From: Tracy Kefauver
Sent: Friday, August 19, 2022 1:43 PM
To: Kris Patrick Foster <kris.patrick.foster@adient.com>
Cc: Tawanna Reid <Tawanna.Reid@tn.gov>; Jill Pratt <Jill.Pratt@tn.gov>
Subject: RE: Adient draft PSD Construction permit w/Adient comments

Hi Kris

Thank you for your review and comments.

See responses to your questions in red below:

Also, in review of the draft PSD construction permit, we have the following questions:

1) What will the term of the PSD permit be [anticipating you will need to insert the expiration date]? The expiration date will be one year from the issuance date And,
2) Once the PSD permit is issued, what steps will be necessary on our part to roll it into the currently pending Title V renewal? See Conditions G6 and G7 of the draft permit. You will be required to submit a revised application for your Title V renewal application.

I have attached Word files with our resolutions to your comments and edits. We did not incorporate all edits into the documents. You are able to make official comments on the draft permit and preliminary determination during the 30 day public comment period.

I will be sending to APC admin to upload to TDEC website for public review and will send to EPA Region 4 for their 30 day review period today.

Please feel free to contact me with any further questions.

Thanks,

Tracy Kefauver | TDEC-Environmental Protection Specialist 2
Division of Air Pollution Control
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https://www.tn.gov/environment/permit-permits/permit-air-home.html

We value your opinion.
Please take a few minutes to complete our customer service survey.
Internal Customers please complete our customer satisfaction survey.

From: Kris Patrick Foster <kris.patrick.foster@adient.com>
Sent: Thursday, August 18, 2022 5:03 PM
To: Tracy Kefauver <Tracy.Kefauver@tn.gov>; Tawanna Reid <Tawanna.Reid@tn.gov>; Jill Pratt <Jill.Pratt@tn.gov>
Cc: Kris Patrick Foster <kris.patrick.foster@adient.com>
Subject: [EXTERNAL] Adient draft PSD Construction permit w/Adient comments

Tracy,

Please find attached Adient's comments to the draft PSD construction permit. As you will find, we had few and fairly insignificant comments which are annotated in red and blue text.

Also, in review of the draft PSD construction permit, we have the following questions:

1) What will the term of the PSD permit be [anticipating you will need to insert the expiration date]? And,
2) Once the PSD permit is issued, what steps will be necessary on our part to roll it into the currently pending Title V renewal?

Thank you and please contact me with any questions or concerns.

ADIENT

Kris P. Foster
Environmental, Health and Safety Lead
1890 Mines Road
Pulaski, TN 38478
Cell: 931-638-5918
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PREVENTION OF SIGNIFICANT DETERIORATION
PRECONSTRUCTION REVIEW AND PRELIMINARY DETERMINATION
FOR ADIENT US LLC
POLYURETHAN FOAM MANUFACTURING FACILITY
IN GILES COUNTY, TENNESSEE

This review was performed by the Tennessee Air Pollution Control Division in accordance with the Rules for Prevention of Significant Deterioration (PSD).

DRAFT, 2022

TABLE OF CONTENTS

Item	Description	Page
I.	Rule Background	1
II.	Project Background and Description	2
III.	Information used in Analysis	4
IV.	Emissions Analysis	4
V.	Control Technology Review	5
VI.	Ambient Air Quality Impact Analysis	13
VII.	Additional Impacts Analysis	22
VIII.	Conclusions and Conditions of Approval for Ambient Air Quality Impact Analysis	25

Appendix A –PSD Construction Permit 980244

Error! Reference source not found.**80244**

Appendix C – Application for Proposed PSD Permit 80244

Appendix D - Public Notice

Appendix E – Correspondence

Appendix F – Email transmittals to EPA and Affected States

Appendix G – Response to Comments

List of Tables

Table	Description	Page number
1	National Ambient Air Quality Standards	1
2	Maximum Allowable Increases (µg/m3) for Class II Areas	2
3	Source Description (Process Vents)	4
4	Projected Emissions Increases and Permit Emission Limits	4
5	Summary of BACT Analysis	6
6	Ranked Control Options	8
7	Operating Parameters for VOC Control Equipment	9
8	Cost per Ton of VOC Treated	10
9	Previous BACT Determinations for VOC with Cost Information	11
10	RBLC Search Results – VOC Controls for Polyurethane Foam Manufacturing (Molds)	12
11	Potential Emissions (Tons/Year) Subject to PSD Modeling	15
12	Representative Ozone Monitor	17
13	"Default MERP values (TPY) for Tennessee PSD applications"	18
14	Q/D ratios for Class I Areas within 300 km of Adient-Pulaski	22

List of Figures

Figure	Description	Page number
1	Adient US, LLC – Pulaski Tennessee Facility in relationship to Pulaski, TN (Google Maps image)	13
2	Adient US, LLC – Pulaski Tennessee Facility Near field with 1 km UTM Grid overlay (Google Earth image)	14

I. Rule Background

On June 3, 1981, the State of Tennessee adopted Tennessee Air Pollution Control Regulations (TAPCR) 1200-03-09-.01(4), Prevention of Significant Air Quality Deterioration. This Rule has been subsequently amended, with the latest amendments effective April 4, 2018. Under these regulations, a new major stationary source that is included in one of 28 source categories and has the potential or increased potential to emit 100 tons per year or more of any air pollutant regulated in the Clean Air Act must be reviewed with regard to significant deterioration prior to construction. In addition, any source having the potential or increased potential to emit 250 tons per year or more of any of these air pollutants must be reviewed with the same regard.

To comply with the amended PSD regulations, a source with potential emissions greater than significant amounts of a regulated pollutant must meet several criteria. The first criterion is that Best Available Control Technology (BACT) must be applied to all emission points for the applicable PSD pollutant. The second criterion is that the proposed source or modification must not cause or contribute to any violation of the National Ambient Air Quality Standards (NAAQS – see **Table 1**). Finally, increases in ambient concentrations of sulfur dioxide, nitrogen dioxide and particulate matter resulting from emissions discharged by the proposed source must not exceed the increments specified by the PSD regulations (**Table 2**).

Table 1: National Ambient Air Quality Standards

Pollutant		Averaging Period	Standard
Particulate Matter	(PM_{10})	24-hour	150 µg/m^3
	($PM_{2.5}$)	Annual	12.0 µg/m^3 (primary)
			15.0 µg/m^3 (secondary)
		24-hour	35 µg/m^3
Nitrogen Dioxide (NO_2)		Annual (primary and secondary)	53 ppb
		1-hour (primary)	100 ppb
Carbon Monoxide (CO)		8-hour	9 ppm
		1-hour	35 ppm
Sulfur Dioxide (SO_2)		1-hour (primary)	75 ppb
		3-hour (secondary)	0.5 ppm
Lead		3-month (primary and secondary)	0.15 µg/m^3
Ozone		8-hour (primary and secondary)	0.070 ppm

Table 2: Maximum Allowable Increases (µg/m3) for Class II Areas	
Pollutant	**µg/m^3**
PM10, annual arithmetic mean	17
PM10, 24-hour maximum	30
PM2.5, annual arithmetic mean	4
PM2.5, 24-hour maximum	9
Sulfur dioxide: Annual arithmetic mean	20
Sulfur dioxide: 24-hour maximum	91
Sulfur dioxide: 3-hour maximum	512
Nitrogen dioxide: Annual arithmetic mean	25

II. Project Background and Description

On March 30, 2022, Adient US LLC (Adient or Adient Pulaski) submitted an application for a construction permit to increase its emission limits for the production operations at the polyurethane foam manufacturing facility located at 1890 Mines Road, Pulaski, Giles County, Tennessee. This change will increase the Volatile Organic Compound (VOC) allowable emission limit from 308.0 tons per year (tpy) in Title V Operating Permit 569269 to 491.4 tpy.

Adient operates three moisture curing, urethane foam injection lines at its Pulaski, Tennessee facility. The foam lines produce automotive seat cushions and other foam products in clamshell molds. The three molding lines each operate using racetrack-type conveyors, whereby the molds are presented to the various production stations for the foam process to produce a part in its final form. An open mold is presented to the mold release - spray application station where an operator sprays the mold with the mold release agent. The mold release agent is comprised of a wax in a solvent carrier which contains VOC. The mold advances to the pour station where a robot equipped with a urethane component mix head injects the mixed foam components into the open mold. The mold is automatically closed, and the foam reaction occurs in the mold cavity. As the mold advances through the production line, the foam expands, cures and is opened and presented to the extraction station. A worker team removes the molded part, cleans and prepares the mold for another cycle, and the process repeats.

On April 29, 2004, the Technical Secretary issued Title V permit 556316 to the previous owner, Johnson Controls, Inc (Johnson Controls). Condition E4-2 limited VOC emissions from the source to 248.0 tons during all intervals of 12 consecutive months. On May 8, 2006, the Division of Air Pollution Control issued a minor modification to that permit to increase the allowable VOC emissions to 258.0 tons during all intervals of 12 consecutive months.

On February 18, 2010, the Division received an application from Johnson Controls dated February 16, 2010, for a minor modification to Title V permit 556316 to increase the allowable VOC emission limit in

condition E4-2 to 276.7 tons during all intervals of 12 consecutive months. On March 4, 2010, the Division received a letter from Johnson Controls indicating that the baseline emissions used in the February 16, 2010, application were incorrect. The letter stated that "Johnson Controls is requesting an increase in the VOC allowable for the Foam Production Line from 258.0 tons per year to 285.9 tons per year during all intervals of 12 consecutive months." On June 4, 2010, the Division issued Title V renewal permit 562120 which contained condition E4-2 that increased the VOC emission limit for the source to 285.9 tons during all intervals of 12 consecutive months.

On January 15, 2016, the Technical Secretary issued Title V renewal permit 569269. On May 26, 2016, the Division issued an Administrative Amendment to Title V permit 569269 changing the permittee to Adient US LLC (Adient). Adient submitted an application dated July 15, 2016, requesting a Minor Modification for permit 560269 "to increase the VOC limit from 285.9 to 320 tons per year". Adient submitted a revised application dated October 12, 2016, requesting a change to the VOC emission limit to 308 tons per year. On November 21, 2016, the Division issued Minor Modification #1 to Title V permit 569249 which changed the VOC emission limit in condition E4-2 to 308.0 tons during all intervals of 12 consecutive months.

On June 15, 2020, the Division received a revised Title V permit renewal application dated June 11, 2020, from Adient. The application states "During this renewal application process, Adient Pulaski is targeting an increase in Allowable AAP Emissions VOC's from the current 308 tons per AAP to 346 AAP." In June 2021, Adient contacted TDEC regarding increasing VOC emissions from the mold release operations to 491.4 tpy[1].

In accordance with 40 CFR 52.21(r)(4), and Division Rule 1200-03-09-.01(4)(a)6. states:

> If a particular source or modification becomes a major stationary source or major modification solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of this paragraph shall apply to the source or modification as though construction had not yet commenced on the source or modification.

~~Since~~ The Division ~~alleged~~determined that the VOC emission limit increase from 248.0 to 258.0 tons during all intervals of 12 consecutive months in 2006 was not the result of a modification to the source, ~~-~~ and the facility became a major stationary source solely by relaxation of an enforceable limitation. The Division ~~also alleged~~determined that the VOC emission limit increases to 276.7 tons (during all intervals of 12 consecutive months) in 2010 and to 308.0 tons (during all intervals of 12 consecutive months) in 2016 further relaxed the enforceable emission limitation that kept the facility from being a major stationary source. Therefore, ~~the Division took the position that~~ the 2006, 2010, and 2016 emissions increases should have been issued in accordance with paragraph 1200-03-09-.01(4), Prevention of Significant Air Quality Deterioration (PSD). ~~Adient disagreed with the Division, and the two parties resolved the matter by Consent Order dated February 24, 2022 (Division Case No. APC21-0170).~~

The ~~Division has concluded that Adient's~~ proposed modification will result in a significant emission increase for VOC, ~~and~~ . ~~T~~the project is therefore subject to review under the regulations governing the Prevention of Significant Air Quality Deterioration (PSD).

1 Projected maximum emissions facility-wide are 502.85 tpy, but Adient will voluntarily accept a limit on facility-wide emissions of 491.40 tpy.

III. Information Used in Analysis

The applicant provided the following information in their March 30, 2022, permit application (Appendix A).

The proposed modification will affect the emission source listed in **Table 3.**

Table 3: Source Description					
Emission Source	**Stack (Process Vent) ID**	**Description**	**Stack Height (ft)**	**Stack Exit Flowrate (scfm)**	**Stack Diameter (ft)**
Facility ID (ESRN): 28-0076-01 All stacks emit at ambient conditions of 70°F, with 1% moisture from round discharge points unobstructed in the upward direction	1	Polyurethane Foam Manufacturing Foam line No. 2	80	15,900	3'2"
	2		90	18,200	3'6"
	3		96	23,800	3'10"
	4		61	7,100	2'1"
	5		58	5,000	2'
	6	Polyurethane Foam Manufacturing Foam Line No. 1	10'6"	25,000	5'6"
	7		10'6"	25,000	5'6"
	8		10'6"	25,000	5'6"
	9		10'6"	25,000	5'6"
	10	Polyurethane Foam Manufacturing Foam Line No. 3	10'6"	25,000	5'6"
	11		10'6"	25,000	5'6"
	12		10'6"	25,000	5'6"
	13		10'6"	25,000	5'6"

Notes: ESRN is the Emission Source Reference Number for the source point on the permit.
Stack parameters from **Figure 3** in application dated 2022-03-30

IV. Emissions Analysis

Projected emissions increase from the proposed modification (**Table 4**) were obtained from the information and assumptions given in the March 30, 2022, permit application.

