

**OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION**

MEMORANDUM

July 1, 2019

TO: Phillip Fielder, P.E., Permits and Engineering Group Manager

THROUGH: Phil Martin, P.E., Engineering Manager, Existing Source Permits Section

THROUGH: Ryan Buntyn, P.E., Existing Source Permits Section

FROM: Jian Yue, P.E., New Source Permits Section

SUBJECT: Evaluation of General Permit Application **No. 2018-1187-TV2**
Authorization to Operate, Air Curtain Incinerator Facilities
Henryetta Pallet Company
On Site Air Curtain Incinerator (SIC 2421, NAICS 321920)
Facility ID: 2427
Latitude: 35.44607°N, Longitude: -95.96429°W
Section 12, Township 11N, Range 12E, Henryetta, Okmulgee County,
Oklahoma
999 Industrial Road, Henryetta, OK 74437
Driving Directions: From I-40 and Hwy 75, north approximately 1.5 mi.,
take first right turn after 2nd traffic light. Road slopes down into wooded
area and angles to north. Continue north to facility.

INTRODUCTION

Henryetta Pallet Company (HPC) has requested to renew the Title V operating permit under the General Permit for Air Curtain Incinerator Facilities (GP-ACI) for their wood-waste incinerator (SIC 2421) at the above referenced location. The facility is currently operating under Permit No. 2010-080-TV2, issued on May 3, 2011.

FACILITY DESCRIPTION AND EQUIPMENT

The facility manufactures or rebuilds wooden pallets to customer specifications. This facility consists of a McPherson Systems Inc. Model M10E refractory-lined incinerator with an electric fan to dispose of wood-waste generated from pallets. Wood waste is limited to that generated on site and consists only of untreated lumber.

The incinerator is a McPherson, 3.5 ton/hour, free-standing refractory wall design consisting of a lower chamber, an upper chamber, and a fan, constructed in 1998. The design is essentially an above-ground "pit burner" with no added fuel to promote combustion. There is also a water spray system in place to wet the surrounding area as a fire prevention measure. The waste

material burned is clean, non-treated wood waste, generated from the re-manufacture of wood pallets, such as wood blocks, sticks, and sawdust.

The lower chamber (below the air curtain) is 9 feet wide by 10 feet long by 12 feet deep. Hinged doors are located at one end for ash removal. The upper chamber (above the air curtain) is 9 feet wide by 10 feet long by 10 feet high. An electric powered centrifugal fan supplies a minimum of 1,000 CFM per foot of nozzle length. The nozzle supplies under-fire air and an air curtain which enters the burning chamber from the rear at a 20 degree downward angle. Wood wastes are loaded into the machine using a forklift equipped with self-dumping hoppers.

The air curtain traps smoke and small particles and re-circulates them to enhance combustion and reduce smoke. The large volume of air accelerates combustion and provides for high pit temperatures between 1,800°F and 2,500°F. Under-fire air introduces air underneath the air curtain to ensure complete combustion and to minimize opacity at start-up.

The ACI operates 12 hours per day and 5 days a week for 3,120 hours a year.

EMISSIONS

- Emissions from the air curtain incinerator are based on the default emission factors listed in Appendix A of the Air Curtain Incinerator General Permit Memorandum and the maximum burning rate of 3.5 tons/hour and 10,920 tons/year (operate 3,120 hours a year).

PM	PM₁₀	PM_{2.5}	NO_x	CO	VOC	SO₂
lb/ton	lb/ton	lb/ton	lb/ton	lb/ton	lb/ton	lb/ton
13.0	2.0	1.1	4.0	2.22	0.1	0.1

Facility-Wide Emissions

Pollutants	Air Curtain Incinerator
	TPY
PM	70.98
PM₁₀	10.92
PM_{2.5}	6.01
NO_x	21.84
CO	12.12
VOC	0.55
SO₂	0.55

PM is not a regulated pollutant under Title V and the significance level is 250 TPY for PSD. Since potential emissions of any criteria pollutant are less than 100 TPY, potential emissions of any single HAP are less than 10 TPY, and potential emissions of total HAP are less than 25 TPY, and meet the following conditions:

- a. The facility contains only a single ACI and one internal combustion engine to drive the fan.
- b. The air curtain incinerator is used to burn only the following materials:
 - i. 100 percent wood waste.
 - ii. 100 percent clean lumber.
 - iii. 100 percent yard waste.
 - iv. 100 percent mixture of only wood waste, clean lumber, and/or yard waste.

