

**INFORMATION RELATIVE TO
THE DRAFT TITLE V OPERATING PERMIT
October 22, 2024**

GENERAL FACILITY INFORMATION

Facility Name: Carpenter Company

Facility Address:

184 Lipford Drive

Verona, MS 38879

County: Lee

SIC Code(s): 3086

NAICS Code(s): 326150

APPLICATION SUMMARY

Permit No.: 1540-00024

Permit Action: Reissuance

Permit Folder: PER20240001

Application Receipt Date: June 8, 2023

Application Deemed Complete: October 23,
2024

CBI Submitted?: No

NSPS (Part 60):

Subpart Kb

NESHAP (Part 61): N/A

NESHAP (Part 63):

Subpart OOOOOO

Subpart ZZZZ

112(r) / RMP: Yes

Other: N/A

FACILITY DESCRIPTION

Carpenter Company is an existing foam manufacturing facility in Verona, MS. The foam is manufactured by mixing the primary ingredients (i.e., polyol, TDI, and water) with the secondary additives, such as blowing agents, catalysts, surfactants, dyes, and flame retardants in appropriate proportions in a mixing chamber and then dispersed onto a moving conveyor. The foaming actions start almost immediately and are complete in one to three minutes. The foam is carried to the slab room, where it is cut into convenient “slab” lengths for storage and curing. The cured polyurethane foam is then sent to the fabrication process where the foam and non-woven fiber matting are cut to the customer’s specification and assembled as required. The assembly involves gluing parts together using acetone/heptane-based adhesive. Assembled items are sent to the storage warehouse where customer shipments are loaded into awaiting trailers or trucks for delivery. The following table includes the significant emission points at the facility.

Emission Point	Reference No.	Description
AC-002	1102	Flexible polyurethane foam pouring operation exhaust #1
AC-003	1103	Flexible polyurethane foam pouring operation exhaust #2
AC-004	1110	Slab curing room exhaust #1
AC-005	1111	Slab curing room exhaust #2

Emission Point	Reference No.	Description
AC-006		Fabrication Process – polyurethane foam and non-woven fabric are cut to customer satisfaction and assembled as required
AC-007		300 hp Emergency Diesel-fired Firewater Pump, Stationary RICE constructed before 6/12/2006
AC-008		Raw polyester fiber is processed using a Spinnbau Card Line to produce the rolls of sheet densified fiber.
AT-001	T1	10,383-gallon polyol tank
AT-002	T2	10,383-gallon polyol tank
AT-003	T3	12,000-gallon polyol tank
AT-004	T4	12,000-gallon polyol tank
AT-005	T5	12,632-gallon polyol tank
AT-006	T6	12,632-gallon polyol tank
AT-007	T7	18,235-gallon polyol tank
AT-008	T8	18,235-gallon polyol tank
AT-009	T9	18,235-gallon polyol tank
AT-010	T10	18,235-gallon polyol tank
AT-011	T11	18,235-gallon polyol tank
AT-012	T12	18,235-gallon polyol tank
AT-013	T13	18,235-gallon biobased polyol tank
AT-014	T14	18,235-gallon biobased polyol tank
AT-015	T15	18,235-gallon toluene diisocyanate tank
AT-016	T16	125,583-gallon toluene diisocyanate tank
AT-017	T17	125,583-gallon polyol tank
AT-018	T18	6,073-gallon polyol tank
AT-019	T19	6,073-gallon fire retardant tank
AT-020	T20	12,000-gallon fire retardant tank
AT-021	T21	12,632-gallon silicone tank
AT-022	T22	10,931-gallon reserve tank
AT-023	T23	10,931-gallon reserve tank
AT-024	T24	18,235-gallon polyol tank
AT-025	T25	18,235-gallon polyol tank
AT-026	T26	18,235-gallon diphenylmethane diisocyanate tank

Emission Point	Reference No.	Description
AT-027	T27	8,555-gallon carbon dioxide/refrigerated liquid tank
AT-028	T28	10,000-gallon diesel fuel #2 tank
AT-029	T29	2,286-gallon calcium carbonate tank
AT-030	T30	350-gallon methylformate tank
AT-031	T31	2,000-gallon n-pentane tank

TITLE V SOURCE APPLICABILITY

The facility's potential-to-emit exceeds the Title V threshold limit of 100 tons per year of Volatile Organic Compounds (VOCs). A federally enforceable limit of 105 tons per year or less for VOC has been incorporated into the permit to avoid PSD applicability. To avoid major source applicability, Carpenter Company has elected to set limits on individual and total hazardous air pollutant (HAP) emissions of 9.0 tons per year and 24.0 tons per year respectively.