Table 3: Projected Emissions Increases and Permit Emission Limits				
Pollutant	**Project Emissions Increase (tons/year)**	**New Permit Allowable Emission Limits (tons/year)**	**PSD Significance Threshold (tons/year)**	**Subject to PSD Review?**
PM/PM_{10}/$PM_{2.5}$	9.45	9.90	25/15/10	No
VOC	502.85	491.40	40	Yes

The company's calculated PTE is 502.85 tpy (see calcs in Appendix B of Adient's application dated March 30 2022) but they chose to request a limit of 491.4 tpy. The facility-wide VOC emission rate is primarily generated by the use and operations associated with the mold release agent, and the balance of the VOC emissions are from other related foam manufacturing and cleaning operations. The VOC emissions from other related foam manufacturing and cleaning operations are relatively low enough that Adient is able to accept a VOC emissions cap of 491.4 tpy. The company provided a letter stating this agreement to the VOC limit of 491.4 tpy.

Since ~~the Division has taken the position that~~ the PSD application submitted by Adient is the result of the 2006 permit modification that made the Adient facility become a major stationary source (by virtue of a relaxation of an enforceable VOC limit), all three foam seating lines are considered new emission units for the purpose of determining baseline actual emissions. Therefore, ~~the Division has concluded that~~ baseline actual emissions for this source are zero, as required by TAPCR 1200-03-09-.01(4)(a)6.

V. Control Technology Review

V.1 National Emission Standards for Hazardous Air Pollutants (NESHAP)

EPA has promulgated National Emission Standards for Hazardous Air Pollutants (NESHAPs) for various industrial categories. Adient US LLC is an area source of hazardous air pollutants (HAPs), which emits less than 10 tons per year of any single HAP and less than 25 tons per year of total HAPs. The application was evaluated to determine the applicability of 40 CFR Part 63 Subpart OOOOOO (National Emission Standards for Hazardous Air Pollutants for Flexible Polyurethane Foam Production and Fabrication Area Sources).

The Adient US LLC polyurethane foam operations is an area source of HAPs and an existing source pursuant to 40 CFR §63.11414(c). Accordingly, the operations are subject to 40 CFR Part 63, Subpart OOOOOO: National Emission Standards for Hazardous Air Pollutants for Flexible Polyurethane Foam Production and Fabrication Area Sources. Being subject to 40 CFR Part 63 Subpart OOOOOO, the facility shall not use methylene chloride as an equipment cleaner to flush the mixhead, use a material containing methylene chloride elsewhere as an equipment cleaner, or use a mold release agent containing methylene chloride in the molded flexible polyurethane foam process.

V.2 Other Federal Regulations

The Adient Pulaski facility operates processes which utilize toluene diisocyanate (TDI), Chemical Abstract System no. 26471-62-5. TDI is a regulated hazardous substance under Section 112(r) of the Clean Air Act, Accidental Release Prevention/Risk Management Plan Rule. Adient Pulaski is subject to Program 1 of the rule, which requires preparation and submittal of a Risk Management Plan (RMP) in accordance with 40 CFR §68.12(a) and (b), updated every five years. Program 1 also requires a hazard assessment, which consists of a worst-case release scenario analysis as provided in §68.25 and a five-year accident history as provided in §68.42.

V.3 Best Available Control Technology (BACT) Analysis

Pursuant to TAPCR 1200-03-09-.01(4)(j), this proposed source is required to apply best available control technology for VOC since significant net emission increases are expected from the project as a whole.

Best Available Control Technology means an emission limitation (including a visible emission standard) based on the maximum degree of reduction for each regulated NSR pollutant which would be emitted from any proposed major stationary source or major modification which the Technical Secretary, on a case-by-

case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant.

In no event shall application of Best Available Control Technology result in emissions of any pollutant which would exceed the emissions allowed by any applicable standard under 40 CFR part 60 or 61. If the Technical Secretary determines that technological or economic limitations on the application of measurement methodology to a particular emissions unit would make the imposition of an emission standard infeasible, a design, equipment, work practice, operational standard or combination thereof, may be prescribed instead to require the application of Best Available Control Technology. Such standard shall, to the degree possible, set forth the emissions reduction achievable by implementation of such design, equipment, work practice or operation, and shall provide for compliance by means which achieve equivalent results.

The EPA policy memorandum dated December 1, 1987, directs applicants and permit reviewers to consider all technically feasible alternatives, including those more stringent than the BACT selection. This is referred to as the "top-down BACT analysis approach". EPA's 1990 New Source Review manual summarizes the top-down BACT analysis in the following steps:

1. Identify all control technologies.
2. Eliminate technically infeasible options.
3. Rank remaining control technologies by control effectiveness.
4. Evaluate most effective controls and document results.
5. Select BACT.

Table 4: Summary of BACT Analysis

Emission Source	Pollutant	Emission Limit	Control Technology
Three Polyurethane Foam Production lines	VOC	491.40 tons of VOC per 12 consecutive months	Utilize good work practice standards to reduce VOC emissions

The results of the BACT analysis are summarized in **Table 5**. Top-down BACT analysis provides that all available control technologies be ranked in descending order of control effectiveness. The most effective control technology is established as BACT unless the applicant demonstrates, and the permitting authority agrees, that technical considerations, or energy, environmental, or economic impacts indicate that the most effective technology is not achievable. If the most stringent technology is eliminated in this fashion, then the next most stringent alternative is considered until a BACT option is selected.

V.3.1 Volatile Organic Compounds (VOC) Emissions – Three Polyurethane Foam Production Lines

BACT applies to each regulated NSR pollutant which would be emitted from any proposed major stationary source or major modification, and BACT analyses are generally performed on each emissions unit subject to PSD review. Where appropriate, BACT analyses may be performed on groupings of emission units on a case-by-case basis.

Step One: Identify all control technologies: Available control options are those air pollution control technologies or techniques with a practical potential for application to the emissions unit and the regulated pollutant under evaluation. Air pollution control technologies and techniques include the application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of the affected pollutant. This includes technologies employed outside of the United States. In some circumstances inherently lower-polluting processes are appropriate for consideration as available control alternatives. The control alternatives should include not only existing controls for the source category in question, but also (through technology transfer) controls applied to similar source categories and gas streams, and innovative control technologies. Technologies required under lowest achievable emission rate (LAER) determinations are available for BACT purposes, must also be included as control alternatives, and usually represent the top alternative.

Adient US LLC provided the following information in their March 30, 2022, permit application (Appendix A). The application identified the following options to control VOC emissions from the three polyurethane foam production lines:

- Chemical adsorption (carbon and synthetic)
- Recuperative thermal oxidizers coupled with a carbon absorber
- Thermal oxidizer using flare technology
- Scrubber technology
- Refrigeration/condensing VOC control units
- Recuperative thermal oxidizer
- Regenerative thermal oxidizer
- Catalytic thermal oxidizer

The Division reviewed EPA's RACT-BACT-LAER Clearinghouse (RBLC) categories 63.013 and 99.016; guidance documents and found no additional technologies. After further review, the Division proposes Adient utilize good work practice standards to reduce VOC emissions.

Step Two: Eliminate technically infeasible options: In the second step, the technical feasibility of the control options identified in step one is evaluated with respect to the source-specific (or emissions unit-specific) factors. A demonstration of technical infeasibility should be clearly documented and should show, based on physical, chemical, and engineering principles, that technical difficulties would preclude the successful use of the control option on the emissions unit under review. Technically infeasible control options are then eliminated from further consideration in the BACT analysis.

Adient US LLC provided the following information in their March 30, 2022, permit application (Appendix A). The application states that the following selected control technologies were rejected as technically infeasible.

Chemical adsorption/Recuperative thermal oxidizers coupled with a carbon adsorber: For this application, large volumes of air are used to collect and transport the mold release solvents and wax overspray to the atmosphere. The wax content in the air will bind on chemically active media surfaces used in adsorber technologies, which makes carbon adsorption and synthetic adsorption incompatible and technically infeasible. For cost projection purposes, a hybrid control system using a carbon concentrator coupled with a [smaller volume] thermal oxidizer was evaluated but is not presented for cost analysis purposes since the concentrator technology is not compatible with the wax materials and thus is not feasible.

Flare technology: Thermal treatment using open or closed flares are typically deployed to control process gases where the exhaust gas has a suitable combustible content and flammability ranges capable of sustaining an open or closed flame. Since the volatile to air ratio for this application are significantly below

the lower flammable limit, flare technology is not suitable and has been determined to be technically infeasible.

Scrubber: The VOCs in this process are not water-soluble. Typical wet and dry scrubbing systems are not capable of collecting and treating VOC airstreams and as a result those technologies are usually reserved or utilized as VOC pretreatment components in a VOC treatment system. Since these technologies do not [substantially] remove or treat VOC laden air, those technologies will not be further evaluated.

Refrigeration/condensing technology: Condensing or refrigeration systems are typically used in low air flow, high VOC content air streams for condensation and collection of the VOC liquid components. For this application, the high-volume air stream and dilute VOC concentration are not compatible or technically feasible control options and are not considered further.

Step Three: Rank remaining technologies by control effectiveness:

Adient US LLC provided the following information in their March 30, 2022, permit application (Appendix A).

Since the technologies remaining [not eliminated] are all based on the principle of thermal oxidation (TO), each category will be further evaluated for the economic benefit and cost/control determination. With the desire for a high level of VOC control, those technologies that involve TO have been ranked accordingly by their efficacy and ability to reduce VOCs in relatively dilute airstreams. **Table 6** ranks the remaining control technologies.

Table 5: Ranked Control Options

Rank	Control Option	VOC Control Efficiency
Equal	Recuperative TO	95%
Equal	Regenerative TO	95%
Equal	Catalytic TO	95%
4	Good Work Practice Standards	N/A

Recuperative Thermal Oxidation: A recuperative TO is a large air-heating device that uses the exhaust temperature to preheat the incoming air using an air-to-air heat exchanger. Relatively low thermal efficiency of the recuperative design results in large fuel gas volume projections, and the relatively short heat of combustion contact time with the process gases (and the targeted VOC compounds) also requires higher treatment (combustion) temperatures to attain the targeted 95% VOC destruction performance.

Regenerative Thermal Oxidization: The regenerative thermal oxidization technology provides operational advantages over recuperative and catalytic technologies in that the thermal efficiency is greatly improved, thereby reducing the quantity of fuel gas needed to attain a specific treatment temperature. The thermal improvement is typically attained using ceramic media and the heat of combustion from the combustion chamber (in this case supplemental fuel burning) is conducted in multiple and sequencing beds in a series of cycles between pre-heat and heat recovery of the treatment beds on a regularly cyclical and frequent basis. The result of this design is fuel gas savings and reduced combustion gas emissions, when compared to other TO technologies.

Catalytic Incineration: This technology allows a reactive catalyst to bring the air stream up to the target VOC oxidation temperature. For the catalyst to work properly, the process gas must be heated to approximately 800°F. Final VOC treatment (destruction) is attained as the reaction of the VOC compounds on the catalytic surface heats the VOC compounds which are then oxidized, and the targeted VOC destruction is complete without the need for additional fuel beyond the preheater section. Catalysts have finite life spans and are subject to catalyst poisoning from compounds in the airstream. Not included in this evaluation are the likely needs for special pretreatment filtration to isolate overspray wax from blinding or contaminating the reactive catalyst surface. Adient is concerned this technology may not be fully compatible with the wax overspray but has presented the US EPA values for comparative and full BACT treatment consideration.

Good Work Practice Standards: A work practice standard is any design, equipment, work practice, operational standard, or combination thereof to reduce air emissions. Good work practice standards may be implemented to satisfy the requirement for the application of BACT when control technology is infeasible or economic limitations exist.

Step Four: Evaluate most effective controls and document results: EPA's 1990 NSR workshop manual states that after technically feasible control options are identified, the energy, environmental, and economic impacts are considered to arrive at the final level of control. If the applicant accepts the highest-ranked control option as BACT, the applicant proceeds to consider whether impacts of unregulated air pollutants or impacts in other media would justify selection of an alternative control option. If there are no outstanding issues regarding collateral environmental impacts, the analysis is ended, and the highest-ranked option is proposed as BACT.

Adient US LLC provided the following information in their March 30, 2022, permit application (Appendix A).

The production lines are equipped with existing process ventilation exhaust systems that total approximately 270,000 scfm to meet OSHA spray application requirements. The process exhaust is at room temperature and is comprised of (dilute) VOC concentrations with very low fuel value. The BACT demonstration indicates the VOC concentrations are considered very low for VOC – BACT control treatment considerations. Typical TO systems, treating low concentration VOC streams, require large volumes of fuel gas to maintain proper oxidation temperatures in the combustion chamber of the unit.

The thermal and destruction efficiencies have been summarized and are presented in **Table 7**. The values presented have been calculated using US EPA Cost Control Manual factors. Other factors used in the BACT demonstration are also tabulated for relative comparison of features and benefits. For this BACT demonstration, the three selected TO technologies are believed to be the appropriate types of control for this application.

Table 7: Operating Parameters for VOC Control Equipment

Control Technology	Gas Preheat of Treatment Temperature	Thermal Efficiency	Destruction Efficiency	Fuel Flow	Estimated Heat Input
Recuperative TO	1, 450 F	70%	95%	3,553 scfm	217.4 MMBtu/hr
Regenerative TO	1,600 F	95%	95%	431.4 scfm	26.4 MMBtu/hr
Catalytic Incinerator	800 F	70%	95%	1,251.6 scfm	76.6 MMBtu/hr
Heat inputs are estimated from a conversion factor of 1,020 Btu/scf					

EPA's 1990 New Source Review manual addresses cost effectiveness as follows:

> Cost effectiveness (dollars per ton of pollutant reduced) values above the levels experienced by other sources of the same type and pollutant, are taken as an indication that unusual and persuasive differences exist with respect to the source under review. In addition, where the cost of a control alternative for the specific source reviewed is within the range of normal costs for that control alternative, the alternative, in certain limited circumstances, may still be eligible for elimination. To justify elimination of an alternative on these grounds, the applicant should demonstrate to the satisfaction of the permitting agency that costs of pollutant removal for the control alternative are disproportionately high; when compared to the cost of control for that particular pollutant and source in recent BACT determinations. If the circumstances of the differences are adequately documented and explained in the application, and are acceptable to the reviewing agency, they may provide a basis for eliminating the control alternative.

