

State Registration Number
N1192

**RENEWABLE OPERATING PERMIT
STAFF REPORT**

ROP Number
MI-ROP-N1192-2023

Denso Manufacturing Michigan, Inc.

State Registration Number (SRN): N1192

Located at

1 Denso Road, Battle Creek, Calhoun County, Michigan 49037

Permit Number: MI-ROP-N1192-2023

Staff Report Date: May 8, 2023

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) of the administrative rules promulgated under Act 451, 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).

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MAY 8, 2023 - STAFF REPORT

ROP Number

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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; and Michigan’s Administrative Rules for Air Pollution Control promulgated under 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:	Denso Manufacturing Michigan, Inc. 1 Denso Road Battle Creek, Michigan 49037
Source Registration Number (SRN):	N1192
North American Industry Classification System (NAICS) Code:	336390
Number of Stationary Source Sections:	1
Is Application for a Renewal or Initial Issuance?	Renewal
Application Number:	202100236
Responsible Official:	Shuichi Kamakura, President 269-565-8636
AQD Contact:	Rachel Benaway, Environmental Quality Analyst 269-370-2170
Date Application Received:	December 8, 2021
Date Application Was Administratively Complete:	December 8, 2021
Is Application Shield in Effect?	Yes
Date Public Comment Begins:	May 8, 2023
Deadline for Public Comment:	June 7, 2023

Source Description

Denso Manufacturing Michigan, Inc. (Facility) is an original equipment manufacturer of automotive condensers, heaters, radiators, and evaporators for foreign and domestic automobile manufacturers. The Facility utilizes a variety of processes, including stamping and tube rolling equipment that use evaporative oils to form fins and tubes; application of powder, paste or liquid flux to core and component pieces; oven degreasing to remove applied oils before the fins are permanently attached to tubes; brazing to permanently join cladding layers of components; and final assembly in order to produce the listed automobile parts.

The Facility is located in the Fort Custer Industrial Park (FCIP). The FCIP is located on relatively flat land approximately five miles west of downtown Battle Creek. There are approximately 90 companies with commercial and manufacturing operations within this industrial park.

The following table lists stationary source emission information as reported to the Michigan Air Emissions Reporting System (MAERS) for the year **2021**.

TOTAL STATIONARY SOURCE EMISSIONS

Pollutant	Tons per Year
Carbon Monoxide (CO)	1.75
Lead (Pb)	0.00
Nitrogen Oxides (NO _x)	9.08
PM10*	8.03
Sulfur Dioxide (SO ₂)	0.06
Volatile Organic Compounds (VOCs)	108.38

* Particulate matter (PM) that has an aerodynamic diameter less than or equal to a nominal 10 micrometers.

The following table lists Hazardous Air Pollutant emissions as calculated for the year 2021 by the Facility:

Individual Hazardous Air Pollutants (HAPs) **	Tons per Year
Hydrogen Fluoride	6.36
Formaldehyde	0.015
Methanol	1.04
Toluene	0.018
Hexane	0.36
Total Hazardous Air Pollutants (HAPs)	7.79

**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 part of the Staff Report and identified in Part E of the ROP.

The stationary source is in Calhoun County, which is currently designated by the United States 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 volatile organic compounds exceeds 100 tons per year.

The stationary source is a "synthetic minor" source regarding HAP emissions because the stationary source accepted a legally enforceable permit condition limiting the potential to emit of any single HAP regulated by Section 112 of the federal Clean Air Act, to less than 10 tons per year and the potential to emit of all HAPs combined to less than 25 tons per year.

The stationary source is considered a "synthetic minor" source in regards to the Prevention of Significant Deterioration regulations of 40 CFR 52.21 because the stationary source accepted legally enforceable permit conditions limiting the potential to emit of volatile organic compounds to less than 250 tons per year.

The stationary source is not subject to the New Source Performance Standards (NSPS) for Industrial Boilers promulgated in 40 CFR Part 60, Subpart Dc, because the boilers at the Facility were installed prior to the applicability date specified in the subpart. Future modifications to the boilers may be subject to 40 CFR Part 60, Subpart Dc. The boilers are also exempt from regulation under 40 CFR Part 63, Subpart JJJJJJ (National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers Area Sources), per 40 CFR 63.11195(e), based on being designated as existing boilers that only fire natural gas.

The stationary source has six stationary emergency generators and two emergency fire pumps fired by either diesel fuel or natural gas. The emergency engines were exempt from air use permitting requirements based on maximum heat input capacity less than 10 MMBTU/hour, and their individual installation dates. Five emergency generators and the two diesel fired fire pumps were installed prior to 2006 and are considered to be existing engines subject to NESHAP for Stationary Reciprocating Internal Combustion Engines, 40 CFR Part 63, Subpart ZZZZ. One natural gas fired emergency generator was installed after 2006 and is considered to be a new stationary engine that is subject to NSPS for Stationary Spark Ignition Internal Combustion Engines 40 CFR Part 60, Subpart JJJJ.

EU-GASTANK at the stationary source is subject to the National Emission Standard for Hazardous Air Pollutants for Gasoline Dispensing Facilities promulgated in 40 CFR Part 63, Subparts A and CCCCC. The ROP contains special conditions provided by the Facility in their application for applicable requirements from 40 CFR Part 63, Subparts A and CCCCC. The AQD is not delegated the regulatory authority for this area source MACT.

The Facility commenced manufacturing operations in 1985. Oil mist from evaporative oil usage was initially permitted as PM. Due to a change in the definition of VOC, oil mist is now considered to be a VOC. The Facility applied for and was initially issued a PSD, VOC opt-out limit of 225 tons/year. The change in VOC definition led to a non-functional, opt-out permit due to certain manufacturing lines being permitted with PM limits, and similar lines that were installed at a later date having either both PM and VOC limits, or only VOC limits. The Facility has continued to expand their operations. Issued new source review permits were not consistent with what processes were included in the emission unit or flexible group conditions despite similarity in the metal stamping and forming, mechanical assembly of cores with components, core oven degreasing, and brazing across all four manufacturing areas.

