

Michigan Department of Environmental Quality  
Air Quality Division

State Registration Number  
B1476

**RENEWABLE OPERATING PERMIT  
STAFF REPORT**

ROP Number  
MI-ROP-B1476-2015a

**Decorative Panels International  
and  
American Process Incorporated**

SRN: B1476

Located at:

416 Ford Avenue, Alpena, Alpena County, Michigan 49707  
and  
412 Ford Avenue, Alpena, Alpena County, Michigan 49707

Permit Number: MI-ROP-B1476-2015a

Staff Report Date: September 21, 2015

Amended Date: February 16, 2016

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 Environmental Quality (MDEQ), 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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**RENEWABLE OPERATING PERMIT**

ROP Number

B1476

**SEPTEMBER 21, 2015 - STAFF REPORT**

MI-ROP-B1476-2015

**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:	Decorative Panels International (DPI) 416 Ford Avenue Alpena, Michigan 49707 and American Process Incorporated (API) 412 Ford Avenue Alpena, Michigan 49707
Source Registration Number (SRN):	B1476
North American Industry Classification System (NAICS) Code:	DPI - 321219 API - 325193
Number of Stationary Source Sections:	2
Is Application for a Renewal or Initial Issuance?	Renewal
Application Number:	201400097
Responsible Official:	Tim Clark, President Decorative Panels International 419-720-0957  Theodora Retsina, Chief Executive Officer American Process Incorporated 404-872-8807, Extension: 204
AQD Contact:	William Rogers, Environmental Quality Analyst 989-705-3406
Date Permit Application Received:	June 12, 2014
Date Application Was Administratively Complete:	June 12, 2014
Is Application Shield In Effect?	Yes
Date Public Comment Begins:	September 21, 2015
Deadline for Public Comment:	October 21, 2015

## **Source Description**

Decorative Panels International and American Process Incorporated are located on adjacent sites at 416 and 412 Ford Avenue respectively in Alpena, Michigan. The site is on the Lake Huron shore at the mouth of the Thunder Bay River. Northeast lie industrial properties including Lafarge Cement. North are residential areas. Downtown Alpena is to the west. The plant now owned by Decorative Panels International opened in 1957. American Process International opened their part of the facility in 2012.

Decorative Panels International manufactures hardboard. Their facility includes an outdoor raw material storage area, a storage silo area, and four digesters where wood is cooked and ground to make pulp.

The pulp goes to a forming machine, where it is made into mats. The mats pass through a Coe dryer, then through a trimmer and panel brush. From there the mats go to two hardboard press lines, known as Line 1 and Line 3. There was also a Line 2 at one time, but it is out of operation and some of its equipment has been removed.

Each hardboard line includes a predryer, a press, a board cooler and a tempering area. Line 3 includes a bake oven. The presses squeeze and heat the fiber mat to form hardboard. The hardboard is coated with linseed oil in the tempering area; the oil "tempers" the board by increasing its strength and paintability. After this the board from line 3 is baked in the bake ovens; board from Line 1 omits this part of the process. The boards go to humidifiers, where their moisture content is brought back up to approximately the normal level the board would gain from the atmosphere under everyday conditions. Finally, the board is inspected, graded, cut, and packed for shipping.

Pollution control equipment includes biofilters to reduce emissions from the presses and a regenerative catalytic oxidizer to reduce emissions from the Number 3 line bake oven and predryer.

Three boilers in a powerhouse provide steam for the digesters, the presses, and other processes within the plant. Boilers 1 and 2, identified in the permit as FGBOILERS1&2, burn natural gas. These boilers also provide steam to a turbine/generator to generate electrical power on site. Boiler 3, identified in the permit as EUBOILER#3, burns solid fuels, including wood, wood waste, hardboard dust, and wastewater treatment sludge. In addition, it may burn waste oil generated on site and natural gas. Wastewater treatment sludge burned in the boilers is generated on site from treatment of plant process water. It is dried before going to the boilers.

The wastewater from Decorative Panels International's wood pulping operation contains wood sugars. To put this waste material to productive use American Process Incorporated built their Alpena Biorefinery adjacent to Decorative Panels International.

