345 Woodcliff Drive
2nd Floor
Fairport, New York
14450

T +1 585 387 0510

erm.com

New York State Department of Environmental Conservation, Division of Environmental Permits, Region 9 Office
Lisa M. Czechowicz, Regional Permits Administrator
700 Delaware Avenue
Buffalo, New York 14209

Transmitted via Electronic Mail Delivery
lisa.czechowicz@dec.ny.gov

DATE
15 September 2025

SUBJECT
Response to Notice of Incomplete Application and Follow Up Notice of incomplete Application – Public Participation Plan Comments
Goodyear Manufacturing Plant
DEC ID# 9-2911-00036/00151

REFERENCE
0711139

Dear Ms. Czechowicz:

On behalf of The Goodyear Tire & Rubber Company ("Goodyear"), ERM Consulting & Engineering, Inc. ("ERM") is providing the New York State Department of Environmental Conservation ("NYSDEC" or the "Department") with this response to the following correspondence concerning the application package submitted to the Department on June 11, 2025, for the modification to and renewal of the Air State Facility (ASF) Permit for Goodyear's Niagara Falls, New York, manufacturing facility (the "Facility", DEC ID#9-2911-00036):

- Notice of Incomplete Application ("NOIA") letter, dated June 26, 2025,
- Notice of Incomplete Application–Public Participation Plan Comments ("NOIA-PPP") letter, dated July 7, 2025, and
- Comments on the Air Quality Modeling Protocol, dated August 1, 2025, that was submitted to the Department on June 11, 2025.

For the Department's ease of review, this correspondence presents each of the NYSDEC comments with Goodyear's response in a matrix attached as Appendix A. In addition, the following is a full list of appendices included as revised documents that support the ASF application:

Appendix	*Description*
A	NYSDEC Comments with Goodyear's Response
B	Updated ASF Permit Application
C	Emissions Calculations including Fugitive Emissions
D	Revised Air Quality Modeling Protocol
E	Part 212 Best Available Control Technology (BACT) Plan – Sparkler Filter
F	Revised Climate Leadership and Community Protection Act (CLCPA) Analysis
G	Revised Public Participation Plan (PPP)

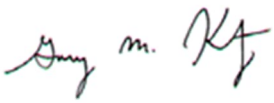
CONFIDENTIAL INFORMATION REQUEST

Please note that this submittal contains proprietary information regarding process technology that would put The Goodyear Tire & Rubber Company at a significant disadvantage if disclosed to a competitor. Therefore, Goodyear is requesting that certain information contained within this submittal be protected as "confidential commercial information" and "trade secret" information pursuant to New York Public Officers Law §§ 87 and 89, and 6 NYCRR Part 616. We have marked each page that contains confidential/trade secret information as "Contains Confidential Commercial Information and/or Trade Secret Information – Do Not Disclose". As such, this information should be provided only to involved members of the Department and its Staff and not otherwise be disclosed or made available to any other person or entity, either through a response to a Freedom of Information Law ("FOIL") request or otherwise. If a FOIL request is made for the confidential information, we respectfully request that both the undersigned and Goodyear's Plant Manager, Ms. Denise Seiler, who is copied on this letter, be notified prior to the Department providing such information so that a statement of necessity for continued protection of this information can be submitted to the Department.

On behalf of Goodyear, ERM appreciates the Department's input on this ASF application package submittal. If you have any questions, please reach out to either of the undersigned.

Sincerely,

David T. Murtha, QEP, CVI, TWIC
Consulting Director



Gary M. Keating
Partner-In-Charge

Cc: S. Bordenkircher, Esq. - Goodyear
K. McGlumphy – Goodyear
C. Mingo - Goodyear
D. Planter – Goodyear
D. Seifert – Goodyear
D. Seiler – Goodyear
R. Tyson, Esq. – BSK

APPENDIX A NYSDEC COMMENTS WITH GOODYEAR'S RESPONSE

APPENDIX A
GOODYEAR'S RESPONSES TO NYSDEC COMMENTS
DEC ID NO. 9-2911-00036

Appendix A – Goodyear's Response to the following NYSDEC Comments:

- ***Notice of Incomplete Application ("NOIA") letter, dated June 26, 2025,***
- ***Notice of Incomplete Application–Public Participation Plan Comments ("NOIA-PPP") letter, dated July 7, 2025, and***
- *Comments on the Air Quality Modeling Protocol, dated August 1, 2025.*