The facility is eligible for coverage under the GP-ACI.

PREVIOUS PERMITS

The facility is operating under Permit No. 2010-080-TVR issued on May 3, 2011. On issuance of this permit (2018-1187-TVR2), all previous permits will be superseded and cancelled.

EMISSIONS LIMITATIONS

Emissions limitations are established in this Authorization as a facility-wide emissions cap in order to avoid other applicable requirements. This cap is established at a level to not equal or exceed major source thresholds. Compliance with these emissions limitations can be demonstrated by compliance with the following limits.

- a. Total annual burning amount shall not exceed the following.

Scenarios	Maximum ACI Throughputs
	TPY
Scenario1: Engine Not Subject to NSPS	33,000
Scenario2: ACI Has No Combustion Engine or ACI Has Combustion Engine that is Subject to NSPS	38,300

There is no combustion engine at this facility. The fan is electric.

In addition, within 60 days after the air curtain incinerator reaches the charge rate at which it will operate, but no later than 180 days after its initial startup, the operator shall meet the following two limitations:

- a. Maintain opacity to less than or equal to 10% opacity (6 minute average), except as described below.
- b. Maintain opacity to less than or equal to 35% opacity (6 minute average) during the startup period that is within the first 30 minutes of operation.

APPLICABLE REQUIREMENTS AND MONITORING AND RECORDKEEPING REQUIREMENTS

Applicable requirements and monitoring and recordkeeping requirements for all eligible sources were identified and evaluated in development of the GP-ACI. As a summary, and for informational purposes only, the table at the end of this memorandum lists whether or not a particular condition of the permit and any specific monitoring and recordkeeping requirement pertains to a particular emission unit presently operated under this Authorization.

PERFORMANCE TESTING

The air curtain incinerator is subject to NSPS Subpart CCCC and is subject to performance testing requirements. The permittee shall use Method 9 of Appendix A of Part 60 to conduct:

- a. An initial test for opacity as specified in 60.8.
- b. After the initial test for opacity, conduct annual tests no more than 12 calendar months following the date of the previous test.

TIER CLASSIFICATION AND PUBLIC REVIEW

The application associated with this Authorization under the GP-ACI is classified as **Tier I**, per OAC 252:4-7-32(c)(1). Since the GP-ACI has previously undergone public review (notice published in the *Daily Oklahoman* on May 2, 2015 and the *Tulsa World* on May 3, 2015) and EPA review, no site-specific public review is required. Information on the GP-ACI and all permit actions is available for review by the public in the Oklahoma City offices of the Air Quality Division and the Air Quality section of the DEQ web page: www.deq.state.ok.us.

The applicant has submitted an affidavit that they are not seeking a permit for land use or for any operation upon land owned by others without their knowledge. The affidavit certifies that the applicant has a current lease to accomplish the permitted purpose.

INSPECTION

No inspection is required for facilities with criteria pollutant emissions below 50 TPY of NO_x and CO.

FEES PAID

\$900 for an Authorization to Operate was paid on August 28, 2018.

SUMMARY

The facility was constructed and is operating as described in the application for an Authorization to Operate. Ambient air quality standards are not threatened at the site. Issuance of the Authorization to Operate is recommended.