The Alpena Biorefinery takes the wastewater and steam to provide heat for processing it from Decorative Panels International. Except for building heat and other such housekeeping processes, all heat for the biorefinery comes from this steam.

The biorefinery dries the wastewater sludge and returns this to Decorative Panels International, where it is used as fuel in the boilers. Wastewater is treated to break complex sugars into simple ones and concentrate the sugar. The resulting sugar water goes to a fermenter where yeast is added and the sugar ferments to make ethanol. The biorefinery distills the water-ethanol mix to separate out the ethanol. Finally, the ethanol is "denatured," that is, made undrinkable, by adding some gasoline. The gasoline is added through an inline metering system as the alcohol is loaded into tanker trucks. The trucks take the denatured alcohol away to be used in motor fuel.

To perform this process the biorefinery contains various storage tanks, yeast propagation tanks, fermenters, a still, a silo for powdered lime, and a truck loading rack. Product and denaturant (gasoline) tanks are uncontrolled. The fermenter, still, and associated equipment have a wet scrubber for air

pollution control. The loading rack air emissions are controlled by submerged fill pipes in the trucks used to carry away the product.

The following table lists stationary source emission information as reported to the Michigan Air Emissions Reporting System in the **2014** submittal.

### TOTAL STATIONARY SOURCE EMISSIONS

Pollutant	Tons per Year
Carbon Monoxide (CO)	249.73
Lead (Pb)	0.06
Nitrogen Oxides (NO <sub>x</sub> )	267.21
Particulate Matter (PM)	51.11
Sulfur Dioxide (SO <sub>2</sub> )	498.69
Volatile Organic Compounds (VOCs)	80.58
<b>Individual Hazardous Air Pollutants (HAPs) **</b>	
Acrolein	<b>0.99</b>
Benzene	<b>1.07</b>
Formaldehyde	<b>13.17</b>
HCL	<b>22.27</b>
HF	<b>2.19</b>
<b>Total Hazardous Air Pollutants (HAPs)</b>	<b>39.69</b>

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

In addition to the pollutants listed above that have been reported in MAERS, the potential to emit of Greenhouse Gases (GHG) in tons per year of CO<sub>2</sub>e is 210,064 tons. CO<sub>2</sub>e is a calculation of the combined global warming potentials of six Greenhouse Gases (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride).

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 Alpena 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 carbon monoxide, nitrogen oxides, particulate matter, sulfur dioxide, and volatile organic compounds each exceed 100 tons per year, 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 the potential to emit of all HAPs combined is more than 25 tons per year, and because the potential to emit of GHG is 100,000 tons per year or more calculated as CO<sub>2</sub>e and 100 tons per year or more on a mass basis.

No emissions units at the stationary source are currently subject to the Prevention of Significant Deterioration (PSD) regulations of Part 18, Prevention of Significant Deterioration of Air Quality of Act 451 or 40 CFR Part 52.21 because the process equipment at Decorative Panels International was constructed/installed prior to June 19, 1978, the promulgation date of the PSD regulations and because at the time of New Source Review permitting the potential to emit of each criteria pollutant, for the equipment at American Process Incorporated, was less than 250 tons per year.

At this time, there are no GHG applicable requirements to include in the ROP. The mandatory Greenhouse Gas Reporting Rule under 40 CFR Part 98 is not an ROP applicable requirement and is not included in the ROP.

The hardboard lines, containing emission units EUPRESS2S, EU3PRESS-AREA, and EU3 BAKEOVEN at the stationary source are subject to the National Emission Standard for Hazardous Air Pollutants for Plywood and Composite Wood Products promulgated in 40 CFR Part 63, Subparts A and DDDD.

The boilers designated as EUBOILER#1, EUBOILER#2, and EUBOILER#3 at the stationary source are subject to the National Emission Standard for Hazardous Air Pollutants for Industrial Boilers and Process Heaters promulgated in 40 CFR Part 63, Subparts A and DDDDD.

The diesel-fired reciprocating internal combustion engine driving a fire pump designated as EUFIREPUMP at the facility is 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.

