-FACILITY; (page 63 of 92)

AQD Repsonse:

No changes made. The number of oxidizer(s) is considered part of the previous BACT and LAER determinations. Future changes allowed by FG-Facility SC IX.3 and IX4 need to be documented as described in the FACT sheet of the original PTI 18-08 which was the basis for the allowed changes. Notification of these changes also need to be made under Michigan Air Pollution Control Rule 215 as described in the FACT sheet of the original PTI 18-08.

Company Comment:

2) EU-ECOAT1 (Page 22 of 92)

• **IV. DESIGN/EQUIPMENT PARAMETER(S)**

Condition 1 specifies 1360°F for satisfactory operation of the Ecoat oven thermal oxidizers, but allows no flexibility for testing at lower temperatures. We strongly believe the permit language should allow flexibility for demonstrating compliance at lower operating temperatures for all the oxidizers, especially since this will also reduce GHG emissions. We request that condition 1 for the Ecoat oven be revised to reflect the same language found in condition 2 for the topcoat oven oxidizers, which reads as follows:

“Satisfactory operation of thermal oxidizer includes maintaining a minimum temperature of 1310°F based upon a three hour average, or at the temperature during the most recent control device performance test which demonstrated compliance.”

AQD Repsonse:

The AQD has changed Condition 1 to read the following:

The permittee shall not operate EU-ECOAT unless the two thermal oxidizers are both installed, maintained and operated in a satisfactory manner. Satisfactory operation of thermal oxidizer includes maintaining a minimum temperature of 1,360 °F based upon a three hour average, or at the temperature during the most recent control device performance test which demonstrated compliance, and has a minimum retention time of 0.5 seconds. In lieu of a minimum temperature, the permittee may use an average temperature of 1360°F based upon a three-hour rolling average.² (R 336.1220(a), R 336.1225, R 336.1901, R336.1910, 40 CFR 64.6(c)(1)(i),(ii))

Company Comment:

3) EU-TOPCOAT1 (Page 24 of 92) and EU-TOPCOAT2 (Page 27 of 92)

• **IV. DESIGN/EQUIPMENT PARAMETER(S)**

Condition 3 for Topcoat 1 and Topcoat 2 booths specify 1325°F and 1330°F for satisfactory operation of the thermal oxidizers respectively, but allow no flexibility for testing at lower temperatures. The most recent test of Topcoat 1 and 2 oxidizers was performed in December, 2009. During this test, the booth oxidizers demonstrated destruction efficiencies (DE) of 98.8% and 99.9% respectively while operating at an average temperature of 1325°F and 1330°F. Given sufficient time to complete a ladder study, we are convinced that the oxidizers could have easily demonstrated 95% at or below 1310°F. While we disagree with the necessity of including a mandated DE of 95%, especially in a flexible permit, we strongly believe the permit language should allow flexibility for demonstrating compliance at lower operating temperatures for all the oxidizers. We request that condition 3 for Topcoat 1 and Topcoat 2 be replaced with the same language found in condition 2 for the topcoat oven oxidizers. Specifically, we request the language be revised to read:

“Satisfactory operation of thermal oxidizer includes maintaining a minimum temperature of 1310°F based upon a three hour average, or at the temperature during the most recent control device performance test which demonstrated compliance.”

AQD Repsonse:

The AQD has added the flexibility to use the most recent performance test data as long as it meets 95% destruction efficiency as this is considered to be an acceptable performance level for the control technology.

The special conditions now read:

For EU-Topcoat 1:

3. The permittee shall not operate the paint spray booth portions (basecoat bell zone, basecoat automatic conventional zone, heated flash, and clearcoat bell zones) of EU-TOPCOAT1 unless the thermal oxidizer and the carbon concentrator are both installed, maintained and operated in a satisfactory manner. Satisfactory operation of thermal oxidizer includes maintaining a minimum combustion chamber temperature of 1325°F, or at the temperature during the most recent control device performance test which demonstrated compliance with a minimum of 95% destruction efficiency and a minimum retention time of 0.5 seconds. In lieu of a minimum temperature, the permittee may use an average temperature of 1325°F based upon a three-hour rolling average. Satisfactory operation of carbon adsorption wheels include maintaining a minimum desorption gas inlet temperature of no more than 15°F below the average desorption gas inlet temperature during the most recent acceptable performance test values.² (R 336.1220(a), R 336.1225, R 336.1901, 40 CFR 64.6(c)(1)(i),(ii))

For EU-Topcoat 2:

3. The permittee shall not operate the paint spray booth portions (basecoat bell zone, basecoat automatic conventional zone, heated flash, and clearcoat bell zones) of EU-TOPCOAT2 unless the thermal oxidizer and the carbon concentrator are both installed, maintained and operated in a satisfactory manner. Satisfactory operation of thermal oxidizer includes maintaining a minimum combustion chamber temperature of 1330°F or at the temperature during the most recent control device performance test which demonstrated compliance with a minimum of 95% destruction efficiency and a minimum retention time of 0.5 seconds. In lieu of a minimum temperature, the permittee may use an average temperature of 1330°F based upon a three-hour rolling average.

Satisfactory operation of carbon adsorption wheels include maintaining a minimum desorption gas inlet temperature of no more than 15°F below the average desorption gas inlet temperature during the most recent acceptable performance test values.² (R 336.1220(a), R 336.1225, R 336.1901, 40 CFR 64.6(c)(1)(i),(ii))

Company Comment:

II. Pre-Draft ROP - Section D – Flexible Group Conditions

1) FG-Facility

- **POLLUTION CONTROL EQUIPMENT** (Page 63 of 92)

Chrysler is requesting the content of this section be modified as noted below:

~~Three~~ VOC concentrators to control clearcoat booths, basecoat booths, and basecoat flash. ~~Nine~~ ~~†~~Thermal oxidizers to control e-coat oven, clearcoat booths, basecoat booths, basecoat flash, and ~~four~~ topcoat ovens. ~~and a sludge dryer oven.~~ ~~Three~~ ~~w~~Waterwash systems to control three topcoating lines. ~~One~~ ORVR ~~equipped vehicles system~~ to control the gasoline filling operations. ~~Two~~ ~~p~~Particulate control systems (dry filtration system) to control the welding, grinding, and sanding operations and the low bake operations.

AQD Repsonse:

No changes made, see response in the first comment above.