It was also determined that some flexible groups were not properly defined and that some contained multiple lines that should be separated for regulatory purposes. The AQD, made a stationary source determination request to the Facility in 2010 regarding their spatial and business relationship with two nearby manufacturers of automotive based components, Denso Air Systems and ASMO Manufacturing. Based on a review of the provided information, the AQD, made a determination on March 2, 2011, that all three facilities should be treated as separate stationary sources.

The lack of consistency in permitting led to a joint decision starting in 2012 to develop a common convention for emission unit and flexible group names and definitions, and to standardize permit terms and conditions for the manufacturing of the four product lines since the process operations are similar. New source review requirements were completed for all four manufacturing areas along with reissuance of the synthetic minor permit for VOC, and for single and combined HAPs.

The facility originally submitted a 2-section ROP application on December 8, 2021. Section 1 was for Denso Manufacturing Michigan, Inc. and Section 2 was for Denso Air Systems Michigan, Inc. The facility sent notification by email on September 23, 2022, that Denso Air Systems would be closing their doors within 2 months and no longer require Section 2. Section 2 has been removed from the ROP.

The AQD's Rules 287 and 290 were revised on December 20, 2016. FG-RULE287(2)(c) and FG-RULE290 are flexible group tables created for emission units subject to these rules. Emission units installed before December 20, 2016, can comply with the requirements of Rule 287 and Rule 290 in effect at the time of installation or modification as identified in the tables. However, emission units installed or modified on or after December 20, 2016, must comply with the requirements of the current rules as outlined in the tables.

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."

No emission units have emission limitations or standards that are subject to the federal Compliance Assurance Monitoring rule under 40 CFR Part 64, because all emission units at the stationary source either do not have a control device or those with a control device do not have potential pre-control emissions over the major source thresholds. Certain emission units in the heater, condenser, radiator, and evaporator manufacturing areas have thermal oxidizer controls on their core oven degreasing equipment for control of VOC emissions. However, these emission units have corresponding federally enforceable limits on machining oil usage that limit pre-control VOC emissions from exceeding the major source threshold.

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-N1192-2017 are identified in Appendix 6 of the ROP.

PTI Number			
717-85	143-93	441-93	523-93
24-96A	25-96	26-96A	516-96
519-96	577-97	165-97A	55-99
435-99	44-00C	29-01	154-01A
155-01	230-01	223-02	174-05
296-03A	192-04A	98-03B	7-06E
190-14	48-15B	327-08A	68-03A
267-07B	48-15C	19-04D	70-07B

PTI Number			
166-18	277-04J	101-16A	

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

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.

PTI Exempt Emission Unit ID	Description of PTI Exempt Emission Unit	Rule 212(4) Citation	PTI Exemption Rule Citation
EUBOILER#1	Natural gas fired Cleaver-Brooks package boiler rated at 20.92 MMBTU/hour installed on November 1, 1985.	R 336.1212(4)(b)	R 336.1282(2)(b)(i)
EUBOILER#2	Natural gas fired Cleaver-Brooks package boiler rated at 20.92 MMBTU/hour installed on November 1, 1985.	R 336.1212(4)(b)	R 336.1282(2)(b)(i)
EUHWBOILERS	Four natural gas fired hot water boilers installed on various dates between 1985 and 1987 that are each rated at less than 10 MMBTU/hour.	R 336.1212(4)(b)	R 336.1282(2)(b)(i)
EUAHUS	Forty-one natural gas fired air handling units that were installed on various dates and are each rated at less than 0.3 MMBTU/hour.	R 336.1212(4)(b)	R 336.1282(2)(b)(i)

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 EGLE, 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 Rex Lane, 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.

State Registration Number

N1192

RENEWABLE OPERATING PERMIT

June 29, 2023 - STAFF REPORT ADDENDUM

ROP Number

MI-ROP-N1192-2023

Purpose

A Staff Report dated May 8, 2023, was developed to set forth the applicable requirements and factual basis for the draft Renewable Operating Permit (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:	Shuichi Kamakura, President 269-565-8636
AQD Contact:	Rachel Benaway, Environmental Quality Analyst 269-270-3170

Summary of Pertinent Comments

The Air Permits Section of USEPA Region 5 submitted a comment requesting a revision to the permit. The permittee is required to maintain a Malfunction Abatement Plan (MAP) for thirteen emission units (EUs) to ensure satisfactory operation of each unit and any associated control equipment. The US EPA requested the inclusion of a condition in the ROP for recordkeeping requirements for MAP-related records to determine ongoing compliance with the MAP.

Based upon a second comment submitted by the USEPA, a request was made for the permittee to update their MAP to address the retention of records for daily visual pressure drop readings from the dust collector systems to ensure ongoing compliance with the MAP and consistent with 40 CFR 70.6(a)(3)(i)(B) and Michigan Air Pollution Control Rule 213(3)(a)(ii).

Changes to the May 8, 2023 Draft ROP

A condition was added to the following EUs with a MAP requirement: EU-HTR1, EU-HTR2, EU-CONDMF3, EU-CONDMF41, EU-CONDGIC2, EU-EVAP1, EU-EVAP2, EU-EVAP4, EU-EVAPCS2, EU-EVAPSP4, EU-RDR1, EU-RDR2, and EU-RDR3. The new condition requires the permittee to keep records of monitoring and maintenance conducted to demonstrate the EU and all control devices are operated according to the approved MAP and to retain records on file, available to the department upon request.