NYSDEC Comment	*Goodyear Response*
Notice of Incomplete Application ("NOIA") letter, dated June 26, 2025	
NOIA Comment No. 1*: The application must contain all conditions, emission units, processes, emission sources/controls, and emission points that will be in the permit. On June 17, 2025, NYSDEC provided ERM a permit application form generated using information from the facility's current ASF permit. All information included in the provided application should be included or addressed in the renewal application.*	As discussed with NYSDEC during a July 2, 2025 Microsoft Teams meeting, the permit application forms NYSDEC provided were missing significant the information needed for the permit renewal. Accordingly, it was agreed that ERM would update the application package it had submitted to incorporate more detailed descriptions of the processes and equipment to address this element of the Department's comments. The updated ASF Permit modification and renewal application forms can be found in Appendix B.

APPENDIX A
GOODYEAR'S RESPONSES TO NYSDEC COMMENTS
DEC ID NO. 9-2911-00036

NYSDEC Comment	*Goodyear Response*
NOIA Comment No. 2: *The application does not contain sufficient emission calculations, data, and examples. Provide sufficiently detailed calculations to allow NYSDEC staff to reproduce the results shown in the application. The emission calculations provided on the application use emission factors without identifying how those emission factors are derived.* *Provide additional information showing how emission factors are derived, including the following:* a. *For stack test results used to determine an emission factor, identify the stack test report used and how the emission factor was developed.* b. *For emission factors determined using US EPA Tanks Software, provide the inputs used in the US EPA Tanks Software and the output from the program.* c. *Provide material balance calculations used to determine emission factors.* d. *For fugitive emissions, explain the methodology of how emission factors were determined.*	Air emissions calculation summaries and calculation methodologies are included in Appendix C. These calculation methodology summaries include the information used to derive the emission factors using stack testing results, the updated US EPA TANKS 5.1 software[1], Emission Master® software[2], and material balance calculations. Note that the fugitive emissions calculation methodology for ortho-toluidine that was detailed in the May 5, 2025 technical memorandum entitled "Ortho-toluidine Fugitive Emission Estimation Approach" submitted to NYSDEC has been revised. Specifically, Goodyear retained a third-party contractor to conduct a fugitive emissions measurement program for facility-wide equipment components in light liquid and heavy liquid service. The results of that program have been used to update the fugitive emissions calculations for O-T and other air contaminants, including o-xylene, aniline and DPA. For this reason, the May 5, 2025 technical memorandum has been replaced with a revised memorandum, dated August 29, 2025, that is included in Appendix C . The updated fugitive emissions calculations have also been included in the updated AERMOD Air Dispersion Modeling Protocol found in Appendix D.
NOIA Comment No. 3: *Provide a facility process flow diagram. The diagram should include each emission source and any associated controls and indicate how each emission point is connected to its associated emission source(s).*	A Facility Process Flow Diagram (PFD) that includes each emission source and associated controls has been included in Appendix B. Please note that the PFD included in this application package contains confidential, proprietary, and/or trade secret information that qualifies as confidential business information (CBI). Goodyear formally requests that the NYSDEC maintain this PFD as CBI in accordance with the requirements of New York's Public Officers' Law and not make this PFD available for public disclosure.

[1] TANKS Emissions Estimation Software, Version 5 | US EPA
[2] https://www.mitchellscientific.com/emission-master/