SUMMARY OF STANDARDS, MONITORING, and/or RECORDKEEPING REQUIREMENTS

Emission Unit (EU)	Specific Condition	Applicable? Y/N	Description	Standard, Monitoring, and/ or Recordkeeping	Comments
Emission Limitations	Part 2.I.3	Y	Facility-wide cap	Compliance with Established Burning Rate and Engine Size	
Air Curtain Incinerator	Part 2.II.1	Y	Burning Rate Limitations	Annual calculations and records	
	Part 2.II.2	Y	Material Limitations	Annual records	
	Part 2.II.3	Y	Pollution Control	Maintain and operate the ACI in a manner consistent with good air pollution control practice	
	Part 2.II.4	N	SC 17, Part 9	Comply with Opacity limits per SC 17, Part 9	
	Part 2.II.4	Y	40 CFR Part 60, Subpart CCCC	Comply with Opacity limits per 40 CFR Part 60, Subpart CCCC	
	Part 2.II.5	N	SC 17, Part 11	Comply with Opacity limits per SC 17, Part 11	
	Part 2.II.5	N	40 CFR Part 60, Subpart EEEE	Comply with Opacity limits per 40 CFR Part 60, Subpart EEEE	
	Part 2.II.6	Y	Recordkeeping	Records of burning rate and any records required by NSPS Subparts CCCC and EEEE	
Combustion Equipment	Part 2.III.1	Y	Engine size limitation	< 240-hp	
	Part 2.III.2	Y	Engine identification plate	Make, model, and serial number	
	Part 2.III.3	Y	SC 37-36 VOC emissions	Operate and maintain to minimize emissions	
	Part 2.III.4	Y	Fuel Requirement	Natural gas or on road or off road diesel	
	Part 2.III.6	N	40 CFR Part 60, Subpart IIII (CI engines)	Per NSPS Subpart IIII	No Combustion Engine on-site
	Part 2.III.7	N	40 CFR Part 60 Subpart JJJJ (SI engines)	Per NSPS Subpart JJJJ	No Combustion Engine on-site
	Part 2.III.8	Y	40 CFR Part 63 Subpart ZZZZ (RICE)	Per NESHAP Subpart ZZZZ	Per NESHAP Subpart ZZZZ
Fugitive Emission Sources	Part 2.IV.1	Y	PM emissions	Per OAC 252:100-29	
Temporary Sources	Part 2.V	N	OAC 252:100-8-6.2	Per OAC 252:100-8-6.2	

Except as otherwise prohibited or limited by the General Permit for Air Curtain Incinerator Facilities (GP-ACI) or this Authorization, the permittee is hereby authorized to operate the following emissions sources and/or conduct the following activities at the referenced site as described in the application received on August 24, 2018. The Evaluation Memorandum, dated July 1, 2019, explains the derivation of applicable permit requirements and estimates of emissions; however, it does not contain operating limitations or permit requirements. Commencing construction or operations under this permit constitutes acceptance of, and consent to, the conditions contained herein.

I. Emission Units and Emissions Limitations

Emission limitations are hereby established for all regulated pollutants as a facility-wide cap. Emissions from all emission units at the facility shall not equal or exceed major source thresholds, i.e., 100 TPY of any regulated pollutant, 10 TPY of any single hazardous air pollutant (HAP), or 25 TPY of total HAP. Compliance with these emissions limitations can be demonstrated by compliance with the following limits.

- a. Total annual burning amount shall not exceed the following.

Scenarios	Maximum ACI Throughputs
	TPY
Scenario1: Engine Not Subject to NSPS	33,000
Scenario2: ACI Has No Combustion Engine or ACI Has Combustion Engine that is Subject to NSPS	38,300

In addition, within 60 days after the air curtain incinerator reaches the charge rate at which it will operate, but no later than 180 days after its initial startup, the operator shall meet the following two limitations:

- a. Maintain opacity to less than or equal to 10% opacity (6 minute average), except as described below.
- b. Maintain opacity to less than or equal to 35% opacity (6 minute average) during the startup period that is within the first 30 minutes of operation.

II. Monitoring and Recordkeeping Requirements

The permittee shall demonstrate continued compliance with any emission limitations or any operational conditions as specified in the GP-ACI and summarized below:

- a. Monitor opacity for the Air Curtain Incinerator as follows:
- (1) Use Test Method 9 (40 CFR Part 60, Appendix A) to determine compliance with the opacity limitation.
 - (2) Conduct an initial test for opacity as specified in 40 CFR §60.8.
 - (3) Conduct annual tests no more than 12 calendar months following the date of the previous test.
- b. Keep records and report as follows:

- (1) Monthly and rolling 12-month totals of the amount of material burned.
- (2) Types of materials to be burned in the ACI.
- (3) Records of results of all initial and annual opacity tests.
- (4) Submit the results (each six-minute average) of the initial opacity tests no later than 60 days following the initial test and annual opacity test results within 12 months following the previous report.

