

**INFORMATION RELATIVE TO
THE DRAFT TITLE V OPERATING PERMIT
December 30, 2024**

GENERAL FACILITY INFORMATION

Facility Name: PACCAR Engine Company

Facility Address:

1000 PACCAR Drive

Columbus, MS 39701

County: Lowndes

SIC Code(s): 3519

NAICS Code(s): 333618

APPLICATION SUMMARY

Permit No.: 1680-00072

NSPS (Part 60): N/A

Permit Action: Initial Issuance

NESHAP (Part 61): N/A

Permit Folder: PER20240001

NESHAP (Part 63): N/A

Application Receipt Date: 05/3/2024

112(r) / RMP: N/A

Application Deemed Complete: 09/20/2024

Other: N/A

CBI Submitted?: No

FACILITY DESCRIPTION

PACCAR Engine Company is a manufacturer of light, medium, and heavy-duty truck engines. The Columbus facility can manufacture 12.9-liter, 10.9-liter, and other diesel engines. The operations at the facility fall under SIC code 3519 (Internal Combustion Engines, Not Elsewhere Classified).

PACCAR Engine Company receives cast steel engine blocks and cylinder heads which are sent through various machining operations before assembly. The assembled engines go through a cold test check-out before going to one of six (6) hot test cells. An engine is ramped up and tested for a duration of less than thirty (30) minutes. Then, the engines go through a six-stage washing process and a dry-off oven. The engines are painted in a robotic spray booth equipped with a scrubber and mist eliminator. Lastly, the engines are inspected and touched-up in a manual spray booth.

TITLE V SOURCE APPLICABILITY

The facility's potential-to-emit (PTE) exceeds the Title V major source threshold of 100 tons per year (tpy) for each of the following criteria air pollutants: Particulate Matter less than 10 microns (PM₁₀), Particulate Matter less than 2.5 microns (PM_{2.5}), and Volatile Organic Compounds (VOCs). The facility's potential-to-emit hazardous air pollutants (HAPs) does not exceed the major source threshold of 25 tpy of total HAPs and 10 tpy for any individual HAP. Therefore, the facility is an area source of HAPs.

Facility-Wide Potential-to-Emit Summary¹

Pollutant	PTE Emissions (tons/yr)
Particulate Matter (TSP)	131.4
PM ₁₀	132.4
PM _{2.5}	132.4
Sulfur Dioxide (SO ₂)	0.21
Nitrogen Oxides (NO _x)	74.9
Carbon Monoxide (CO)	42.6
Volatile Organic Compounds (VOC)	200.5
Total Reduced Sulfur (TRS)	-
Lead	-
CFC/HCFC	-
Total HAP	9.5

¹ The PTE emissions reflect any emission limits or enforceable restrictions included in the proposed permit.

PREVENTION OF SIGNIFICANT DETERIORATION (PSD) APPLICABILITY

The facility is not one of the 28 categorical facilities listed in 40 CFR 52.21(b)(1)(i)(a); therefore, the PSD threshold for a major source is 250 tpy. The facility has the potential to emit more than 250 tons per year of VOCs but will continue to limit facility-wide emissions below the noted threshold; therefore, the facility is considered a moderate stationary source.

FACILITY MODIFICATIONS AND/OR PERMIT CHANGES

PACCAR Engine Company applied for an initial issuance of a Title V Operating Permit (TVOP). Currently, the facility operates under a Synthetic Minor Operating Permit (SMOP) issued April 7, 2022. PACCAR proposes building a new Re-Manufacturing (ReMan) facility and the facility's potential-to-emit following the project will exceed the Title V major source threshold for PM₁₀, PM_{2.5}, and VOCs. The facility proposes adding the following equipment:

- ReMan Core Disassembly and Accessory Salvage Line (AB-101)
- ReMan Head and Block Salvage Line (AB-102)
- ReMan Blasting Booth equipped with a dust collector (AB-103)
- ReMan High Heat Black Enamel Surface Coating Line equipped with a filter (AB-501)
- ReMan Industrial Furnace with 0.72 MMBTU/hr natural gas-fired burner (AB-601)
- ReMan 240 HP (179 kW) Diesel-Fired Emergency Fire Water Pump Engine (AB-801)
- ReMan Engine Pre-Wash (AB-901)
- ReMan Cast Iron Rough Wash (AB-902)
- ReMan Aluminum Rough Wash (AB-903)
- ReMan Cast Iron Wash for Head (AB-904)

- ReMan Final Wash (AB-905)
- ReMan Final Wash (AB-906)
- ReMan Accessories Wash (AB-907)
- ReMan Parts Washer (AB-908)
- ReMan Parts Washer (AB-909)

The following emission sources have been re-classified as Insignificant Activities and removed from the permit:

- Facility-Wide Comfort Heating (total heat input: 6.29 MMBTU/hr; former AA-601)
- Miscellaneous Combustion Sources (total heat input: 2.3 MMBTU/hr; former AA-602)
- 15,000-Gallon Diesel Fuel Storage Tank (former AA-701)
- 15,000-Gallon Engine Oil Storage Tank (former AA-702)
- 5,000-Gallon Waste Oil Storage Tank (former AA-703)
- 1,500-Gallon Protectant Storage Tank (former AA-704)
- 6,500-Gallon Protectant and/or Waste Protectant Storage Tank (former AA-705)
- 6,500-Gallon Oily Waste/Reserve Storage Tank (former AA-706)
- 10,000-Gallon Coolant Storage Tank (former AA-707)
- 1,500-Gallon Storage Tank for Engine Oil and/or Protectant (former AA-708)
- 16,000-Gallon Coolant Storage Tank (former AA-709)
- 16,000-Gallon Coolant Storage Tank (former AA-710)
- 15,000-Gallon Diesel Fuel Storage Tank (former AA-711)
- 15,000-Gallon Coolant Storage Tank (former AA-712)

The following sources are proposed Insignificant Activities for the Re-Manufacturing facility:

- ReMan Facility-Wide Comfort Heating [total heat input: 4.65 MMBTU/hr]
- ReMan 10,000-Gallon Wastewater Storage Tank
- ReMan 10,000-Gallon Used Oil Storage Tank

The following are proposed changes to the existing equipment and permit requirements:

- Remove the Small Parts Washer in Paint Area (AA-503)
- Remove three (3) test cells from the R&D Engine Test Cells (AA-406)
- Limit VOC emissions from the test cells (AA-402 and AA-406), manual and robotic spray booths (AA-501), parts washers (AA-901 through AA-904), enamel paint line (AB-501), and three (3) parts washers (AB-901, AA-908, and AA-909) to 245.0 tpy to avoid PSD applicability.
- Limit HAP emissions from two (2) bearing cap cracking machines, manual and robotic spray booths (AA-501), enamel paint line (AB-501) to 9.0 tpy for an individual HAP and 24.0 tpy for all HAPs combined. Previously, these HAP limitations applied to all HAP-emitting equipment. However, in order to reduce the burden of recordkeeping, only the major HAP emitters were limited.
- Remove the weekly visible emissions observations for the two (2) bearing cap cracking machines with a dust collector (AA-101a). Under normal operations, the equipment

should not emit any visible emissions. Instead of the emission observations, the facility will conduct monthly maintenance inspections to ensure proper operation of the pollution control equipment.

- Add daily pressure drop monitoring across the venturi scrubber (AA-501). It was determined that the two spray booths (AA-501 and AA-502), which exhaust through a common venturi scrubber (AA-501), are subject to the requirements of Compliance Assurance Monitoring (CAM). Since the regulation requires parametric monitoring on a daily basis (at a minimum), the facility will monitor the pressure drop across the scrubber once a day. Additionally, the facility will continue conducting weekly visible emissions observations.

COMPLIANCE ASSURANCE MONITORING (CAM) APPLICABILITY

40 CFR Part 64 specifies the requirements for CAM. The general applicability of this rule can be found in 40 CFR 64.2 and requires a Title V source to comply with the CAM requirements if all three of the following criteria are met for a pollutant-specific emission unit (PSEU):

1. The unit is subject to an emission limitation or standard for a regulated air pollutant other than exemptions under 40 CFR 64.2(b)(1);
2. The unit uses a control device to comply with the standard; and
3. The unit has pre-control emissions exceeding Title V major source threshold.

CAM Applicability Table for Sources with Control Devices

Emission Point ID	Control Device (not including inherent controls)	Applicable Limit/Standard	Is standard exempt? (Yes/No)	Pre-Control > 100 tpy (Yes/No)	CAM Applies? (Yes/No)	Type of CAM PSEU (Large/Other)
AA-101a	Dust Collector	PM process weight	No	No	No	N/A
AA-501 AA-502	Scrubber	PM process weight	No	Yes	Yes	Other
AB-103	Dust Collector	PM process weight	No	No	No	N/A
AB-501	Filter	PM process weight	No	No	No	N/A

NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAP) APPLICABILITY

40 CFR Part 63, Subpart IIII – National Emission Standards for Hazardous Air Pollutants: Surface Coating of Automobiles and Light-Duty Trucks

This subpart applies to facilities which apply coatings to new automobile and light-duty truck bodies or body parts which are major sources of HAPs. PACCAR Engine Company is an area source of HAPs, therefore Subpart IIII is not applicable.

40 CFR Part 63, Subpart MMMM – National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products

This subpart applies to facilities which manufacture various metal components and they are major sources of HAPs. PACCAR Engine Company is an area source of HAPs, therefore Subpart MMMM is not applicable.