Capital costs include the purchase and installation of equipment items, foundations and supports, piping, insulation, structural steel, and instrumentation. Annual operating costs include utilities, operating labor, and maintenance. The application submitted by Adient US LLC on March 30, 2022, states that costs for various control approaches was completed using current costs associated with fuel and electrical utility fees, labor rates, and methods and costs from US EPA's Vatavuk Air Pollution Control Cost Indexes - updated using the U.S Department of Labor Statistics Inflation Calculator. **Table 8** includes the cost per ton of VOC treated for the technically feasible options identified.

Table 8: Cost per Ton of VOC Treated

Thermal Control Option	Dollars per Ton of VOC Treated	
	2006 Dollars	CPI-Adjusted to 2022 Dollars
Recuperative Thermal Oxidizer	$42,261	$71,032
Regenerative Thermal Oxidizer	$10,734	$18,042
Catalytic Incinerator	$19,308	$32,453

The application submitted by Adient US LLC on March 30, 2022, states that the high projected VOC treatment estimates summarized in **Table 8** result from a variety of factors listed below:

1) The process discharges large volumes of air which are needed to provide a safe working environment for workers in the foam operation area for each of the three foam seating lines.
2) The spray mold release agent and solvent release rates result in low VOC concentrations in the exhaust stream.
3) The high air volumes require extensive and high costs for VOC abatement equipment capable of handling 270,000 scfm and also achieving the needed 95 percent destruction efficiency of the VOC compounds at relatively low concentration.
4) The VOC abatement equipment will require large volumes of fuel in the form of natural gas to heat the large volume, low VOC content, ambient temperature exhaust stream to the target treatment temperatures for each of the targeted and respective TO devices evaluated.
5) The COVID pandemic situation has raised the costs for TO manufacturers and components found in TO equipment. Delays in materials and operating system components have been experienced, along with fabrication and transportation delays.
6) Inflation is at a 40-year high level.

Step Five: Select BACT: The application submitted by Adient US LLC on March 30, 2022, concludes that the projected costs per ton of VOC treated are in excess of what would be considered cost effective for

VOC controls. On that basis, Adient concluded the current configuration without VOC abatement is BACT for this project and for the existing process.

TDEC-APC Review of Proposed BACT: The Division compared Adient US LLC's proposed BACT with other control technology reviews for VOC. **Table 9** includes cost information for PSD permits issued in Tennessee in the previous five years. Adient US LLC's rejection of add-on controls is consistent with prior determinations issued in Tennessee.

Table 9: Previous BACT Determinations for VOC with Cost Information

Facility	Permit Number	BACT Option	Cost Effectiveness ($/ton)	Selected as BACT?
Granges Americas Inc.	973712	Thermal Oxidation	$29,963	No
Hankook Tire Manufacturing Tennessee, LP	971720	Regenerative Thermal Oxidation	$19, 936	No
		Thermal Oxidation	$61,017	No
TVA Gleason	975023	Catalytic Oxidation	$157,000	No
Domtar Paper	978656	Thermal and Catalytic Oxidation	$10,174	No
			$21,483	

The RACT-BACT-LAER Clearinghouse (RBLC) was reviewed to identify comparable processes (**Table 10**). The Division identified seven processes for comparison with Adient US LLC's proposed BACT.

Table 10: RBLC Search Results – VOC Controls for Polyurethane Foam Manufacturing (Molds)

RBLC ID	Facility Name	Date	Process Name	Control Method Description	Efficiency
IN-0208	NHK Seating of America, Inc.	3/7/2019	Seat Foam Production Line	Regenerative Thermal Oxidizer	95%
MI-0095	Johnson Controls, Inc.	12/18/2001	MFG Process, Polyurethane Foam	Airless spray gun for mold release/Emission limit	NA
IN-0137	Foamex Innovations, Inc.	10/12/2012	Polyurethane Foam Coating Line	Best Management Practices/Emission limit	NA
IN-0137	Foamex Innovations, Inc.	10/12/2012	Polyurethane Foam Production Line	Best Management Practices/Emission limit	NA
MI-0313	Woodbridge Corporation	11/18/2002	Mold release application	HVLP is used to yield good transfer efficiency. RTO costing $6500 per ton was not required. (Costs were not verified) / Emission limit	NA
MI-0163	Steelcase, Inc.	10/9/2002	Mold Release Polyurethane Foam	Water Base Mold Release	100%

MI-0176	International Foam and Trim	3/25/1994	IN-Mold coating of polyurethane parts.	HVLP coating application equipment used. Dry filters/Emission limit	NA

NHK Seating of America, Inc. (RBLC ID: IN-0208) uses a regenerative thermal oxidizer for VOC emissions control. After review of the permit in the RBLC, this facility has one automobile seat foam production line, with a capacity of 56 seats per hour, that exhausts through ventilation hoods equipped with dry filters. This line has the capability to use water-based or solvent-based mold release. If solvent-based mold release is used, the VOC emissions are controlled by a regenerative thermal oxidizer. The BACT Analysis (Appendix B of the permit) provided no details for the volume of exhaust air or VOC concentration in the exhaust air stream. An economic impact analysis was not performed as part of BACT. Since no direct comparison of the exhaust stream from the RBLC listing can be made to the Pulaski operation, the control options identified in this BACT demonstration will be used to determine the best available control for this application.

Steelcase, Inc. (RBLC ID: MI-0163) uses water-based mold release agent. There are no details for the polyurethane process in the RBLC for Steelcase, Inc. Adient's attempts to use low emitting alternatives such as co-solvent and water-based mold release agents have failed, resulting in high levels of damaged parts, requiring re-manufacturing and wasted raw materials. Specifically, the use of lower emitting mold release agents does not allow a clean release of the newly formed foam part and frequently causes the foam to stick to the mold, causing damage to the part upon extraction. Therefore, water-based mold release agents cannot be used in Adient's polyurethane foam process.

Pursuant to TAPCR 1200-03-09-.01(4), the following requirements are established as BACT for VOC from source 01, polyurethane foam manufacturing:

- Utilize good work practice standards to reduce VOC emissions

Compliance with this requirement shall be assured by conducting the following daily work practice activities to ensure VOC emissions are minimized and reduced. These activities are outlined in Adient's ISO 14001 Environmental Management System (EMS) Policies as well as internal Standard Work Guidelines:

- All VOC containing mold release containers shall remain closed until such time the container is in process of preparation for and ready for use.
- Inventory storage of VOC containing mold release containers shall consist of a controlled access area complete with spill containment.
- Mold release material shall be transferred from tank storage to end point discharge via a fully contained and closed loop piping conveyance system.
- In the event of an inadvertent failure of the closed loop conveyance system resulting in the incidental release of mold release material, as referenced within Adient Pulaski's internal Plant Emergency Operations Plan, the onsite Spill Response Team shall be notified immediately and shall mitigate the spill in a manner which reduces potential fugitive VOC emissions.
- End point usage of VOC containing mold release material shall be monitored regularly as outlined within Adient Pulaski's internal work instructions and standard operating procedures.
- Utilizing the ISO14001 EMS Environmental Objectives Form, or the Adient continuous improvement platform, plant personnel shall participate in regular mold release tracking activities. These records shall be retained in accordance with **Condition G10**.

Commented [A1]: Verbiage changed so that the standard is enforceable for BACT.

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The above measures are instituted by way of the internal ISO program for continuous improvement and are collectively considered good management practices at the time of permit issuance. Improvements and the ongoing potential for continuous improvement may require updates of these procedures and environmental objectives. If Adient Pulaski revises the above measures, the permittee shall provide written notification to the Division at least 30 days prior to the change. ~~All VOC containing mold release containers remain closed until such time the container is in process of preparation for and ready for use.~~

~~Inventory storage of VOC containing mold release containers consists of a controlled access area complete with spill containment.~~

~~Mold release material is transferred from tank storage to end point discharge via fully contained and closed loop piping conveyance system.~~

~~In the event of an inadvertent failure of the closed loop conveyance system resulting in the incidental release of mold release material, as referenced within Adient Pulaski's internal Plant Emergency Operations Plan, the onsite Spill Response Team is notified immediately and mitigates the spill in a manner which reduces potential fugitive VOC emissions.~~

~~End point usage of VOC containing mold release material is monitored regularly as outlined within Adient Pulaski's internal work instructions and standard operating procedures.~~

~~Utilizing the ISO 14001 EMS Environmental Objectives Form, or the Adient continuous improvement platform, plant personnel participate in regular mold release tracking activities. These records shall be retained in accordance with Condition G10, as appropriate.~~

- ~~All VOC containing mold release containers shall be kept in closed and sealed containers and piping systems at all times until end point usage.~~
- ~~Inventory storage of all mold release containers shall consist of a fully enclosed locked storage structure complete with self-contained spill containment.~~
- ~~Mold release material shall be transferred from the tank storage area to the end point discharge via a fully contained and closed loop piping conveyance system.~~
- ~~In the event of an inadvertent failure of the closed loop conveyance system, flow sensors shall continuously monitor abrupt or out of calibration flow rates to ensure mold release material spillage is kept at a minimum. Spilled material is mitigated immediately by an internal quick reactionary team to ensure VOC containing mold release is contained quickly to not increase potential VOC emissions.~~
- ~~End point usage of VOC containing mold release material shall continuously be monitored by Line Operators and Line Technicians to ensure proper application at all times.~~

~~The above measures are instituted by way of the internal ISO program for continuous improvement and are collectively considered good management practices at the time of permit issuance. Improvements and the ongoing potential for continuous improvement may require updates of these procedures and environmental objectives. Adient Pulaski may revised the above measures after written notice to, and approval by, TDEC, which approval shall not be unreasonably withheld. In the event Adient wishes to revise these procedures it will provide prior notice to TDEC. TDEC will provide its response within 30 days of receipt of such notice.~~

- ~~Utilizing the ISO14001 EMS Environmental Objectives Form, plant personnel shall participate in monthly mold release usage reduction activities with progress continuously tracked and compared with prior months records.~~

- Limit of 491.40 tons of VOC per 12 consecutive months.

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Compliance with this limit shall be demonstrated by calculating VOC emissions during each calendar month and each period of 12-consecutive months.

VI. Ambient Air Quality Impact Analysis

VI.1 Introduction

On March 30, 2022, Adient US, LLC submitted an application to expand its operations at 1890 Mines Road in Pulaski, TN by increasing Volatile Organic Compound (VOC) emissions from its currently permitted 308 tons per year (TPY) to 491.4 TPY. The increase in emissions will be due to an increase in the facility's usage of its mold release agent at its three urethane foam injection lines. **Figures 1** shows an aerial photo of the plant and its immediate surroundings which is about 5 km NW of the center of Pulaski. **Figure 2** also shows the near-field within 1km surrounding the facility.

Figure 1 – Adient US, LLC – Pulaski Tennessee Facility
in relationship to Pulaski, TN (Google Maps image)

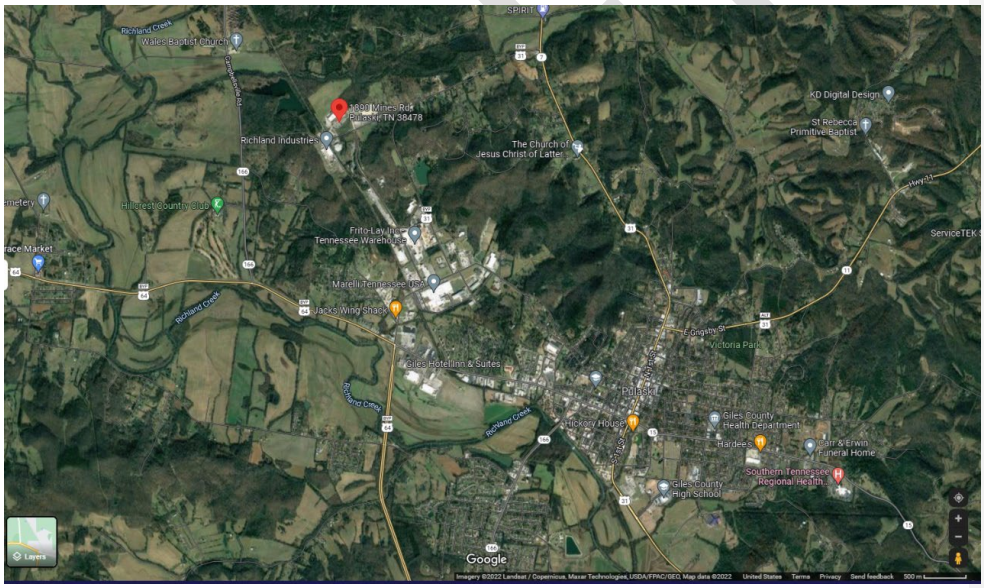

Figure 2 – Adient US, LLC – Pulaski Tennessee Facility
Near field with 1 km UTM Grid overlay (Google Earth image)

VI.2 Project Overview

Adient designs, engineers, and manufactures seats for the automotive industry. The manufacturing process includes the production of automotive cushions, backrests, head restraints and other automotive components formulated with polyurethane foam. As part of an overall program to reduce its environmental footprint, Adient has developed a lightweight seating foam and has pioneered the creation of low-emission foams using renewable resources and natural oil polyols. These advancements not only have a direct positive impact on the local community, but also serve to support the automotive industry in lowering the weight of cars, which has a direct effect on improved gas mileage.

Adient - Pulaski operates under Tennessee Division of Air Pollution Control (TDAPC) **Title V Permit Number 569269**. Federally enforceable emission limits make Adient a major source under Prevention of Significant Deterioration (PSD) regulations [40 CFR 52.21(b)(1)(i)(*b*)]. Adient proposes to increase annual emissions such that the facility emits more than the PSD Significant Emission Rate (SER) thresholds for the New Source Review (NSR) pollutant category of Volatile Organic Compounds (VOCs). Therefore, increasing the annual emission limitations for this facility will be subject to PSD review (including modeled impact assessment and review) under Tennessee Air Pollution Control Regulations (TAPCR) rule 1200-3-9-.01(4)(a)(6).

