

MEMO TO : File
Marvin Composites, LLC (Marvin)
Fargo, North Dakota

FROM : Corrianna Anderson
Environmental Engineer
Division of Air Quality
North Dakota Department of Environmental Quality (Department)

RE : Permit to Construct (PTC) (ACP-18354 v1.0) Application

DATE : October 20, 2026

Marvin submitted a PTC application for the Marvin Composites Fargo Facility (facility) to the Department on April 21, 2026. The facility currently operates under AOP-27823 v4.0, which expires on September 15, 2026.

Marvin's April 2026 application requested:

- Thirteen new pultrusion lines and six existing pultrusion lines that will be controlled by a new regenerative thermal oxidizer.
- New saw and fabrication machinery with emissions from these units controlled by six dust collectors.

The Department also determined that several modifications¹ which occurred since the last AOP renewal should also be included in this PTC to simplify the coming AOP renewal.

ACP-18354 v1.0 Table 1-1 displays the above-described units and ACP-18354 v1.0 Table 1-2 shows the facility emission units upon project completion which includes the above referenced facility modifications since the last AOP renewal. ACP-18354 v1.0 includes all new and existing emissions limits associated with the facility.

During permit application review, the Department determined it was necessary to update the emission unit (EU) and emission point (EP) nomenclature for clarity. Table 1 depicts the historical EU and EP nomenclature used in previous permits, (including the requested EUs from the April 2026 application), along with the updated permit nomenclature utilized in this PTC.

¹ Refer to permit record in CERIS-ND for details: <https://ceris.deq.nd.gov/ext/ncore/external/home>.

ACP-18354 v1.0

Table 1 – Summary of EU and EP Nomenclature Updates.

Emission Unit Description	Historical Emission Unit (EU)	Historical Emission Point (EP)	Updated Emission Unit (EU)	Updated Emission Point (EP)	Air Pollution Control Equipment
Nine polymer pultrusion lines	1 through 9	1	PL1 through PL9	RTO1	Regenerative Thermal Oxidizer (RTO)
Regenerative thermal oxidizer	29	1	RTO1	RTO1	N/A
Nineteen polymer pultrusion lines	10 through 15, 39 through 51	5	PL10 through PL28	RTO2	RTO
Regenerative thermal oxidizer	52	5	RTO2	RTO2	N/A
Curing oven used to solidify residual resin mix	21	1	CO1	RTO2	RTO
Two 6,300 gallon resin storage tanks	16 & 17	None	TK1 & TK2	TK1 & TK2	None
One 2,000 gallon diesel tank	Unlisted	Unlisted	TK5	TK5	None
Three 10,850 gallon resin storage tanks	30 - 32	30 - 32	TK6 through TK8	TK6 through TK8	None
One 10,850 gallon styrene storage tank	33	33	TK9	TK9	None
Various saws and fabrication machinery (SFM)	EU 53 through 64	20.1 through 20.15	SFM	DC1 through DC15	Dust Collectors (DC1 through DC15)
Various natural gas fired heating units	Various	3	Various	Various	None
Caterpillar diesel fired electrical generator set rated at 1,500 bhp (Manuf. 1996) (NSPS ZZZZ)	28	4	ENG1	ENG1	Oxidation Catalyst

ACP-18354 v1.0

Emission Unit Description	Historical Emission Unit (EU)	Historical Emission Point (EP)	Updated Emission Unit (EU)	Updated Emission Point (EP)	Air Pollution Control Equipment
Caterpillar DG500 (4SRB) natural gas fired generator engine rated at 800 bhp (NSPS JJJJ, NSPS ZZZZ)	36	36	ENG2	ENG2	None
Caterpillar DG500 (4SRB) natural gas fired generator engine rated at 800 bhp (NSPS JJJJ, NSPS ZZZZ)	37	37	ENG3	ENG3	None
Caterpillar DG500 (4SRB) natural gas fired generator engine rated at 800 bhp (NSPS JJJJ, NSPS ZZZZ)	38	38	ENG4	ENG4	None

As a result of this PTC, the facility will be considered a synthetic minor source. The pultrusion lines (EU PL1 through PL9) controlled by RTO1 are subject to a 1.1 pound per hour (lb/hr) styrene emission limit, and the pultrusion lines (EU PL10 through PL28) controlled by RTO2 are subject to a 1.0 lb/hr styrene emission limit.

These emission limits are based on past facility performance testing at typical operational conditions and are in place to ensure the facility remains an area source of hazardous air pollutants (HAPs). In light of the testing conducted on April 17, 2025, initial testing requirements as listed in ACP-18354 v1.0 Permit Condition 4.A are fulfilled for RTO 1.

Should these styrene emission limits be determined to be unattainable at typical facility operational conditions, the facility could be subject to further permitting review and possible reclassification as a major source of HAPs and subject to 40 CFR Part 63, Subpart WWWW. Project Potential to Emit (PTE) is summarized in Table 2, and Facility PTE upon project completion is summarized in Table 3.

