

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

**MEMORANDUM**

**January 9, 2020**

**TO:** Phillip Fielder, P.E., Chief Engineer

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

**THROUGH:** David Schutz, P.E., New Source Permits Section

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

**SUBJECT:** Evaluation of General Permit Application No. **2019-1216-TV**  
Authorization to Operate, Air Curtain Incinerator Facilities  
Stewart Excavation LLC  
Moore South AML  
(SIC 1794, NAICS 238910)  
Facility ID: 21371  
Latitude N 36.50344°, Longitude W 95.72973°  
Section 5, Township 23N, Range 15E  
Talala, Rogers County, Oklahoma

**INTRODUCTION**

Stewart Excavation LLC has applied for an Authorization to Operate under the General Permit for Air Curtain Incinerator Facilities (GP-ACI) for their Moore South AML ACI facility. Emission sources at the facility include one (1) Air Burners T-300 trench burner and one (1) 48.7-hp diesel fired Perkins 404-D22T engine to drive the fan.

The 48.7-hp diesel fired Perkins 404-D22T engine was manufactured in 2017, and is subject to New Source Performance Standards (NSPS) Subpart IIII as well as National Emission Standards for Hazardous Air Pollutants (NESHAP) Subpart ZZZZ.

**EMISSIONS**

- Emissions from the diesel-fired engine are based on the following manufacturer's data and operating 1,800 hours per year:

**Engine Identification Data**

<b>Make/Model</b>	<b>Controls</b>	<b>HP</b>	<b>Mfg. Date</b>
Perkins 404-D22T engine	None	48.7	2006

**Engine Emission Factors<sup>1</sup>**

<b>NMHC + NO<sub>x</sub></b> <b>(g/hp-hr)</b>	<b>CO</b> <b>(g/hp-hr)</b>
3.5	3.73

<sup>1</sup>- based on EPA Tier 4 standards for non-road diesel engines

- 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 8 tons/hour and 14,400 tons/year (operate 1,800 hours a year).

<b>PM</b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>	<b>NO<sub>x</sub></b>	<b>CO</b>	<b>VOC</b>	<b>SO<sub>2</sub></b>
<b>lb/ton</b>	<b>lb/ton</b>	<b>lb/ton</b>	<b>lb/ton</b>	<b>lb/ton</b>	<b>lb/ton</b>	<b>lb/ton</b>
13.0	2.0	1.1	4.0	2.22	0.1	0.1

**Facility-Wide Emissions**

<b>Pollutants</b>	<b>Air Curtain Incinerator</b>	<b>Perkins 404D-22T Engine</b>	<b>Total Emissions</b>
	<b>TPY</b>	<b>TPY</b>	<b>TPY</b>
<b>PM</b>	93.60	-	<b>93.60</b>
<b>PM<sub>10</sub></b>	14.40	-	<b>14.40</b>
<b>PM<sub>2.5</sub></b>	7.92	-	<b>7.92</b>
<b>NO<sub>x</sub></b>	28.80	0.34	<b>29.14</b>
<b>CO</b>	15.98	0.36	<b>16.34</b>
<b>VOC</b>	0.72	-	<b>0.72</b>
<b>SO<sub>2</sub></b>	0.72	-	<b>0.72</b>

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**

This facility was issued Permit No. 2019-1216-NOI on November 5, 2019. This permit (GP-ACI No. 2019-1216-TV) supersedes all previous Air Quality permits for this facility, which are now canceled.

**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

The engine at this facility is subject to NSPS Subpart IIII and the estimated burning rate of 14,400 TPY is in compliance with the limit of 38,300 TPY.

- b. The internal combustion engine authorized under this general permit is limited to engines rated less than or equal to 240-hp.

The engine at this facility has 48.7 horsepower.

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 engine at this facility is EPA certified engine and no testing is required.

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](http://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<sub>x</sub> and CO.

## FEES PAID

\$900 for an Authorization to Operate was paid.

## 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	Y	40 CFR Part 60, Subpart IIII (CI engines)	Per NSPS Subpart IIII	
	Part 2.III.7	N	40 CFR Part 60 Subpart JJJJ (SI engines)	Per NSPS Subpart JJJJ	Per NSPS Subpart JJJJ
	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 November 5, 2019. The Evaluation Memorandum, dated January 9, 2020, 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

- b. The internal combustion engine authorized under this general permit is limited to engines rated less than or equal to 240-hp.

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

This facility was issued Permit No. 2019-1216-NOI on November 5, 2019. This permit (GP-ACI No. 2019-1216-TV) supersedes all previous Air Quality permits for this facility, which are now canceled.

### 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.

<b>Emission Unit Description</b>
48.7-hp diesel fired Perkins 404-D22T engine
Air Burners T-300 Air Curtain Trench Burner





**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.:** 2019-1216-TV

**Facility Name:** Moore South AML

**SIC Code:** 1794

**Facility Location:** Section 5, Township 23N, Range 15E, Rogers County, Oklahoma

**Company Name:** Stewart Exavation LLC

**Mailing Address:** P.O. Box 566, Edmond, OK 73083

**Contact Person:** Mr. Jimmy Stewart, 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.

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**Phillip Fielder, P.E.**  
**Chief Engineer**

\_\_\_\_\_  
**Issuance Date**

Stewart Excavation LLC  
Mr. Jimmy Stewart, Owner  
P.O. Box 566, Edmond, OK 73083

SUBJECT: GP-ACI Authorization to Operate  
Permit No. **2019-1216-TV**  
Moore South AML  
(SIC 1794, NAICS 238910)  
Facility ID: 21371  
Section 5, Township 23N, Range 15E, Talala, Rogers County, Oklahoma

Dear Mr. Stewart:

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 <https://www.deq.ok.gov/air-quality-division/air-permits/general-permits-and-pbr/>. 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.

Also 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](mailto:jian.yue@deq.ok.gov).

Sincerely,

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