40 CFR Part 63, Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Emission Points AA-801, AA-802, AA-803, and AB-801 are stationary reciprocating internal combustion engines (RICE) located at an area source of HAPs. As such, these engines are subject to the requirements of Subpart ZZZZ; however, since these units are considered “new” stationary RICE, they demonstrate compliance with Subpart ZZZZ by complying with all applicable requirements of 40 CFR Part 60, Subpart IIII. Subpart ZZZZ does not apply to stationary RICE test cells/stands per 40 CFR 63.6585.

40 CFR Part 63, Subpart P PPPP – National Emission Standards for Hazardous Air Pollutants for Engine Test Cells/Standards

This subpart applies to facilities which operate engine test cells/stands and they are major sources of HAPs. PACCAR Engine Company is an area source of HAPs, therefore Subpart PPPP is not applicable.

40 CFR Part 63, Subpart H HHHHHH – National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources

This subpart applies to facilities which operate miscellaneous paint stripping and surface coating operations at area sources of HAPs. However, this subpart is only applicable to facilities which use chemical strippers containing methylene chloride (MeCl) and spray coatings containing various “target HAPs”. PACCAR does not use materials containing either MeCl or any of the “target HAPs”. As such, Subpart HHHHHH is not applicable.

40 CFR Part 63, Subpart J JJJJJJ – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources

This subpart applies to facilities which operate industrial, commercial, or institutional boilers and they are area sources of HAPs. The facility operates some natural gas-fired water heaters. However, natural gas-fired water heaters are exempt from the requirements of this subpart per 40 CFR 63.11195(f). As such, Subpart JJJJJJ is not applicable.

40 CFR Part 63, Subpart X XXXXXX – National Emission Standards for Hazardous Air Pollutants Area Source Standards for Nine Metal Fabrication and Finishing Source Categories

This subpart applies to facilities which are primarily engaged in operations of one of nine metal fabrication and finishing operations and they are area sources of HAPs. Since the facility’s operations do not fall under one of the affected SIC/NAICS categories, Subpart XXXXXX is not applicable.

NEW SOURCE PERFORMANCE STANDARDS (NSPS) APPLICABILITY

40 CFR Part 60, Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

This subpart applies to facilities that operate steam- generating units that have a maximum heat input capacity of 100 MMBTU/hr but greater than 10 MMBTU/hr. All fuel burning equipment located at the facility has a heat input capacity of less than 10 MMBTU/hr. Therefore, Subpart Dc is not applicable.

40 CFR Part 60, Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

Emission Points AA-801 and AA-803 are emergency generator engines that were manufactured after April 1, 2006. Emission Points AA-802 and AB-801 are fire pump engines that were manufactured after July 1, 2006. Therefore, these units are subject to Subpart IIII and all applicable requirements for the proposed fire pump engine (AB-801) have been included in the permit. Subpart IIII excludes stationary CI ICE test cells/stands per 40 CFR 60.4200(b).

40 CFR Part 60, Subpart Kb – Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984

This subpart applies to any tank with a capacity greater than 75 cubic meters (19,813 gallons) storing a liquid with a maximum true vapor pressure less than 15.0 kilopascals (kPa). While the facility operates several fuel storage tanks, their capacities are below the noted threshold. Therefore, Subpart Kb is not applicable.

SPECIFIC APPLICABLE REQUIREMENTS

Emission Point No.	Pollutant	Draft Permit Emission Limits	Monitoring Requirements
AA-000 (Facility-Wide)	PM (filterable)	$E = 4.1 (p^{0.67})$	Operate the air emissions control devices at all times during process equipment operation for AA-101a, AA-501, AB-103, and AB-501 Perform a monthly inspection on each control device for AA-101a, AA-501, AB-103, and AB-501 Perform weekly visible emission observations and daily pressure drop monitoring for AA-501 and AA-502
AA-101a AA-501 AB-501	HAPs	9.0 tpy (Individual) 24.0 tpy (Total) (Rolling 12-Month Totals)	Record the number of engines tested Record usage of VOC/HAP-containing materials Calculate the emission of the applicable pollutant (monthly and rolling 12-month total)
AA-402 AA-406 AA-501 AA-901 through AA-904 AB-501 AB-901 AB-908 AB-909	VOCs	245.0 tpy (Rolling 12-Month Total)	

Emission Point No.	Pollutant	Draft Permit Emission Limits	Monitoring Requirements
AA-801 AA-802 AA-803 AB-801	NMHC + NO _x CO PM	Emission Standards in 40 CFR 60.4205; Subpart III	Purchase engines that are certified to the applicable emission standards
	Operational Requirement	100 Hours/ Year for Maintenance and Readiness Testing; 50 Hours/ Year for Non-Emergency Situations.	Install non-resettable hour meter and record the hours of operation (emergency and non-emergency)
	SO ₂	15 ppm sulfur content (max.); and 40 cetane index (min.) or 35 vol.% aromatic content (max.)	The engines combust ultra-low sulfur diesel (ULSD) which is compliant with the limitation.
	PM (filterable)	0.6 lb/MMBTU	The engines combust diesel. Therefore, there is a large margin of compliance with the limitation.