This section of the PSD Analysis describes the assessment of ambient impacts resulting from the increase in emissions from the proposed permitting action and existing equipment. Section V above discusses the required best available control technology (BACT) analysis. Sections in Volume VI below provide the air

quality analysis and analysis of other impacts, respectively. The permit application forms, emission calculations, BACT survey results, and modeling output and plots are contained in the application appendices. With this application, The Tennessee Division of Air Pollution Control proposes to approve Adient's requests for issuance of a PSD Permit for the new operating scenario at their Pulaski facility.

The facility, in Giles County, is located at 1890 Mines Rd in Pulaski, TN 38478, which is about 66 miles south-southwest of downtown Nashville, TN. The area is considered a rural Class II area. The closest Class I areas are: The Sipsey Wilderness Area in north central Alabama (60 mi or 97 km SSW) and Cohutta Wilderness Area in southeastern Tennessee and northern GA (135 mi or 218 km East),

The application describes the process as follows in Section 1.2.2:
"The three molding lines each operate using racetrack-type conveyors, whereby the molds are presented to the various production stations for the foam process to produce a part in its final form. An open mold is presented to the mold release - spray application station where an operator sprays the mold with the mold release agent. The mold advances to the pour station where a robot equipped with a urethane component mix head injects the mixed foam components into the open mold. The mold automatically closes and the foam reaction occurs in the mold cavity. As the mold advances through the production line, the foam expands, cures and is opened and presented to the extraction station. A worker team removes the molded part, cleans and prepares the mold for another cycle, and the process repeats. A process flow diagram is attached in ***Figure 2*** *of the appendix.*

Prior to injecting the foam components into the mold, the molds are sprayed with a wax mold release agent to allow removal of the cured foam. The mold release wax is suspended in an aliphatic (non-halogenated) solvent, which contains VOC.

The two-part foam components are moisture-cured producing a polyurethane automotive seat cushion. Halogenated compounds are not used as blowing agents. The foam components are mixed at the gun head, injected/poured into the clamshell molds, the molds are closed and the foam reaction occurs in the mold cavity."

Listed below are the potential emissions from the project compared to the PSD applicability levels for those pollutants emitted at the facility, which require an initial modeling analysis of the facility's projected emissions. Emissions greater than the applicability level necessitate preliminary modeling analyses for those pollutants.

Table 11: Potential Emissions (Tons/Year) Subject to PSD Modeling

Pollutant	Existing Emissions (tpy) [1]	Project Emissions Increases (tpy)[2]	PSD Significant Emission Rate (tpy)	PSD Triggered? (Yes/No)
Filterable Particulate Matter (PM)	113.9[3]	0.0 (9.9 total)	25	No
Total PM ≤ 10 microns (PM10)	113.9[3]	0.0 (9.9 total)	15	No
Total PM ≤ 2.5 microns (PM2.5)	113.9[3]	0.0 (9.9 total)	10	No
Sulfur Dioxide (SO_2)	0.0	0.0	40	No
Nitrogen Oxides (NOx)	0.0	0.0	40	No
Volatile Organic Compounds (VOC)	308.0	183.4 (491.4 total)	40	Yes
Carbon Monoxide (CO)	0.0	0.0	100	No

Notes:
1. From existing **Title V Operating Permit 569269**, Condition E1.

2. Total VOC and PM is from **Table 2** in **Section 3.1.4** of the permit application.
3. PM existing emissions previously based on the allowable regulatory limit of 0.02 gr/dscf

As required by the PSD regulations, after it is determined that a facility has significant impacts, a typical air quality impact assessment may include some or all of the following steps:

1. Determination of the Significant Impact Area (SIA) if any for each pollutant with a Class II SIL &
2. monitoring *de minimis* analysis for the proposed emission increase.

Also when proposed new impacts are significant:

3. a comprehensive PSD increment consumption analysis for the surrounding Class II area, *and any Class I areas close enough to have significant impacts,*
4. a comprehensive Ambient Air Quality Standards impact analysis, and
5. an additional airshed impact assessment of the effects on Visibility, Soils, Vegetation, Associated Growth, and Nonattainment Areas, as well as Class I area Air Quality Related Values (AQRV's) if applicable.

The emission rate of PM_{10} is below the significant emission rate (SER) of 15 tpy for PSD applicability, and it is also below the SER threshold for PM (25 tpy) and $PM_{2.5}$ (10 tpy). Also, since the facility process is not heated in a separate curing oven, $PM_{2.5}$ is not an anticipated air pollutant. Hence, all forms of PM maybe considered below the SERs for PM, which makes further PM analysis unnecessary for this permit application.

Since **Table 11** above indicates that this facility is only a major PSD source for VOC, many of the typical ambient PSD analysis steps involving refined modeling with the latest version (v21112) of the refined AERMOD dispersion model were unnecessary for this analysis. For this case only an analysis using Modeled Emission Rates for Precursors (MERPs) was necessary to evaluate the facility's impact on ozone creation from the sources existing VOC emissions.

As a result, VOC emissions were assessed using MERPs and comparing the screening level impact to that of the significant impact level (SIL) associated with the National Ambient Air Quality Standards (NAAQS) for Ozone. Additionally, a breakout of individual source emissions and discharge parameters is unnecessary since MERPs analyses are based on total facility emissions in tons per year.

Finally, representative ozone background data for the MERPs analysis was found, so the preconstruction monitoring requirement was waived based on the availability of representative data from the regional ozone monitor at Fairview Middle School (FMS) in Fairview, Tennessee. Specifically, the regional ozone monitor located at the Fairview Middle School (FMS) in Fairview, Tennessee was found to be representative of the project site. The Tennessee Air Pollution Control Division (TAPCD) staff agrees with this assessment. The application also describes the monitor as follows:

> "The FMS monitor is located approximately 80 kilometers (km) north of Adient's Pulaski facility. Fairview and Pulaski have similar populations of approximately 8,700 and 7,600, respectively. For ozone, a large component of background concentration can be attributed to vehicle use. With similar sized populations, vehicle use can be expected to occur at a similar rate. The two areas also have similar terrain and land use."

Design value data for the FMS monitor is available for the previous ten years (2011 – 2020). FMS monitor information and data for 2020 is provided below.

Table 12: Representative Ozone Monitor

Monitor Location	Monitor ID	2020 Design Value (ppb)
Fairview Middle School, Crow Cut Road, Fairview, TN 37062	471870106	60

Since VOC is regulated from the facility versus emissions of other pollutants from individual processes and emission points, a summary of the facility-wide emissions for each pollutant and for each modeled scenario, each process and each emission point were unnecessary. Hence **Table 11** emissions above will suffice instead of a detailed description of emission sources and locations which would be pertinent to many other PSD analyses for criterial pollutants.
Similarly, consideration of stack parameters and emissions (based on unit expected maximum capacity) is only pertinent regarding the general release height and annual facility tonnage when comparing them with the general release heights and annual facility tonnages used in EPA's MERPs analysis work. **Table 11** above indicates that the facility's total VOC emissions of 491 TPY is best comparable to the 500 TPY level in EPA's MERPs analyses. Also above, **Table 3: Source Description** indicates that the facility's general emissions release height is less than 100 feet which is most comparable to lower release height of 10 meters, used in EPA's MERPs analyses.

VI.3 CLASS II MODELING: SINGLE-SOURCE IMPACT ANALYSIS

The following sections summarize the methodology used to evaluate the facility's air quality impacts in Class II areas. The dispersion modeling described was performed in accordance with the EPA "Guideline on Air Quality Models" (GAQM, contained in 40 CFR Part 51, Appendix W) (EPA, 2017a), the New Source Review (NSR) Workshop Manual (EPA, 1990), all applicable EPA clarification memorandums and guidance documents, and direction and regulatory guidance provided by the TDEC and EPA Region IV. The modeling analysis focused on demonstrating that the ambient impact of proposed emissions from the Adient project will be in compliance with all applicable NAAQS and PSD Class II increments.

VI.3.1 Dispersion Modeling Methodology

Since VOC emissions are the target of this analysis, EPA's work to define a screening methodology to evaluate precursor emission impacts on ozone formation using EPA's work with photochemical grid modeling (PGM) methods was relied on for this analysis, instead of using the American Meteorological Society / Environmental Protection Agency Regulatory Model (AERMOD) gaussian dispersion model, which is typically used to determine predicted impacts in the Class II area surrounding the facility.

In December 2016, the EPA developed a simple screening methodology to estimate single source impacts on secondary pollutants which they described as: Modeled Emission Rates for Precursors and debuted using the acronym "MERPs". MERPs reflect levels of increased precursor emissions that are not expected to cause a significant contribution to O_3 for PSD applications. A MERP can relate:

- VOC emissions to O_3; and
- NO_X emissions to O_3.

MERPs modeling methods are intended to conservatively estimate secondary pollutant impacts in what is also termed a Tier 1 screening analysis to demonstrate ambient compliance, before a more refined and resource intensive Tier 2 analysis using detailed photochemical grid modeling is necessary.

VI.3.2 Assessment of Secondary Pollutant Impacts

The SIL for ozone (O_3) which EPA recommended in their April 2018, guidance on SIL's, was used to demonstrate that the proposed potential impacts from Adient do not cause or contribute to a violation of the NAAQS for ozone. The recommended SIL for O_3 was used to assess potential impacts from secondary pollutants emitted from Adient.

The EPA December 2016, guidance memorandum provided a framework on how to develop source-specific or site-specific MERPs. The guidance document did not endorse a specific MERP value, though it did provide illustrative MERPs from the EPA's modeling of two hypothetical sources in various locations across the United States.

EPA's initial 2016 MERPs guidance memorandum was finalized by EPA in April of 2019. Tennessee has also provided more customized MERPs guidance for sources in Tennessee since the 2019 memorandum. According to EPA and Tennessee guidance, sources are required to estimate both the impacts of primarily emitted and secondarily formed pollutants as part of the PSD program. This is normally done using a Tier 1 MERPs analysis first, and if a Tier 1 analysis fails to demonstrate ambient compliance, a Tier 2 analysis using PGM techniques may be used if necessary.

Tennessee's guidance regarding MERPs was used to assess potential impact of secondarily formed O_3 which could be expected from the chemical interaction of Adient's potential emissions of Volatile Organic Compounds (VOCs) with nitrogen oxides emitted from off-site combustion sources in the vicinity.

The precursors to ground-level ozone formation are VOC and NO_x. However, since this project only exceeded the SER for VOC and not NO_x, Adient only needed to consider VOC contributions to ozone as a part of this assessment.

VI.3.2.1 Ozone Assessment

TDEC documentation titled "*Tennessee Guidance on the Use of EPA's MERPs to Account for Secondary Ozone and Fine Particulate Formation in Tennessee Under the New Source Review (NSR) Prevention of Significant Deterioration Program (PSD)*" was customized for sources in Tennessee by the Division of Air Pollution Control using the PGM results EPA used in their MERPs guidance. The secondary ozone analysis in this report specifically relied upon the Tennessee Guidance document to conservatively predict impacts resulting from VOC emissions at the Adient- Pulaski facility. Below is a quote from the pertinent part of Tennessee's latest MERPs guidance on page 4.

> *"The significant Impact Level (SIL) for ozone is 1 ppb . . . . The units for the Maximum Model Impact are parts per billion (ppb) for ozone . . . . The most conservative (lowest) MERP values from the six (6) nearby hypothetical sources (in or near Tennessee) by precursor and pollutant are contained in table. . . . These default MERP values can be used for Tier 1 demonstrations in Tennessee without further justification."*

The abbreviated **Table 13** from the Tennessee guidance contains the following default MERP values for 8-hour ozone impacts resulting from NOx and VOC emissions.

Table 13: "Default MERP values (TPY) for Tennessee PSD applications"

Precursor	*8-hour Ozone*
NO_x	*156*
VOC	*1,542*

Note: The default values are the lowest (conservative) MERP values for hypothetical sources in and near Tennessee."

In the Tennessee MERPs Guidance on pages 12 and 13 it states:

SILs Analysis
MERPs can be used to determine if a facility's proposed emission increases will result in secondary impacts that are above the SILs. Once either one of the precursor pollutants triggers this analysis because their emissions are above the PSD Significant Emission Rates (SERs), then emissions of the other precursor pollutant must be included in the analysis to determine the synergistic impact that both pollutants have together, even though the other pollutant's emissions may fall below the SER. The analysis is unnecessary only when emissions of both precursor pollutants are below the respective SERs.

For ozone, the following equation should be used:

$$\frac{EMIS\_NOx}{MERP\_NOx} + \frac{EMIS\_VOC}{MERP\_VOC} < 1$$

EMIS_NOx and EMIS_VOC are the proposed emission increases for NOx and VOC (tpy). MERP_NOx and MEPR_VOC are the MERPs for NOx and VOC (tpy). If the sum of the ratios is less than 1, then the secondary ozone impacts are below the ozone SIL and the applicant does not need to perform a cumulative analysis for ozone. If the sum of the ratios is equal to or greater than 1, the applicant must perform a cumulative analysis for ozone.

VI.3.2.2 Single-Source Impact Modeling Results
Summary results for each significantly emitted pollutant and avg time.

O_3 – The NAAQS for Ozone (O_3) is 70 ppb, which equates to 140 µg/m^3, for an 8-hour average. The SIL for Ozone is 1 ppb. Since O_3 is a secondary pollutant formed in the atmosphere by precursor VOC and NOx pollutants, the source was evaluated using single source MERPs methodology below in this section to demonstrate that the source will not cause or contribute to a violation of the NAAQS for O_3.

Resultant details for secondary Ozone resulting from VOC emissions.