III. Equipment Additions / Authorization Modifications

The permittee shall obtain a major source construction permit for any modification that would cause an existing facility to no longer be classified as a minor facility.

The permittee shall obtain a minor source construction permit for any modification listed under Part 1, Section II.3 of the GP-ACI.

An applicant proposing to modify an existing facility, using the minor modification procedures, already covered by an Authorization to Operate under this general permit need only submit an application for a modification to their Authorization to Operate if the facility and modification meet all of the eligibility requirements in Part 4, Section XXI.

Note: For modifications that are considered to be minor modifications, no construction permit is required. The facility will only be issued a modified Authorization to Operate.

V. Previous Permits and Associated Specific Conditions

The facility is operating under Permit No. 2010-080-TVR issued on May 3, 2011. On issuance of this permit (2018-1187-TVR2), all previous permits will be superseded and cancelled.

VI. Equipment List

The following table shows equipment presently operated at the facility, other than de minimis activities. The permittee may change the actual equipment operated or change method of operations so long as potential facility-wide emissions do not exceed that amount which would cause the facility to be classified as a major source.

Emission Unit Description
McPherson Systems Inc. Model M10E Air Curtain Incinerator



AUTHORIZATION TO OPERATE
PURSUANT TO THE TERMS OF THE
GENERAL PERMIT FOR AIR CURTAIN INCINERATOR FACILITIES

Air Quality Division
State of Oklahoma
Department of Environmental Quality
707 North Robinson
P.O. Box 1677
Oklahoma City, Oklahoma 73101-1677

Authorization No.: 2018-1187-TV2

Facility Name: On Site Air Curtain Incinerator

SIC Code: 2421

Facility Location: Section 12, Township 11N, Range 12E, Okmulgee County, Oklahoma

Company Name: Henryetta Pallet Co Inc

Mailing Address: P.O. Box 157, Henryetta, OK 74437

Contact Person: Mr. Rodney Maynard, Owner

This Authorization is issued pursuant to OAC 252:100-8-6.1.

Authorization is hereby granted the above named entity to operate the emission units, emission points, and other processes listed herein which are located at the above described facility (Facility) pursuant to the terms of the General Permit for Air Curtain Incinerator Facilities as issued by the Oklahoma Department of Environmental Quality, Air Quality Division, on October 14, 2015. The Authorization addresses only those emission sources listed under Section VI or provided for under Section IV, and only while located at the Facility.

Phillip Fielder, P.E.
Chief Engineer

Issuance Date

Henryetta Pallet Co Inc
Mr. Rodney Maynard, Owner
PO. Box 157
Henryetta, OK 74437

SUBJECT: GP-ACI Authorization to Operate
Permit No. **2018-1187-TVR2**
On Site Air Curtain Incinerator (SIC 2421, NAICS 321920)
Facility ID: 2427
Section 12, Township 11N, Range 12E, Henryetta, Okmulgee County, Oklahoma

Dear Mr. Maynard:

Enclosed is the Authorization to Operate the referenced facility. Please note that this permit is issued subject to standard and specific conditions of the GP-ACI. These conditions must be carefully followed since they define the limits of the permit and will be confirmed by periodic inspections. A copy of the GP-ACI can be found on our website at <http://www.deq.state.ok.us/aqdnew/permitting/genperm.htm>. If you are unable to obtain a copy and need to have a copy mailed to you, you can request it by letter or by calling our office at (405) 702-4100.

Please note that you are required to annually submit an emissions inventory for this facility. An emissions inventory must be completed on approved AQD forms and submitted (hardcopy or electronically) by April 1st of every year. Any questions concerning the form or submittal process should be referred to the Emissions Inventory Staff at (405) 702-4100.

Thank you for your cooperation. If you have any questions, please refer to the permit number above and contact this office at (405) 702-4100 or by email at jian.yue@deq.ok.gov.

Sincerely,

Jian Yue, P.E.
New Source Permits Section
AIR QUALITY DIVISION
Enclosure: Authorization to Operate