Ethanol production equipment, containing emission units EUETHANOLFERM, EUBEERCOLUMN, EURECTIFIER, EUMOLSIEVE, and EUETHLOAD at the stationary source is subject to the National Emission Standard for Hazardous Air Pollutants for Miscellaneous Organic Chemical Manufacturing promulgated in 40 CFR Part 63, Subparts A and FFFF.

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 Number 3 press line at the stationary source, including the No. board press and cooler identified as EUPRESSS2S and the Press 1 Predryer identified as EUS2SPREDRYER has been modified since the issuance of the previous Renewable Operating Permit, ROP Number MI-ROP-B1476-2009b by bypassing and disconnecting a bake oven for final drying of hardboard. The bake oven was identified as EUS2SBAKEOVEN in the previous versions of the ROP. Conditions pertaining to this emission unit have been removed from the current ROP. Removal of the bake oven does not increase air pollution emissions, so no new permit conditions were added to the ROP in response to this change.

The Alpena Biorefinery, operated by American Process Incorporated, has been added to the stationary source since the issuance of the previous Renewable Operating Permit, ROP Number MI-ROP-B1476-2009b. The Alpena Biorefinery was installed under Permit to install number 73-10B. The conditions of this Permit to install are being incorporated into this ROP. The Alpena Biorefinery is included in Section 2 of this Renewable Operating Permit. It includes a lime storage system identified as EULIME; feedstock pretreatment equipment, EUPRETREAT; yeast propagation system, EUYEASTPROP; ethanol production equipment, EUETHANOLFERM, EUBEERCOLUMN, EURECTIFIER, and EUMOLSIEVE; and storage tanks and product truck load-out equipment.

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-B1476-2009 is identified in Appendix 6 of the ROP.

PTI Number			
340-76C	878-87	440-93	350-95A
158-00A	335-06	247-07	

**Streamlined/Subsumed Requirements**

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

**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	Rule 212(4) Exemption	Rule 201 Exemption
EUSPACEHEAT	Seven space heaters, natural gas fired, at API Alpena Biorefinery, 80,000 BTU/hr. each	R 336.1212(4)(b)	R 336.1282(b)(i)
EUOFFICEHEATER	Hot water boiler in office area.	R 336.1212(4)(b)	R 336.1282(a)(1)
EUGASTANK	Gasoline tank, 300 gallons	R 336.1212(4)(c)	R 336.1284(g)(i)
EULPTANKS	Two propane tanks, 1,000 gallons each	R 336.1212(4)(c)	R 336.1284(b)
EUSCALEHEATERS	Two heaters in the scale house, 25,000 BTU/hour each	R 336.1212(4)(b)	R 336.1282(b)(i)
EUOFFICEHEATERS	Five AC/gas heater units installed on the office area roof. Three 150,000 BTU/hr. each, one 300,000 BTU/hr., one 125,000 BTU/hr.	R 336.1212(4)(b)	R 336.1282(b)(i)
EUWAREHOUSEHEATER	Natural gas heaters in warehouse, 4,000,000 BTU/hr. total	R 336.1212(4)(b)	R 336.1282(b)(i)

<b>Exempt Emission Unit ID</b>	<b>Description of Exempt Emission Unit</b>	<b>Rule 212(4) Exemption</b>	<b>Rule 201 Exemption</b>
EUSILOHEATER	Natural gas heater in silo room, 1,200,000 BTU/hr.	R 336.1212(4)(b)	R 336.1282(b)(i)
EUNO1PRESSHEATERS	Two natural gas heaters to heat inlet air to Press 1, 4,000,000 BTU/hr. each	R 336.1212(4)(b)	R 336.1282(b)(i)
EUNO3PRESSHEATERS	Two natural gas heaters to heat inlet air to Press 3, 6,000,000 BTU/hr. each	R 336.1212(4)(b)	R 336.1282(b)(i)
EUNO3PREDRYERHEATER	Natural gas heater to heat inlet air to Press Line 3 Predryer, 25,000 BTU/hr.	R 336.1212(4)(b)	R336.1282(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 MDEQ**

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 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 Janis Ransom, Cadillac 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.