The secondary O_3 impact assessment is compared to the established Significant Impact Level (SIL) for Ozone of 1 part per billion (ppb). As outlined in **Table 7** of the TDEC November 2019 guidance (seen above), the default MERP values (tpy) for Tennessee PSD applications are 156 tpy of NO_x and 1542 tpy of VOC. Per equations provided above from page 13 of the TDEC guidance (https://www.tn.gov/content/dam/tn/environment/air/documents/apc-modeling-page/apc_TN%20Guidance%20on%20the%20Use%20of%20EPAs%20MERPs%20to%20Account%20for%20Secondary%20Formation%20in%20Tennessee_11222019.pdf), the SIL analysis demonstration for the proposed project at Adient is as follows:

For the Class II significant impact modeling analysis, the maximum predicted impact was compared to the only pertinent PSD Class II SIL, which was the SIL for ozone. The modeled impacts for the Tier 1 secondary pollutant analysis scenario are summarized below.

Since the source does not emit primary ozone and only emits one precursor to secondary ozone formation, the analysis centers around the single precursor VOC. In the Tennessee MERPs equation above, the value for *EMIS_VOC* is 491.4 TPY, while the value for *EMIS_NOx* is zero. The MERP value for VOC related to 8-hour ozone is 1,542 TPY from the MERPs table, so the computed ratio for NOx is zero while the computed ratio for VOC is less than one as seen below.

$$\frac{EMIS\_NOx}{MERP\_NOx} + \frac{EMIS\_VOC}{MERP\_VOC} = \frac{0\ TPY\ of\ NOx}{156\ NOx\ MERP} + \frac{491.4\ TPY\ of\ VOC}{1542\ VOC\ MERP} = 0.32\ which\ is < 1$$

Hence, an evaluation of the equation indicates that the sum of the computed ratios of emissions to MERPs is also less than 1. Therefore, the 491.4 TPY of VOC emitted by the Adient facility would be expected to have an impact less than the SIL of 1 ppb for ozone. As a result, any further cumulative analysis for VOC is unnecessary to approve the company's ambient assessment for VOC.

Additionally, since the predicted ozone value is less than the threshold value of 1, a cumulative analysis for ozone was unnecessary, and it is not necessary to include the background ozone concentration in a more refined cumulative evaluation for ozone described on page 13 of the Tennessee MERPs guidance.

VI.4 CLASS I AREA AMBIENT AIR QUALITY IMPACT ASSESSMENT

Class I areas are federally protected areas for which more stringent air quality standards apply to protect unique natural, cultural, recreational, and/or historic values. Air quality dispersion modeling analyses to support the PSD application for the Adient-Pulaski Class I analysis include the following assessments:

1. Determination of the facility potential pollutant emission quantities relative to PSD significant emission rates (SER) as defined in PSD rules (40 CFR 52.21).

2. Determination of the source location and distance within 300 km of any Class I area. Facility impacts at Class I areas located beyond 300 km from the PSD source are considered insignificant.

3. Determination of compliance with the Federal Land Managers (FLMs) Air Quality Related Values (AQRVs) in addressing regional haze visibility and acidic deposition.

4. Determination of whether facility impacts at Class I areas located within 300 km from the PSD source are considered significant. If so, a determination of compliance with the EPA's NAAQS and PSD increments for those triggered criteria pollutants that have Class I area increments.

   The Adient facility submitted separate analyses to assess impacts on AQRVs and on the Class I SILs for the NAAQS and PSD increments.

VI.4.1 Initial Screening Criteria for AQRVS

The Federal Land Managers (FLM) have the authority & responsibility to protect air quality related values (AQRVs) in Class I areas, and to consider in consultation with the permitting authority whether a proposed major emitting facility will have an adverse impact on such values. Class I AQRVs for which PSD

modeling is typically conducted include visibility impairment, ozone (O3) effects on vegetation, and effects of sulfur and nitrogen deposition on soils and surface waters.

The FLMs developed an Initial Screening Criteria, Q/D, to determine if sources greater than 50 km away from a Class I area need to perform any further Class I AQRV impact analyses. The Q/D ratio is calculated by summing the annual VOC, SO_2, NO_x, PM, and H_2SO_4 emissions (in tons per year, based on 24-hour maximum allowable emissions and adjusted as if it were operated for 8,760 hours per year then dividing by the distance (in kilometers) to the nearest Class I area. If the Q/D value is less than or equal to 10, the source is considered to have negligible impacts on AQRVs in the Class I area and no further analyses are needed.

The Initial Screening Criteria for Adient emissions were calculated for the five Class I areas within 300 km of the Adient facility below (with the approximate distance to the facility listed):
- ► Sipsey National Wilderness Area (~ 97 km)
- ► Cohotta Wilderness Area (~218 km)
- ► Mammoth Cave National Park (~ 226 km)
- ► Joyce Kilmer-Slickrock Wilderness Area (~278 km)
- ► Great Smoky Mountain National Park (~281 km)

All other Class I areas are located at distances greater than 300 km from the facility.

A Class I area analysis includes a Class I PSD increment assessment for pollutants subject to PSD review (increasing above the SER) and an Air Quality Related Values (AQRV) analysis for visibility, ozone, and deposition that could impact a Class I area's resources.

Class I AQRV Analysis

The Class I AQRV analysis was prepared in accordance with the Federal Land Manager's (FLM's) Air Quality Related Values Work Group (FLAG) *Phase I Report – Revised (2010)*. The FLMs developed a screening-level criteria involving facility emissions and distance to the Class I area (Q/D ratio) for sources greater than 50 km from a Class I area to determine whether adverse impacts could occur to AQRV from a pollutant. The equation used is provided below:

$$\text{Q/D ratio} = \frac{\text{Facility Emissions (Q)}}{\text{Distance to Class I Area (D)}}$$

If the Q/D ratio is below 10, it is presumed that no adverse impact will occur, and no further AQRV analysis is required. An AQRV analysis for the Class I Areas of concern can be found below.

Table 14: Q/D ratios for Class I Areas within 300 km of Adient-Pulaski
(From **Table 7**: Class I AQRV Analysis in permit application)

Class I Area	Pollutant	Q (tpy)	D (km)	Q/D	Q/D sum
Sipsey Wilderness Area	PM	9.90	97	0.10	5.17
	VOC	491.4		5.07	

Cohotta Wilderness Area	PM	9.90	218	0.05	2.30
	VOC	491.4		2.25	
Mammoth Cave National Park	PM	9.90	226	0.04	2.21
	VOC	491.4		2.17	
Joyce Kilmer-Slickrock Wilderness Area	PM	9.90	278	0.04	1.81
	VOC	491.4		1.77	
Great Smoky Mountain National Park	PM	9.90	281	0.04	1.79
	VOC	491.4		1.75	

The Q/D ratios for PM and VOC and their sums for each of the Class I Areas are well below the threshold of 10; therefore, it is presumed there are no adverse impacts from Adient, and no further analysis is required.

Class I Increment Analysis
Adient does not have a significant increase of PM/PM_{10}/$PM_{2.5}$, above the corresponding Significant Emissions Rates (SERs), so an analysis of significant PM impacts vs. PM increments or PM NAAQS was not necessary. Additionally, since there is no Class I PSD increment established for VOC, any other increment analysis for this project would not be applicable.

Class I NAAQS Analysis
Finally, since the computed MERP ratio in the Class II area for NOx is zero and the corresponding ratio for VOC is much less than one, then the combined MERP ratio at the much increased distances to the Class I areas is assumed to be even less, making anticipated Class I ozone impacts insignificant as well.

VII. ADDITIONAL IMPACTS ANALYSIS

PSD applies to new major sources or major modifications at existing sources for pollutants where the area the source is located is in attainment or unclassifiable with the NAAQS. Adient is a major source of VOCs, a precursor to ozone. Adient is located in the City of Pulaski, County of Giles in the State of Tennessee, which is designated attainment for ozone.

A PSD major source subject to PSD review is required to conduct an air quality analysis and an additional impacts analysis, among other requirements. Pursuant to 40 CFR §52.21(o), the additional impacts analysis consists of three parts: Growth Analysis, Soils and Vegetation Impacts Analysis and Visibility Impairment Analysis. Each of these analyses is addressed below.

VII.1 GROWTH ANALYSIS
The Adient plant is located in an industrial park setting on the north side of Pulaski, Tennessee. Pulaski is located in the south central portion of the state nearly equidistant between Memphis and Chattanooga. The general vicinity outside of the industrial development is mainly agricultural pastureland and woodland

with some residential development east of the plant (**Figure 1**). The workforce consists of 305 employees living within commuting distance of the plant. The size of the workforce has resulted in little impact on population growth in Giles County, which has a population of 29,503 as of 2018. A review of historical aerial photos dating back to 1998, indicate that there has been little industrial or commercial development in the immediate vicinity of the Adient plant, and no substantive residential growth in the general area.

VII.2 SOIL AND VEGETATION ANALYSIS

Particulate Matter and Volatile Organic Compounds

The criteria for evaluating impacts on soils and vegetation is taken from EPA's, *A Screening Procedure for the Impacts of Air Pollution Sources on Plants, Soils, and Animals*, EPA, 1980. According to US EPA, "…sources more than 10 km from any Class I areas, exemptions provide that no analysis of impairment need be done if emission increases are below specified limits." Specified limits are de minimis values found at 40 CFR 52.21(b)(23)(i).

The Adient operations are located more than 10 km from any Class I areas in the region. The criteria air pollutants emitted by the Adient Pulaski operations include particulate matter (PM) and PM_{10}. Emissions of PM and PM_{10} are below the significance levels (de minimis values) found at 40 CFR 52.21(b)(23)(i).

The Adient operations generating particulate matter emissions are not the direct result of combustion or combustion byproducts and therefore, Adient assumes there are no emissions of $PM_{2.5}$, but in any event, all PM emitted by the source is less than the respective thresholds, including the threshold for $PM_{2.5}$.

Adient emits VOC at an annual rate above the de minimis value of 40 tpy, but screening concentrations are not available for VOC. VOC is a precursor to ozone and while ozone is identified as a "Regulated Pollutant", EPA indicates that a screening concentration [for O_3 is] available, and now a simple procedure for estimating the ozone impact of a single source is currently available through the use of MERPs.

Additionally, the secondary NAAQS were established at concentration levels below which no harmful effects to either soil or vegetation is expected (per US EPA, Office of Air Quality Planning and Standards, *New Source Review Workshop Manual (Draft)*, U.S. EPA, Research Triangle Park, NC, October, 1990).[6] As discussed above, EPA has developed a two-tiered evaluation for secondary ozone formation from VOC. As demonstrated by this application, the VOC emissions from Adient's facility are below the default TDEC MERPs value, indicating that no adverse impact to compliance with the ozone NAAQS is expected. As such, VOC emissions from the facility will not negatively affect soil and vegetation in the surrounding area.

Other than VOC, Adient does not emit any criteria air pollutants above their respective significance thresholds.

VII.3 VISIBILITY IMPAIRMENT ANALYSIS

US EPA prescribes the use of its *Workbook for Plume Visual Screening and Analysis (Revised)*, October 1992 (EPA-454/R92-023), methodologies for purposes of conducting a visibility impairment analysis. A visibility impairment analysis is generally required to determine the impact on sensitive areas such as state parks, wilderness areas, airports, scenic sites and overlooks. Three levels of screening procedures are

outlined by US EPA. If the criteria for the first screening level, the most conservative level, are met, no further analysis is needed.

The VISCREEN model is recommended for the Level 1 screen. The VISCREEN model primarily considers NO_2 and particulate emission increases associated with a project. VISCREEN does not consider or calculate visibility impacts from ozone.

Level 1 Screen Analysis

Level 1 analysis incorporates conservative parameters to determine plume impacts. Default values for particle size and density, and a default of worst-case meteorological condition of F stability and 1.0 meters per second (m/s) wind speed are used for the analysis, while all emissions are assumed to exit the plant from one point. The worst-case meteorological condition is expected to persist for 12 hours with a wind direction that would transport the plume directly to the sensitive area being analyzed.

A maximum particulate matter emission rate of 2.64 lb/hour, based on a maximum emission rate of 9.9 tpy assuming an operating schedule of 7,488 hours/year (6 days per week, 24 hours per day, 52 weeks/year), was input to the model. It was assumed that there were no emissions of NOx, soot, primary nitrogen dioxide and primary sulfate. A background visual range of 25 kilometers was used. All other inputs relied on the default parameters.

While the Pulaski facility is greater than 10 km from any Class I area, a distance of 10 km was assumed in order to run the most conservative analysis of visibility impairment.

Level 1 modeling results indicate that the Adient operations do not adversely impact visibility within or beyond a 10 km radius.