ACP-18354 v1.0

Table 2 – Project PTE Summary. All units are in tons per year (tpy). ^A

Emission Unit Description	Emission Unit (EU)	Emission Point (EP)	NO_x	CO	SO₂	VOC	PM_{TOT}	Total HAP	Styrene (Largest HAP)
Nineteen polymer pultrusion lines	PL10 through PL28	RTO2	-	-	-	4.4	-	4.4	4.38
Regenerative thermal oxidizer	RTO2	RTO2	0.6	1.1	0.0	0.1	0.1	0.0	-
Various saws and fabrication machinery (SFM)	SFM	DC10 through DC15	-	-	-	-	4.4	-	-
Total (without Fugitives):			0.6	1.1	0.0	4.5	4.5	4.4	4.38
Total (with Fugitives):			0.6	1.1	0.0	4.5	4.5	4.4	4.38

^A

Abbreviations:

NO_x: oxides of nitrogen

CO: carbon monoxide

SO₂: sulfur dioxide

VOC: volatile organic compounds

PM_{TOT}: total filterable and condensable particulate matter

HAP: hazardous air pollutants as defined in Section 112(b) of the Clean Air Act

ACP-18354 v1.0

Table 3 – Facility PTE Summary Upon Project Completion. All units are in tons per year (tpy).^A

Emission Unit Description	Emission Unit (EU)	Emission Point (EP)	NO_x	CO	SO₂	VOC	PM_{TOT}	Total HAP	Styrene (Largest HAP)
Nine polymer pultrusion lines	PL1 through PL9	RTO1	-	-	-	4.8	-	4.8	4.82
Regenerative thermal oxidizer	RTO1	RTO1	0.3	0.5	0.0	4.0E-2	0.1	1.0E-2	-
Nineteen polymer pultrusion lines	PL10 through PL28	RTO2	-	-	-	4.4	-	4.4	4.38
Regenerative thermal oxidizer	RTO2	RTO2	0.6	1.1	0.0	0.1	0.1	0.0	-
Two 6,300 gallon resin storage tanks	TK1 & TK2	TK1 & TK2	-	-	-	0.1	-	-	0.08
Three 10,850 gallon resin storage tanks	TK6 through TK8	TK6 through TK8	-	-	-	0.1	-	-	0.12
One 10,850 gallon styrene storage tank	TK9	TK9	-	-	-	0.0	-	-	0.04
Various saws and fabrication machinery (SFM)	SFM	DC1 through DC15	-	-	-	-	11.8	-	-
Caterpillar diesel fired electrical generator set rated at 1,500 bhp (Manuf. 1996) (NSPS ZZZZ)	ENG1	ENG1	9.0	2.1	0.0	0.3	0.3	0.0	-

ACP-18354 v1.0

Emission Unit Description	Emission Unit (EU)	Emission Point (EP)	NO_x	CO	SO₂	VOC	PM_{TOT}	Total HAP	Styrene (Largest HAP)
Caterpillar DG500 (4SRB) natural gas fired generator engine rated at 800 bhp (NSPS JJJJ, NSPS ZZZZ)	ENG2	ENG2	7.7	15.5	1.0E-02	5.4	0.2	0.7	-
Caterpillar DG500 (4SRB) natural gas fired generator engine rated at 800 bhp (NSPS JJJJ, NSPS ZZZZ)	ENG3	ENG3	7.7	15.5	1.0E-02	5.4	0.2	0.7	-
Caterpillar DG500 (4SRB) natural gas fired generator engine rated at 800 bhp (NSPS JJJJ, NSPS ZZZZ)	ENG4	ENG4	7.7	15.5	1.0E-02	5.4	0.2	0.7	-
Insignificant Activity ^B	Various	Various	8.2	13.8	0.1	0.9	1.3	0.3	-
Total (without Fugitives):			41.4	63.8	0.1	26.9	14.1	11.7	9.44
Total (with Fugitives):			41.4	63.8	0.1	26.9	14.1	11.7	9.44

^A

Abbreviations:

NO_x: oxides of nitrogen

CO: carbon monoxide

SO₂: sulfur dioxide

VOC: volatile organic compounds

PM_{TOT}: total filterable and condensable particulate matter

HAP: hazardous air pollutants as defined in Section 112(b) of the Clean Air Act

^B

Insignificant activity emissions are the sum of emissions from the curing oven (EU CO1), the 2,000 gallon diesel tank (EU TK5), and various natural gas fired heating units.

ACP-18354 v1.0

Table 4 details Title V major source applicability with respect to the changes in total facility PTE as a result of this project. The facility will remain an area source of HAP and will not become a Title V major source as a result of the proposed project.

Table 4 – Title V Major Source Applicability. All units are in tpy. ^A

	NO_x	CO	SO₂	VOC	PM_{TOT}	Total HAP	Styrene (Largest HAP)
Existing Facility PTE ^A	40.7	62.7	0.1	22.5	9.6	7.3	5.1
Project PTE (Emission Change)	0.6	1.1	0.0	4.5	4.5	4.4	4.4
Post-Project Total PTE	41.4	63.8	0.1	26.9	14.1	11.7	9.4
Title V Threshold	100	100	100	100	100	25	10
Pollutant Above Threshold?	No	No	No	No	No	No	No

^A Fugitive emissions are not included for the purposes of determining Title V major source applicability because the source is not a listed source category per 40 CFR § 70.2.

After a complete review of the proposed project indicating that the facility is expected to comply with applicable federal and state air pollution rules and regulations, the Department will make a recommendation on PTC issuance for the Marvin Composites Fargo Facility following the completion of a thirty-day public comment period. The public comment period will run from October 27, 2026, through November 26, 2026.

CA: RLS