Facility-Wide Potential-to-Emit Summary¹

Pollutant	PTE Emissions (tons/yr)
Particulate Matter (TSP)	4.06
PM ₁₀	4.06
PM _{2.5}	4.06
Sulfur Dioxide (SO ₂)	0.06
Nitrogen Oxides (NO _x)	6.92
Carbon Monoxide (CO)	5.53
Volatile Organic Compounds (VOC)	3,913.17
Total HAP	7.50

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

FACILITY MODIFICATIONS AND/OR PERMIT CHANGES

Carpenter Company's tank inventory has been updated to match the current raw material specifications. Emission Points AT-013 and AT-014 were converted from 18,235-gallon polyol tanks to 18,235-gallon biobased polyol tanks and are not currently in use. Emission Point AT-018 is a 6,073-gallon polyol tank that is currently not in use. Emission Points AT-011, AT-012, AT-019, AT-020, AT-022, AT-023, and AT-026 are tanks that have all been emptied. The emptied tanks will remain documented with their respective components in case Carpenter Company decides to refill any of the tanks in the future. There have been no changes to the tank inventory affecting emissions from the facility. The scrubber listed in the prior renewal

application that was not credited with emissions reduction has been decommissioned. Instead, the exhausts for Emission Points AC-002 and AC-003 vent directly to the atmosphere.

Carpenter Company provided clarification regarding the design capacities for Emission Points AT-017 and AT-026. Emission Point AT-017 remained consistent between applications at a design capacity of 125,583 gallons, instead of reducing to 18,235 gallons. Emission Point AT-026 was mislabeled in the prior application as 8,235 gallons, but the actual capacity of 18,235 gallons was corrected in the new application.

COMPLIANCE ASSURANCE MONITORING (CAM) APPLICABILITY

There is no control equipment associated with any emission units or standard at this facility; therefore, compliance assurance monitoring does not apply.

MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (MACT) APPLICABILITY

40 CFR 63, Subpart OOOOOO (*National Emission Standards for Hazardous Air Pollutants for Flexible Polyurethane Foam Production and Fabrication Area Sources*): This subpart applies to plants that produce or fabricate flexible polyurethane foam. Carpenter Company produces and fabricates polyurethane foam; therefore, Subpart OOOOOO **is applicable** to the facility.

40 CFR 63, Subpart ZZZZ (*National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*): This subpart applies to stationary reciprocating internal compression engines at major and area sources of HAP emissions. Carpenter Company owns and operates an emergency diesel-fired firewater pump; therefore, Subpart ZZZZ **is applicable** to the engine (Emission Point AC-007).

NEW SOURCE PERFORMANCE STANDARDS (NSPS) APPLICABILITY

40 CFR 60, Subpart IIII (*Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*): This subpart applies to manufacturers, owners, and operators of stationary compression ignition internal combustion engines. The engine at the site is an emergency firewater pump constructed before July 1, 2006; therefore, Subpart IIII **is not applicable** to the engine.

40 CFR 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 storage vessels containing volatile organic liquids (VOLs) greater than 19,813 gallons constructed, reconstructed, or modified after July 23, 1984, with a maximum true vapor pressure greater than or equal to 3.5 kilopascals (kPa). Carpenter Company has two tanks (Emission Points AT-016 and AT-017) with capacities of 125,583 gallons each. Emission Point AT-016 has a capacity of toluene diisocyanate (TDI) greater than the VOL threshold capacity, and Emission Point AT-017 has a capacity of polyol greater than the VOL threshold capacity. The maximum true vapor pressure for TDI and polyol are less than the 3.5 kPa threshold, but the design capacities of Emission Points AT-016 and AT-017 have the potential to exceed the vapor pressure threshold. Therefore, Subpart Kb **is applicable** to the tanks (Emission Points AT-016 and AT-017) for dimension and capacity recordkeeping.

40 CFR 60, Subpart Ka (*Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984*): This subpart applies to storage vessels containing petroleum liquids greater than 40,000 gallons constructed between May 18, 1978, and July 23, 1984. Tanks at the facility that contain petroleum liquid are less than the threshold; therefore, Subpart Ka **is not applicable** to the facility.

40 CFR 60, Subpart K (*Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984*): This subpart applies to storage vessels containing petroleum liquids greater than 40,000 gallons constructed between June 11, 1973, and May 18, 1978. Tanks at the facility that contain petroleum liquid are less than the threshold; therefore, Subpart K **is not applicable** to the facility.

SPECIFIC APPLICABLE REQUIREMENTS

Emission Point No.	Pollutant	Draft Permit Emission Limits	Monitoring Requirements
Facility-Wide	HAP (Individual)	≤ 9.0 tpy	Monitoring, recordkeeping, and reporting of all VOC and/or HAP containing material used facility wide (content and usage) and emission rates
	HAP (Total)	≤ 24.0 tpy	
	Blowing Agent Restriction	Usage of volatile organic HAP containing blowing agent is prohibited	
AC-002 AC-003 AC-004 AC-005 AC-006 AC-008	VOC	≤ 105 tpy	
	HAP	Methylene chloride prohibited	
AC-007		Maintenance Requirements	Install a non-resettable hour meter and maintain records of maintenance