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OVERALL RESULTS OF PLUME VISIBILITY SCREENING

SOURCE:  Adient US LLC, Pulaski,
CLASS I AREA:  NA

 INSIDE  class I area --
Plume delta E DOES NOT EXCEED screening criterion for SKY background
Plume delta E DOES NOT EXCEED screening criterion for TERRAIN background
Plume contrast DOES NOT EXCEED screening criterion for SKY background
Plume contrast DOES NOT EXCEED screening criterion for TERRAIN background

 OUTSIDE class I area --
Plume delta E DOES NOT EXCEED screening criterion for SKY background
Plume delta E DOES NOT EXCEED screening criterion for TERRAIN background
Plume contrast DOES NOT EXCEED screening criterion for SKY background
Plume contrast DOES NOT EXCEED screening criterion for TERRAIN background


 SCREENING CRITERIA:        DELTA E =  2.0
                    GREEN CONTRAST =    0.050
```

VIII CONCLUSIONS AND CONDITIONS OF APPROVAL FOR AMBIENT AIR QUALITY IMPACT ANALYSIS

Projected emissions of VOC from the proposed modification exceed the PSD significance levels at maximum operating rate and maximum hours of operation. This major modification is subject to review under the regulations for the Prevention of Significant Deterioration contained in 1200-03-09-.01(4). The proposed control technology satisfies the requirement to install Best Available Control Technology (BACT), as required by the PSD regulations. The BACT requirements are incorporated into the permit to be issued for the proposed modification. The proposed changes will not result in ambient impacts that would exceed any National Ambient Air Quality Standards or PSD Increments and will not cause or contribute to adverse impacts on Air Quality Related Values in nearby Class I areas.

After review of the information submitted with the PSD application, it is concluded that the proposed modification qualifies for approval, subject to the terms and conditions of the proposed PSD construction permit (Appendix A).

Appendix A –PSD Construction Permit 980244

Appendix B – Emission Summary for Proposed PSD Permit 980244

Emission Summary

Source 01

Permit Number: 980244

Source Status: New☐ Modification☒ Expansion☐ Relocation☐ **Permit Status:** New☒ Renewal☐

PSD☒ NSPS☐ NESHAPs☒ **Previous Permit Number:** Construction _____ Operating 569269

Pollutant	Pounds/Hour			Tons/Year			Date of Data	Applicable Standard TAPCR 1200-03-
	Actual	Uncontrolled Potential	Allowable/ Permitted Potential	Actual	Uncontrolled Potential	Allowable/ Permitted Potential		
VOC [1]					502.85	491.4	3/30/2022	09-.01(4) 07-.07(2)
PM[2]	2.16	2.16	3.00	6.22	9.46	9.90	3/30/2022	07-.01(5)

1. VOC emissions are uncontrolled and are based on the data in Page 36 of the application (3/30/22). The facility has agreed to limit (through recordkeeping and good work practice standards) VOC emissions to 491.4 tons per any period of 12-consecutive months. The emission limit is based on an agreement letter dated July 18, 2022, from the permittee.

2. PM emissions are uncontrolled and are based on the data in Page 37 of the application (3/30/22). The regulatory allowable limit (TAPCR 1200-03-07-.03(1)) for PM is 46.29 lb/hr. The facility has agreed to limit (through recordkeeping) PM emissions to 3.00 lb/hr and 9.90 tons per year based on an agreement letter dated July 18, 2022, from the permittee.

The actual TPY is based on the facility's operating hours of 5,760 hr/yr from APC 10 form in the application (3/30/22).

Appendix C – Application for Proposed PSD Permit 980244

Appendix D - Public Notice

Appendix E – Correspondence

The following are EPA Region IV modeling correspondence (dated April 19, 2022) on the Adient Pulaski air quality analysis.

Tracy Kefauver

From: Howard, Chris <Howard.Chris@epa.gov>
Sent: Tuesday, April 19, 2022 1:43 PM
To: Haidar Alrawi; Gillam, Rick; Shepherd, Lorinda
Cc: Paul LaRock; Lacey Hardin; Richard Smrz; Tracy Kefauver; Travis Blake; Lusky, Katy
Subject: [EXTERNAL] RE: Adient -Pulaski, TN - PSD Application

*** This is an EXTERNAL email. Please exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email - STS-Security. ***

Haidar,

I hope you are doing well.

Thanks for providing the VOC-only air quality analysis for Adient-Pulaski to us for review. We have reviewed the air quality analysis in Sections 6 and 7 of the application and we have no comments regarding the modeling.

-Chris

Christopher M. Howard
Regional Meteorologist
US EPA Region 4 - Atlanta
404/562-9036
Howard.chris@epa.gov

From: Haidar Alrawi <Haidar.Alrawi@tn.gov>
Sent: Wednesday, April 13, 2022 3:03 PM
To: Howard, Chris <Howard.Chris@epa.gov>; Gillam, Rick <Gillam.Rick@epa.gov>; Rinck, Todd <Rinck.Todd@epa.gov>; Shepherd, Lorinda <Shepherd.Lorinda@epa.gov>
Cc: Paul LaRock <Paul.LaRock@tn.gov>; lacey.hardin@tn.gov; Richard Smrz <Richard.Smrz@tn.gov>; Tracy Kefauver <Tracy.Kefauver@tn.gov>; Travis Blake <travis.blake@tn.gov>
Subject: RE: Adient -Pulaski, TN - PSD Application

Good afternoon,

Attached, please find a PSD construction permit application that was received on 3/30 for the Adient facility in Pulaski, TN. This source manufactures cushion seats for the automotive industry and only VOC emissions are subject to PSD review at a potential-to-emit emission rate of about 500 tons per year. The modeling analyses are addressed in sections 6 and 7 of the application.

Please let me know if you have any questions or need additional information.

Appendix F – Email transmittals to EPA and Affected States

Appendix G – Response to Comments

STATE OF TENNESSEE
AIR POLLUTION CONTROL BOARD
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
NASHVILLE, TENNESSEE

PSD PERMIT TO CONSTRUCT / MODIFY AIR CONTAMINANT SOURCE(S)

Permit Number: 980244

Facility (Permittee): Adient US LLC

Facility ID: 28-0076

Facility Address: 1890 Mines Road, Pulaski
Giles County

Facility Classification: Title V

Federal Requirements: PSD (VOC): 40 CFR 63 Subpart OOOOOO

Facility Description: Polyurethane Foam Production Facility

Permit 980244, consisting of 27 pages is hereby issued DRAFT , 20**, pursuant to the Tennessee Air Quality Act and by the Technical Secretary, Tennessee Air Pollution Control Board, Department of Environment and Conservation. This permit expires on ***** **, 20**. The holder of this permit shall comply with the conditions contained in this permit as well as all applicable provisions of the Tennessee Air Pollution Control Regulations (TAPCR).

Michelle W. Owenby
Technical Secretary
Tennessee Air Pollution Control Board

No Authority is Granted by this Permit to Operate, Construct, or Maintain any Installation in Violation of any Law, Statute, Code, Ordinance, Rule, or Regulation of the State of Tennessee or any of its Political Subdivisions.

Section I – Sources Included in this Construction Permit

FACILITY DESCRIPTION			
Source Number	**Source Description**	**Status**	**Control Device/Equipment**
01	Polyurethane Foam Production (automotive seats)	Modified	None

Section II – Permit Record

Permit Type	Description of Permit Action	Issue Date
Initial	Initial PSD construction permit issuance	DRAFT

Section III - General Permit Conditions

G1. Responsible Person

The application that was utilized in the preparation of this construction permit is dated March 30, 2022, and is signed by Ryan Speck, Plant Manager, the Responsible Person for the permittee. The Responsible Person may be the owner, president, vice-president, general partner, plant manager, environmental/health/safety coordinator, or other person that is able to represent and bind the facility in environmental permitting affairs. If this Responsible Person terminates their employment or is assigned different duties and is no longer the person to represent and bind the permittee in environmental permitting affairs, the new Responsible Person for the permittee shall notify the Technical Secretary of the change in writing. The Notification shall include the name and title of the new Responsible Person assigned by the permittee to represent and bind the permittee in environmental permitting affairs, and the date the new Responsible Person was assigned these duties.

Should a change in the Responsible Person occur, the new Responsible Person must submit the Notification provided in Appendix 1 of this permit no later than 30 days after the change. A separate notification shall be submitted for each subsequent change in Responsible Person.

TAPCR 1200-03-09-.03(8)

G2. Application and Agreement Letters

This source shall operate in accordance with the terms of this permit, the information submitted in the approved permit application referenced in **Condition G1**, and any documented agreements made with the Technical Secretary.

TAPCR 1200-03-09-.01(1)(d)

G3. Submittals

Unless otherwise specified within this permit, the permittee shall submit, preferably via email and in Adobe Portable Document format (PDF), all applicable plans, checklists, certifications, notifications, test protocols, reports, and applications to the attention of the following Division Programs at the email addresses indicated in the table below:

Permitting Program	Compliance Validation Program	Field Services Program
• Notifications • Startup certifications • Applications • NSPS reports • MACT/GACT/NESHAP reports • Emission statements • Construction permit extension requests	• Test protocols • Emission test reports • Visible emission evaluation reports	• Semiannual reports • Annual compliance certifications/status reports
Division of Air Pollution Control William R. Snodgrass TN Tower, 15th Floor 312 Rosa L. Parks Avenue Nashville, TN 37243 Air.Pollution.Control@tn.gov		Columbia Environmental Field Office Division of Air Pollution Control 1421 Hampshire Pike Columbia, TN 38401 APC.ColuEFO@tn.gov

The permittee shall submit the information identified above as requested in this permit. In lieu of submitting this information to the email addresses above, the permittee may submit the information to the attention of the respective Division Programs at the mailing addresses listed above.

TAPCR 1200-03-09-.03(8)

G4. Notification of Changes

The permittee shall notify the Technical Secretary for any of the following changes to a permitted air contaminant source which would not be a modification requiring a new construction permit:

- change in air pollution control equipment that does not result in an increase or otherwise meet the definition of a modification
- change in stack height or diameter
- change in exit velocity of more than 25 percent or exit temperature of more than 15 percent based on absolute temperature.

The permittee must submit the Notification provided in Appendix 2 of this permit 30 days before the change is commenced.

TAPCR 1200-03-09-.02(7)

G5. Permit Transference

A. This permit is not transferable from one air contaminant source to another air contaminant source or from one location to another location. The permittee must submit a construction permit application for a new source to the Permitting Program not less than 90 days prior to the estimated starting date of these events. If the new source will be subject to major New Source Review, the application must be submitted not less than 120 days in advance of the estimated starting date of these events.

TAPCR 1200-03-09-.03(6)(b) and 1200-03-09-.01(1)(b)

B. In the event an ownership change occurs at this facility, the new owner must submit the notification provided in Appendix 3 of this permit. The written notification must be submitted by the new owner to the Permitting Program no later than 30 days after the ownership change occurs. If the change in ownership results in a change in Responsible Person for the facility, notification of the change in Responsible Person must also be submitted, as specified in **Condition G1**.

TAPCR 1200-03-09-.03(6)(a) and (b)

G6. Operating Permit Application Submittal

The permittee shall ~~apply for a significant modification to~~ submit a revised application for the Title V renewal permit number ~~569269~~ 578338 not less than 180 days prior to this permit's expiration date.

Commented [TK1]: We revised this condition and G7 so that Adient can revise the Title V renewal application and does not have to submit a significant modification.

TAPCR 1200-03-09-.02(11)(d)1(i)(II)

G7. Temporary Operating Permit

This construction permit shall serve as a temporary operating permit from the date of issuance, until the Technical Secretary issues a ~~modified~~ new Title V operating permit, provided the permittee submits a ~~significant modification~~revised Title V renewal application, within the timeframe specified in **Condition G6**.

TAPCR 1200-03-09-.02(1), 1200-03-09-.02(2), and 1200-03-09-.02(11)(d)1(i)(V)

G8. Startup Certification for New or Modified Source(s)

Not Applicable

G9. Fees

The air contaminant source(s) identified in this permit shall comply with the requirements for payment of applicable annual emission fees to the Tennessee Division of Air Pollution Control.

TAPCR 1200-03-26-.02

G10. General Recordkeeping Requirements

A. All recordkeeping requirements for all data required to be recorded shall follow the following schedules:

For Daily Recordkeeping	For Weekly Recordkeeping	For Monthly Recordkeeping
No later than seven days from the end of the day for which the data is required.	No later than seven days from the end of the week for which the data is required.	No later than 30 days from the end of the month for which the data is required.

B. The information contained in logs, records, and submittals required by this permit shall be kept at the facility's address, unless otherwise noted, and provided to the Technical Secretary or a Division representative upon request. Computer-generated logs are acceptable. Compliance is assured by retaining the logs, records, and submittals specified in this permit for a period of not less than five years at the facility's address.

TAPCR 1200-03-10-.02(2)(a)

G11. Routine Maintenance Requirements

The permittee shall maintain and repair the emission source, associated air pollution control device(s), and compliance assurance monitoring equipment as required to maintain and assure compliance with the specified emission limits.

TAPCR 1200-03-09-.03(8)

Compliance Method: Records of all repair and maintenance activities required above shall be recorded in a suitable permanent form and kept available for inspection by the Division. These records must be retained for a period of not less than five years. The date each maintenance and repair activity began shall be entered in the log no later than seven days following the start of the repair or maintenance activity, and the completion date shall be entered in the log no later than seven days after activity completion.

G12. Visible and Fugitive Emissions

A. Unless otherwise specified, visible emissions from this facility shall not exhibit greater than 20% opacity, except for one six-minute period in any one-hour period, and for no more than four six-minute periods in any 24-hour period. A stack is defined as any chimney, flue, conduit, exhaust, vent, or opening of any kind whatsoever, capable of, or used for, the emission of air contaminants.

TAPCR 1200-03-05-.01(1) and 1200-03-05-.03(6)

Compliance Method: When required to demonstrate compliance, visible emissions shall be determined by EPA Method 9, as published in the current 40 CFR 60, Appendix A (six-minute average).

B. The permittee shall not cause, suffer, allow, or permit any materials to be handled, transported, or stored; or a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. Reasonable precautions shall include, but are not limited to, the following:

(a) Use, where possible, of water or chemicals for control of dust in demolition of existing buildings or structures, construction operations, grading of roads, or the clearing of land;
(b) Application of asphalt, water, or suitable chemicals on dirt roads, material stockpiles, and other surfaces which can create airborne dusts;
(c) Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials. Adequate containment methods shall be employed during sandblasting or other similar operations.

The permittee shall not cause, suffer, allow, or permit fugitive dust to be emitted in such manner to exceed five minutes per hour or 20 minutes per day as to produce a visible emission beyond the property line of the property on which the emission originates, excluding malfunction of equipment as provided in TAPCR 1200-03-20. A malfunction is defined as, any sudden and unavoidable failure of process equipment or for a process to operate in an abnormal and unusual manner. Failures that are caused by poor maintenance, careless operation, or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions.

TAPCR 1200-03-08-.01(1) and 1200-03-08-.01(2)

Compliance Method: When required to demonstrate compliance, fugitive emissions shall be determined by Tennessee Visible Emissions Evaluation Method 4 as adopted by the Tennessee Air Pollution Control Board on April 16, 1986.

C. Fugitive emissions from roads and parking areas shall not exhibit greater than 10% opacity.

TAPCR 1200-03-08-.03

Compliance Method: When required to demonstrate compliance, fugitive emissions from roads and parking areas shall be determined by utilizing Tennessee Visible Emissions Evaluation (TVEE) Method 1, as adopted by the Tennessee Air Pollution Control Board on April 29, 1982, as amended on September 15, 1982 and August 24, 1984.

G13. Facility-wide Requirements/Limitations

The as-supplied VOC and HAP content of all VOC and HAP-containing materials (~~all~~ Including but not limited to coatings, inks, adhesives, thinners, and solvents) to be used by this source shall be determined from Safety Data Sheets (SDS) or manufacturer or vendor formulation data which explicitly list the VOC and HAP content by weight. If new materials are used, or if material formulation is changed, logs used to calculate emissions of VOC and HAP shall be updated within 30 days from the initial date of usage of the new or altered material.

Commented [TK2]: Incorporated

TAPCR 1200-03-09-.03(8) and TAPCR 1200-03-10-.02(2)(a)

Compliance Method: Purchase orders and/or invoices for all VOC- and HAP-containing materials, along with current SDS, must be maintained and kept available for inspection by the Technical Secretary or a Division representative. The SDS must explicitly list the VOC and HAP content by weight for all VOC- and HAP-containing materials. If SDS are not available with this information, vendor formulation data containing the required information for those materials must also be maintained. These records must be retained in accordance with **Condition G10**. In lieu of paper documents, scanned documents (maintained electronically) may be used to fulfill this requirement.

TAPCR 1200-03-10-.02(2)(a)

G14. NSPS/NESHAP/MACT/GACT Standards

The following source(s) are subject to and shall comply with all applicable requirements of each NSPS/NESHAP/MACT/GACT standard as indicated in the table below, including the General Provisions identified in Appendix 9. The applicable requirements of each standard are incorporated into this permit pursuant to TAPCR 1200-03-09-.03(8).

Source	NESHAP/MACT/GACT	NSPS
01	40 CFR 63 Part OOOOOO	Not Applicable

TAPCR 1200-03-09-.03(8)

Compliance Method: Compliance methods are provided in the conditions in **Section V** of this permit.

G15. VOC and NO_X Emission Statement

Not applicable

G16. Permit Supersedes Statement

This permit supersedes the conditions (E4-1, E4-2, and E4-3) for Source 01 in Title V Permit 569269 upon issuance of this permit.

TAPCR 1200-03-09-.03(8)

G17. Source Testing Requirements

Not Applicable

Section IV – Federal and/or State Only Requirements

F1-1. Prevention of Significant Deterioration of Air Quality

A This permit allows the modification of source 28-0076-01 (three polyurethane foam production lines) subject to the Prevention of Significant Deterioration (PSD) review provisions of TAPCR 1200-03-09-.01(4) for significant emissions increases of volatile organic compounds (VOC) associated with the proposed project. This facility shall modify and operate this emission source in accordance with the terms of this permit and the information submitted in the approved permit application. Approval to construct shall not relieve any owner or operator of the responsibility to comply fully with the applicable provisions under Division 1200-03, Division 0400-30, and any other requirements under local, State, or Federal law.

B The permittee shall apply best available control technology (Table F1-1) for each regulated NSR pollutant that has the potential to emit in significant amounts.

Table F1-1: Best Available Control Technology (BACT)

Emission Source Reference Number	Description	Pollutant(s)	Best Available Control Technology
28-0076-01	Three polyurethane foam production lines	VOC	Utilize good work practice standards to reduce VOC emissions
			VOC emission limit of 491.40 ton per 12 consecutive months

TAPCR 1200-03-09-.01(4)

F2-1. 40 CFR Part 63 Subpart OOOOOO - National Emission Standards for Hazardous Air Pollutants for Flexible Polyurethane Foam Production and Fabrication Area Sources

This source is subject to all applicable requirements of 40 CFR Part 63, Subpart OOOOOO, National Emission Standards for Hazardous Air Pollutants for Flexible Polyurethane Foam Production and Fabrication Area Sources. The following standards will apply to this source:

(1) The permittee must not use a material containing methylene chloride as an equipment cleaner to flush the mixhead or use a material containing methylene chloride elsewhere as an equipment cleaner in a molded flexible polyurethane foam process.

(2) The permittee must not use a mold release agent containing methylene chloride in a molded flexible polyurethane foam process.

40 FR 63.11416(c) and TAPCR 1200-03-09-.03(8)

Compliance Method:

(1) Compliance may be demonstrated using ~~adhesive~~ VOC containing material usage records, Safety Data Sheets (SDS), manufacturer's formulation data, and engineering calculations. The permittee shall maintain documentation used to demonstrate compliance in accordance with **Condition G10**.

Commented [TK3]: incorporated

(2) The permittee shall keep a certification on file at the plant site that contains the following statements, and must be signed by a responsible official:

(i) "This facility does not use any equipment cleaner to flush the mixhead which contains methylene chloride, or any other equipment cleaner containing methylene chloride in a molded flexible polyurethane foam process in accordance with § 63.11416(c)(1)."

(ii) "This facility does not use any mold release agent containing methylene chloride in a molded flexible polyurethane foam process in accordance with § 63.11416(c)(2)."

40 CFR 63.11417(c), 40 CFR 63.11416(f) and TAPCR 1200-03-09-.03(8)

Section V - Source Specific Permit Conditions

Source Number	Source Description
01	**Polyurethane Foam Production -** Source consists of three foam production lines where various mixtures of Polyol, Toluene Diisocyanate (TDI), and Diethanolamine (DEOA), are injected into molds to produce polyurethane foam for automotive seat cushions. Minor repairs are performed using Methylene Diphenyl Diisocyanate (MDI) as the foaming agent (Area Source: NESHAP-Subpart OOOOOO, PSD/BACT)_

S1-1. Input Limitation(s) or Statement(s) of Design

Not Applicable

S1-2. Production Limitation(s)

Not Applicable

S1-3. Operating Hour Limitation(s)

Not Applicable

S1-4. Emission Limitation(s)

A. Particulate matter (PM) emitted from this source shall not exceed 3.00 lb/hr on a daily average basis and 9.90 tons during any period of 12-consecutive months.

TAPCR 1200-03-07-.01(5) and the agreement letter dated July 18, 2022, from the permittee (Appendix 7)

Compliance Method:

(1) The permittee shall demonstrate compliance with the hourly PM emission limitation by calculating the actual PM emitted each hour, on a daily average basis, and maintain records of the emissions in the format in log 3 of Appendix 8, or an alternative format, which readily provides the same information. These logs shall be retained in accordance with **Condition G10**.

(2) The permittee shall demonstrate compliance with the annual PM emission limitation by calculating the actual PM emitted during each calendar month and each period of 12-consecutive months and maintain records of the emissions in the format in logs 4 and 5 of Appendix 8, or in an alternative format which readily provides the same information. These logs shall be retained in accordance with **Condition G10**.

B. Volatile organic compounds (VOC) emitted from this source shall not exceed 491.40 tons during any period of 12-consecutive months and shall utilize good work practice standards. This shall represent Best Available Control Technology (BACT) for this source.

TAPCR 1200-03-09-.01(4), TAPCR 1200-03-07-.07(2) and the agreement letter dated July 18, 2022, from the permittee (Appendix 7)

Compliance Method:

(1) The permittee shall demonstrate compliance with the annual VOC limit by calculating actual emissions of VOCs and HAPs (using the emission factors below) emitted during each calendar month and each period of 12-consecutive months and maintain records of the emissions in the format found in logs 1 and 2 of Appendix 8, or in an alternative format which readily provides the same information. These logs shall be retained in accordance with **Condition G10**.

- Toluene Diisocyanate (TDI) emissions shall be calculated using the emission factor of **3.29×10^{-5}** lb TDI emitted per lb of TDI used. This emission factor is based on a source test performed on October 1, 1997.
- Diethanolamine (DEOA) emissions shall be calculated using the emission factor of **7.94×10^{-6}** lb DEOA emitted per lb of DEOA used. This emission factor is based on a source test performed on October 1, 1997.
- Methylene Diphenyl Diisocyanate (MDI) emissions shall be calculated using the emission factor of **9.39×10^{-6}** lb MDI emitted per lb of MDI used. This emission factor is based on a source test performed on October 1, 1997.

(2) The permittee shall assure compliance with good work practice standards by conducting and recording the following work practice activities to ensure VOC emissions are minimized and reduced. These records shall be retained in accordance with **Condition G10**. These activities are outlined in Adient's ISO 14001 Environmental Management System (EMS) Policies as well as internal Standard Work Guidelines:

- ~~All VOC containing mold release containers shall be kept in closed and sealed containers and piping systems at all times until end point usage.~~
- ~~Inventory storage of all mold release containers shall consist of a fully enclosed locked storage structure complete with self-contained spill containment.~~
- ~~Mold release material shall be transferred from tank storage area to end point discharge via a fully contained and closed loop piping conveyance system.~~
- ~~In the event of an inadvertent failure of the closed loop conveyance system, flow sensors shall continuously monitor abrupt or out of calibration flow rates to ensure mold release material spillage is~~

~~kept at a minimum. Spilled material is mitigated immediately by an internal quick reactionary team to ensure VOC containing mold release is contained quickly to not increase potential VOC emissions.~~

- ~~End point usage of VOC containing mold release material shall be continuously monitored by Line Operators and Line Technicians to ensure proper application at all times.~~
- ~~Utilizing the ISO14001 EMS Environmental Objectives Form, plant personnel participate in monthly mold release usage reduction activities with progress continuously tracked and compared with prior months records. These records shall be retained in accordance with **Condition G10**.~~

- All VOC containing mold release containers shall remain closed until such time the container is in process of preparation for and ready for use.
- Inventory storage of VOC containing mold release containers shall consist~~s~~ of a controlled access area complete with spill containment.
- Mold release material ~~is~~shall be transferred from tank storage to end point discharge via fully contained and closed loop piping conveyance system.
- In the event of an inadvertent failure of the closed loop conveyance system resulting in the incidental release of mold release material, as referenced within Adient Pulaski's internal Plant Emergency Operations Plan, the onsite Spill Response Team ~~is~~shall be notified immediately and shall mitigate~~s~~ the spill in a manner which reduces potential fugitive VOC emissions.
- End point usage of VOC containing mold release material ~~is~~shall be monitored regularly as outlined within Adient Pulaski's internal work instructions and standard operating procedures.
- Utilizing the ISO 14001 EMS Environmental Objectives Form, or the Adient continuous improvement platform, plant personnel shall participate in regular mold release tracking activities. These records shall be retained in accordance with Condition G10~~, as appropriate~~.

The above measures are instituted by way of the internal ISO program for continuous improvement and are collectively considered good management practices at the time of permit issuance. Improvements and the ongoing potential for continuous improvement may require updates of these procedures and environmental objectives. If Adient Pulaski ~~may~~ revise~~d~~s the above measures, the permittee shall provide ~~after~~ written notice~~e~~ification to~~, and approval by, TDEC~~the Division at least 30 days prior to the change. ~~, which approval shall not be unreasonably withheld. In the event Adient wishes to revise these procedures it will provide prior notice to TDEC. TDEC will provide its response within 30 days of receipt of such notice.~~

Commented [TK4]: Verbiage changed so that the standard is enforceable for BACT.

S1-5. Source-Specific Visible Emissions Limitation(s)

Not Applicable

(end of conditions)

The permit application gives the location of this source as 36º13'46.41" N Latitude and 87º04'14.41" W Longitude.

Appendix 1: Notification of Change in Responsible Person

Facility (Permittee): Adient US LLC

Facility ID: 28-0076

Former Responsible Person: _____ _____
Name Title

New Responsible Person: _____ _____
Name Title

_____
Email

Date New Responsible Person was assigned this duty: _____

As the Responsible Person of the above mentioned facility (permittee), I certify that the information contained in this Notification is accurate and true to the best of my knowledge. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

Signature		Date
Signer's name (print)	Title	Phone (with area code)

Appendix 2: Notification of Changes

Facility (Permittee): Adient US LLC

Facility ID: 28-0076

Source Number:

	Control Equipment	Stack Height (Feet)	Stack Diameter (Feet)	Exit Velocity (Feet/Second)	Exit Temperature (°F)
Current					
Proposed					
Current					
Proposed					
Current					
Proposed					

Comments:

As the Responsible Person of the above mentioned facility (permittee), I certify that the information contained in this Notification is accurate and true to the best of my knowledge. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

Signature		Date
Signer's name (print)	Title	Phone (with area code)