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**RENEWABLE OPERATING PERMIT**

ROP Number

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**NOVEMBER 5, 2015 - STAFF REPORT ADDENDUM**

MI-ROP-B1476-2015

**Purpose**

A Staff Report dated September 21, 2015, 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:	Tim Clark, President Decorative Panels International 419-720-0957  Theodora Retsina, Chief Executive Officer American Process Incorporated 404-872-8807, Extension: 204
AQD Contact:	William Rogers, Environmental Quality Analyst 989-705-3406

**Summary of Pertinent Comments**

Decorative Panels International requested revision to the stack dimensions specified for the three main boilers, identified in the permit as EUBOILER#1, EUBOILER#2, and EUBOILER#3. They explained that they need to keep stack specifications as they were EUBOILER#1 and EUBOILER#2 were converted to natural gas fuel only. This is necessary to prevent corrosion problems which would damage pollution control equipment intended to reduce particulate matter emissions from EUBOILER#3. Decorative Panels International further reports that this return to previous stack specifications was authorized by a recently approved Permit to Install revision, designated as Permit Number 4-15A.

Decorative Panels International objected to the permit condition requiring informal opacity observations of the exhaust from the hardboard presses and associated equipment, identified in the permit as FGPRESESSES.

**Changes to the September 21 2015 Draft ROP**

The stack dimensions specified for EUBOILER#1, EUBOILER#2, and EUBOILER#3 were changed as requested.

The requirement for informal opacity observations of FGPRESESSES was not removed.

Michigan Department of Environmental Quality  
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**RENEWABLE OPERATING PERMIT**

ROP Number

B1476

**FEBRUARY 16, 2016 - STAFF REPORT FOR  
RULE 216(2) MINOR MODIFICATION**

MI-ROP-B1476-2015a

**Purpose**

On December 21, 2015, the Department of Environmental Quality, Air Quality Division (AQD), approved and issued Renewable Operating Permit (ROP) No. MI-ROP-B1476-2015 to Decorative Panels International pursuant to R 336.1214. Once issued, a company is required to submit an application for changes to the ROP as described in R 336.1216. The purpose of this Staff Report is to describe the changes that were made to the ROP pursuant to R 336.1216(2).

**General Information**

Responsible Official:	Tim Clark, President 419-720-0957
AQD Contact:	Caryn E. Owens, Environmental Quality Analyst 231-876-4414
Application Number:	201600008
Date Application For Minor Modification Was Submitted:	December 23, 2015

**Regulatory Analysis**

The AQD has determined that the change requested by the stationary source meets the qualifications for a Minor Modification pursuant to R 336.1216(2).

**Description of Changes to the ROP**

Incorporate PTI No. 208-15 into Section 1 of the ROP. PTI No. 208-15 is to remove a unit-specific visible emission limitation for the presses.

**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 MDEQ**

The AQD proposes to approve a Minor Modification to ROP No. MI-ROP-B1476-2015a, 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 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.

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**APRIL 6, 2016 - STAFF REPORT ADDENDUM  
FOR RULE 216(2) MINOR MODIFICATION**

MI-ROP-B1476-2015a

**Purpose**

A Staff Report dated February 16, 2016, was developed in order to set forth the applicable requirements and factual basis for the proposed Minor Modification to the Renewable Operating Permit's (ROP) terms and conditions as required by R 336.1216(2)(c). The purpose of this Staff Report Addendum is to summarize any significant comments received on the proposed ROP modification during the U.S. Environmental Protection Agency's (USEPA) 45-day comment period as described in R 336.1216(2)(c). In addition, this addendum describes any changes to the proposed ROP Minor Modification resulting from these pertinent comments.

**General Information**

Responsible Official:	Tim Clark, President 419-720-0957
AQD Contact:	Caryn E. Owens, Environmental Quality Analyst 231-876-4414

**Summary of Pertinent Comments**

No pertinent comments were received during the USEPA's 45-day comment period.

**Changes to the February 16, 2016 Proposed ROP Minor Modification**

No changes were made to the proposed ROP Minor Modification.