Appendix 3: Notification of Ownership Change

Facility (Permittee): Adient US LLC (Previous Owner)

Facility ID: 28-0076

Facility (Permittee): _____ (New Owner)

Email Address: _____

Secretary of State Control Number: _____ [as registered with the TN Secretary of State]

Date of Ownership Change: _____

Comments:

As the responsible person for the new owner or operator of the above mentioned facility (permittee):

- I agree to not make any changes to the stationary source(s) that meet the definition of modification as defined in Division 1200-03 or Division 0400-30[1], and
- I agree to comply with the conditions contained in **the permits listed below**, Division 1200-03 and Division 0400-30 of the Tennessee Air Pollution Control Regulations, the Tennessee Air Quality Act, and any documented agreements made by the previous owner to the Technical Secretary.

List all active permits issued to the facility for which the owner wishes to assume ownership:

As the Responsible Person of the above mentioned facility (permittee), I certify that the information contained in this Notification is accurate and true to the best of my knowledge. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

Signature		Date
Signer's name (print)	Title	Phone (with area code)

[1] Appropriate application forms must be submitted prior to modification of the stationary source(s).

Appendix 4: Startup Certification

Not Applicable

Appendix 5: Fees

Not Applicable

Appendix 6: Emission Statement for VOC and NO_X

Not Applicable

Appendix 7: Agreement Letter

1890 Mines Road
Pulaski, Tennessee 38478
Tel 931.363.5666 Fax 931.424-6722

July 18, 2022

Michelle B. Owenby, Technical Secretary
Attn: West Tennessee Permit Program
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor
Nashville, TN. 37243

Facility Owner/Company Name:	Adient US LLC Pulaski
Facility Address:	1890 Mines Road, Pulaski, TN.
Emission Source Reference Number:	28-0076
Title V Permit Number:	569269 including Minor Modification #1

Ms. Owenby,

This letter is being submitted at the request of the Tennessee Department of Environment and Conservation (TDEC) and serves as an agreement by Adient US LLC Pulaski (Adient) to establish volatile organic (VOC) and particulate matter (PM_{10}) emission limits from the foam molding operations as represented in whole or part in the construction permit application dated March 30, 2022. Notwithstanding this agreement, Adient retains the right and opportunity to review and comment on all draft construction permit terms and conditions available ahead of the public comment period and during the public comment period and to utilize any appeal right it may have with respect to any terms or conditions it does not believe are appropriate.

As a part of this major PSD air permit request, Adient seeks to increase its production rates. The agreed upon emission rates are summarized in Table 1.

Table 1. Maximum Air Contaminant Emission Rates

Air Contaminant	Maximum Emission Rate
VOC	491.4 tons per year as calculated across a consecutive rolling 12-month basis
PM_{10}	9.9 tons per year and 3.0 pounds per hour

The annual VOC and PM_{10} emission rates are based on the maximum potential emission rates generated by the foam molding operations excluding insignificant sources and exempt sources at the facility. The annual VOC and PM_{10} emission rates are calculated for an entire year and are considered the mass emissions as averaged over a period of 12 consecutive months.

The Significant Emissions Rate (SER) for PM_{10} is 15 tons per year (tpy). Adient is proposing a maximum PM_{10} emission rate of 9.9 tpy. Consequently, the SER will not be exceeded. In regard to the requirement to impose shorter term limits on PM_{10} emissions, Adient proposes a limit on PM_{10} emissions at a rate of 3.0 pounds per hour (lb/hour) to allow for operational flexibility and production variability routinely experienced during certain periods of time in any given month or year. Adient recognizes that at a maximum PM_{10} emission rate of 3.0 lb/hour,

Adient – PUBLIC

the annual PM_{10} emission rate would otherwise be greater than 9.9 tpy. A maximum emission rate of, or potential to emit (PTE) PM_{10} at 3.0 lb/hr based upon sustained emissions over 8,760 hours would equate to 13.14 tpy, which remains below the SER of 15 tons per year for PM_{10}. However, Adient is voluntarily accepting an annual restriction/limit on PM_{10} emissions of 9.9 tpy. The combination of the longer-term annual PM_{10} emissions rate with the projected and slightly higher hourly equivalent PM_{10} emissions rate will:

1) Provide for a significant decrease in currently allowed particulate matter emissions from the process;
2) Cap annual emission at slightly less than two-thirds of the SER for PM_{10}; and
3) Provide necessary production flexibility while also allowing for seasonality and business/production variations.

Adient will demonstrate compliance with the above-referenced VOC and PM10 emission limits by the following methods already in place and required by the facility's current Title V operating permit no. 569269 including Minor Modification #1.

Table 2. Compliance Demonstration (Abbreviated)

Permit Condition No.	Compliance Demonstration	Regulatory Reference
E3-1	Visible emissions at this facility shall not exhibit greater than twenty percent (20%) opacity, except for one (1) six-minute period in any one (1) hour period, and for no more than four (4) six-minute periods in any twenty-four (24) hour period. Visible emissions from this source shall be determined by EPA Method 9, as published in the current 40 CFR 60, Appendix A (six-minute average).	TAPCR 1200-03-05-.01(1) and 1200-03-05-.03(6), EPA Test Method 9
E3-2 and E-3	Maintenance of Safety Data Sheets (SDSs) and Material Safety Data Sheets (MSDSs) as well as other documentation (e.g. manufacturer/supplier formulation data, technical data sheets, environmental data sheets) for purposes of a mass balance calculation of emissions.	TAPCR 1200-03-10-.02(2)(a)
E3-13	Regarding recordkeeping of logs, the following is applicable: a) For monthly recordkeeping, all data, including the results of all calculations, must be entered into the log no later than 30 days from the end of the month for which the data is required. b) For weekly recordkeeping, all data, including the results of all calculations, must be entered into the log no later than 7 days from the end of the week for which the data is required. c) For daily recordkeeping, all data, including the results of all calculations, must be entered into the log no later than 7 days from the end of the day for which the data is required.	TAPCR 1200-03-10-.02(2)(a)
E3-15	For purposes of compliance with Volatile Organic Compound (VOC) and Hazardous Air Pollutants (HAPs) emissions limits in this permit, the following logs	TAPCR 1200-03-10-.02(2)(a)

Permit Condition No.	Compliance Demonstration	Regulatory Reference
	(LOG 1 and LOG 2) shall be used. These logs shall contain all volatile emissions excluding water and/or exempt compounds and also shall contain all HAPs. Logs in an alternate format providing the same information may be used. Records shall also be retained to verify the HAP content of each material. This may include MSDS, formulation data, or other documentation to establish the HAP content. These logs and records must be retained for a period of not less than five years and shall be reported in accordance with **Condition E2** of this permit. Also, these logs shall include records of VOC or HAP emissions from any source which is considered to be insignificant or exempt under the provisions of TAPCR 1200-03-09-.04.	
E4-2	Volatile organic compounds (VOC) emitted from this source shall not exceed **491.4** tons during all intervals of twelve (12) **(MM1)** consecutive months. **Compliance Method:** The permittee shall calculate the actual quantities of VOC and HAPs emitted from this facility during each calendar month and during each twelve consecutive (12) month period. The permittee shall maintain records of these emissions in a form that readily shows compliance with this condition. (See **Logs 1 and 2** of **Condition E3-15** for an example) These logs must be maintained at the source location and kept available for inspection by the Technical Secretary or representative thereof. These logs must also be reported in accordance with **Condition E2** of this permit and be retained for a period of not less than five (5) years. • Toluene Diisocyanate (TDI) emissions shall be calculated using the emission factor of **3.29 x 10-5** lb TDI emitted per lb of TDI used. This emission factor is based on a source test performed on October 1, 1997. • Diethanolamine (DEOA) emissions shall be calculated using the emission factor of **7.94 x 10-6** lb DEOA emitted per lb of DEOA used. This emission factor is based on a source test performed on October 1, 1997. • Methylene Diphenyl Diisocyanate (MDI) emissions shall be calculated using the emission factor of **9.39 x 10-6** lb MDI emitted per lb of MDI used. This emission factor is based on a source test performed on October 1, 1997.	TAPCR 1200-03-07-.07(2)
New permit condition	The permittee shall calculate the actual quantities of PM_{10} emitted from this facility on a daily basis, and based on the daily data, calculate hourly emissions for each day. The permittee shall calculate the actual quantities of PM_{10} emitted from this facility during	TBD

Permit Condition No.	Compliance Demonstration	Regulatory Reference
	each calendar month and during each twelve consecutive (12) month period.	

I, the undersigned, am the responsible official as defined in TAPCR 1200-3-9-.02(11)(d)4 of the Title V source for which this document is being submitted. I hereby certify, based on the information and belief formed after reasonable inquiry, that the statements made, and data contained in this document are true, accurate, and complete.

Sincerely,

Ryan Speck
Plant Manager

Cc: Kris Patrick Foster, Adient; Ricki Palmer, Adient Ann O'Brien; SCS Engineers; Jeffrey M. Pfost, Environmental Partners, Inc.; Stephanie Taylor, SCS Engineers

Appendix 8: Example Logs

LOG 1 MONTHLY LOG FOR {28-0076-01} MONTH: _____ YEAR: _____

MATERIAL NAME	MATERIAL DENSITY (lb/gal)	USAGE (gal/month)	VOC CONTENT (lbs VOC/gal)	VOC EMITTED (tons/month)	TDI EMISSION FACTOR ($3.29x10^{-5}$ lb/lb)	TDI EMITTED (tons/month)	DEOA EMISSION FACTOR ($7.94x10^{-6}$ lb/lb)	DEOA EMITTED (tons/month)	MDI EMISSION FACTOR ($9.39x10^{-6}$ lb/lb)	MDI EMITTED (tons/month)	TOTAL HAPs EMITTED (tons/month)
TOTALS											

LOG 2 12-MONTH -LOG FOR {28-0076-01}

MONTH/YEAR	VOC EMISSIONS (TONS per MONTH)	(*) VOC EMISSIONS (TONS per 12 MONTHS)	HAP-1 EMISSIONS (TONS per MONTH)	(*) HAP-1 EMISSIONS (TONS per 12 MONTHS)	HAP-2 EMISSIONS (TONS per MONTH)	(*) HAP-2 EMISSIONS (TONS per 12 MONTHS)	HAP-3 EMISSIONS (TONS per MONTH)	(*) HAP-3 EMISSIONS (TONS per 12 MONTHS)	TOTAL HAP EMISSIONS (TONS per MONTH)	(*) TOTAL HAP EMISSIONS (TONS per 12 MONTHS)
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										

(*) The Tons per 12 Month value is the sum of the VOC (or HAP) emissions in the 11 months preceding the month just completed + the VOC (or HAP) emissions in the month just completed. If data is not available for the 11 months preceding the initial use of this Table, this value will be equal to the value for tons per month. For the second month it will be the sum of the first month and the second month. Indicate in parentheses the number of months summed [i.e., 6 (2) represents 6 tons emitted in 2 months].

LOG 3 DAILY PM LOG FOR {28-0076-01} **Month:**_____ **Year:**_____

DAY	MATERIAL USAGE (lbs.)	PARTICULATE CONTENT (wt %)	TRANSFER EFFICIENCY (%)	HOURS OF OPERATION	*DAILY AVERAGE PM EMITTED (lbs./hr.)
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					

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**Daily average PM emitted (lb/hr) = material usage (lbs) x particulate content (wt %) x (1- transfer efficiency (%)) / hours of operation*

LOG 4 MONTHLY PM LOG FOR {28-0076-01} MONTH: _____ YEAR: _____

MATERIAL NAME	USAGE (lb/month)	PARTICULATE CONTENT (wt %)	TRANSFER EFFICIENCY (%)	*PM EMITTED (tons/month)
TOTALS				

** PM emitted (ton/month) = material usage (lbs/month) x particulate content (wt %) x (1- transfer efficiency (%))*

LOG 5 12-MONTH -PM LOG FOR {28-0076-01}

MONTH/YEAR	PM EMISSIONS (TONS per MONTH)	*TOTAL PM EMISSIONS (TONS per 12 CONSECUTIVE MONTHS)
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		

(*) The Tons per 12-consecutive Month value is the sum of the PM emissions in the 11 months preceding the month just completed + the PM emissions in the month just completed. If data is not available for the 11 months preceding the initial use of this Table, this value will be equal to the value for tons per month. For the second month it will be the sum of the first month and the second month. Indicate in parentheses the number of months summed [i.e., 6 (2) represents 6 tons emitted in 2 months].

Appendix 9: General Provisions for 40 CFR Part 63, Subpart OOOOOO

You are required to comply with the following General Provisions of the federal National Emission Standards for Hazardous Air Pollutants (NESHAP):

General Provisions Citation 40 CFR	Subject of Citation	Applies to Subpart	Explanation
§63.1	Applicability	Yes ☐ No ☒	
§63.2	Definitions	Yes ☐ No ☒	Definitions are modified and supplemented by§63.11419.
§63.3	Units and Abbreviations	Yes ☐ No ☒	
§63.4	Prohibited Activities and Circumvention	Yes ☐ No ☒	
§63.5	Preconstruction Review and Notification Requirements	Yes ☐ No ☒	
§63.6(a), (b), (c), (d)	Compliance with Standards and Maintenance Requirements—Applicability Compliance Dates	Yes ☐ No ☒	
§63.6(e)(1)-(2)	Operation and Maintenance Requirements	Yes ☐ No ☒	
§63.6(e)(3)	Operation and Maintenance Requirements	Yes ☐ No ☒	Owners and operators of subpart OOOOOO affected sources are not required to develop and implement a startup, shutdown, and malfunction plan.
§63.6(f)- (g)	Compliance with Non-opacity Emission Standards	Yes ☐ No ☒	
§63.6 (h)	Compliance with Non-opacity Emission Standards	Yes ☐ No ☒	Subpart OOOOOO does not require opacity and visible emissions standards.
§63.6(i)- (j)	Compliance with Non-opacity Emission Standards	Yes ☐ No ☒	
§63.7	Performance Testing Requirements	Yes ☐ No ☒	Performance tests not required by subpart OOOOOO
§63.8	Monitoring Requirements	Yes ☐ No ☒	Continuous monitoring, as defined in subpart A, is not required by subpart OOOOOO
§63.9(a)-(d)	Notification Requirements	Yes ☐ No ☒	
§63.9(e)-(g)	Notification Requirements	Yes ☐ No ☒	

§63.9(h)	Notification Requirements	Yes ☐ No ☒	Subpart OOOOOO specifies Notification of Compliance Status requirements.
§63.9(i)-(j)	Notification Requirements	Yes ☐ No ☒	
§63.10(a)-(b)	Recordkeeping and Reporting Requirements	Yes ☐ No ☒	Subpart OOOOOO specifies Recordkeeping and Reporting requirements.
§63.10(c)	Recordkeeping and Reporting Requirements	Yes ☐ No ☒	
§63.10(d)(1)	Recordkeeping and Reporting Requirements	Yes ☐ No ☒	
§63.10(d)(2)-(3)	Recordkeeping and Reporting Requirements	Yes ☐ No ☒	
§63.10(d)(4)	Recordkeeping and Reporting Requirements	Yes ☐ No ☒	
§63.10(d)(5)	Recordkeeping and Reporting Requirements	Yes ☐ No ☒	
§63.10(e)	Recordkeeping and Reporting Requirements	Yes ☐ No ☒	
§63.10(f)	Recordkeeping and Reporting Requirements	Yes ☐ No ☒	
§63.11	Control Device Requirements	Yes ☐ No ☒	
§63.12	State Authorities and Delegations	Yes ☐ No ☒	
§63.13	Addresses	Yes ☐ No ☒	
§63.14	Incorporations by Reference	Yes ☐ No ☒	
§63.15	Availability of Information and Confidentiality	Yes ☐ No ☒	
§63.16	Performance Track Provisions	Yes ☐ No ☒	

TAPCR 1200-03-09-.03(8)