APPENDIX A
GOODYEAR'S RESPONSES TO NYSDEC COMMENTS
DEC ID NO. 9-2911-00036

NYSDEC Comment	*Goodyear Response*
NOIA Comment No. 4: *The emission unit matrix provided on PDF page 7 of the application shows the emission unit mapping for the facility once the permanent controls are installed per the Air Pollution Control Engineering Study dated May 5, 2025. Provide an additional emission matrix that will show the emission unit mapping of the facility before installation of the permanent controls.*	We have included a copy of the original emission unit matrix as a component of the updated submittal package for the Department's use in updating the ASF Permit. The Current and Future Emission Unit Matrices are included in Appendix B.
NOIA Comment No. 5: *Process descriptions are missing from the emission unit matrix provided on PDF page 7 of the application. They need to be provided in the revised application.*	The emission unit matrix included in Appendix B has been updated to include the missing process descriptions that were inadvertently omitted from the June 11, 2025, submission.
NOIA Comment No. 6*: If a tank is equipped with a conservation vent, the conservation vent must be listed in the emission unit matrix and included in the permit application form. Otherwise, it will be assumed that the tank freely vents to atmosphere.*	The emission unit matrix provided in Appendix B has been updated to show that storage tanks are equipped with conservation vents, and the emission unit descriptions in the ASF application forms have been updated to include the conservation vents as control devices on the storage tanks that are so equipped.
NOIA Comment No. 7: *PDF page 33 of the application refers to "no control" as best available control technology (BACT) for the sparkler filter process. If BACT is to be used to show compliance with 6 NYCRR Part 212-2.1, an updated BACT analysis must be submitted.*	Goodyear has included an updated BACT Analysis for the Sparkler Filter Process as Appendix E.
NOIA Comment No. 8: *The EU-000N4 description on PDF page 45 of the application states "Emissions of organics are negligible." All emissions must be accounted for and provided in the application. Stating emissions are negligible is unacceptable.*	As discussed with the Department during the July 2, 2025 meeting, Goodyear's current ASF Permit utilizes that language and that is the reason it was included in the application. Nevertheless, at the meeting, it was agreed that "negligible" would be replaced with "insignificant" in the EU-000N4 description for this permit condition. Pursuant to that discussion, this revision has been made and incorporated into the ASF application forms found in Appendix B.
NOIA Comment No. 9: *In the emission unit descriptions for storage tanks, identify if the specific tank vents to controls, uses a conservation vent, or vents to atmosphere.*	As stated in response to NYSDEC Comment No. 6 above, the emission unit descriptions in the ASF application forms (found in Appendix B) have been updated to identify those tanks equipped with conservation vents as control devices.

APPENDIX A
GOODYEAR'S RESPONSES TO NYSDEC COMMENTS
DEC ID NO. 9-2911-00036

NYSDEC Comment	*Goodyear Response*
NOIA Comment No. 10: *PDF page 75 of the application shows the estimation of fugitive ortho-toluidine (OT) emissions. Provide fugitive emission estimates for all other contaminants, as required per 6 NYCRR Part 201-2.1(b)(21).*	Please see Goodyear's response to the Department's NOIA Comment No. 2 above – information relevant to NOIA Comment No. 10 is addressed there.
NOIA Comment No. 11: *Provide a Part 212 Evaluation discussion following the procedures described in the DAR-1 guidance document.*	The revised Air Dispersion Modeling Protocol (found in Appendix D) includes the discussion of the Part 212 evaluation following the procedures found in the DAR-1 guidance document.
NOIA Comment No. 12: *Diphenylamine (DPA) (CAS# 122-39-4) must be listed on the facility emissions summaries in the application form, in Appendix A (PDF pg. 51), and included as a contaminant in the AERMOD protocol.*	Diphenylamine (DPA) was inadvertently omitted from the submitted ASF application forms. The updated application forms found in Appendix B now include DPA, and the Revised AERMOD Modeling Protocol found in Appendix D includes DPA.
NOIA Comment No. 13: *On PDF page 38 of the application, the current ASF permit's Part 212 VOC RACT condition is stated to no longer apply "as the facility is no longer a major source of VOCs and is not subject to this requirement." The facility will remain applicable to 6 NYCRR Part 212-3.1(e) which states "Any facility that is subject to this section after May 31, 1995, will remain subject to these provisions even if the annual potential to emit NOx or VOCs later fall below the applicability threshold."*	Goodyear agrees that the facility will remain subject to this regulatory requirement, and the ASF applications forms have been updated to include this existing permit condition.
NOIA Comment No. 14: *Please complete and submit Part 1 of a short Environmental Assessment Form (SEAF) for the proposed modifications to the facility. The SEAF Part 1 can be obtained on the NYSDEC website at: www.dec.ny.gov/regulatory/permits-licenses/seqr*.	During a meeting and conference call with Department personnel on Wednesday, September 10, 2025, Goodyear was asked to provide the Department with a completed SEQR Full Environmental Assessment Form (FEAF) Part 1, rather than a completed SEAF Part 1. Goodyear has included a SEQR FEAF completed for Part 1, The completed SEQR FEAF is in Appendix B for the Department's review. Please note that to aid in the Department's review of the completed SEQR FEAF, Goodyear has provided its preliminary responses to the Part 2 sections of the SEQR FEAF.

APPENDIX A
GOODYEAR'S RESPONSES TO NYSDEC COMMENTS
DEC ID NO. 9-2911-00036

NYSDEC Comment	*Goodyear Response*
NOIA Comment No. 15: *The CLCPA Section 7(3) analysis and Public Participation Plan (PPP) are still under review and additional comments may be forthcoming on those documents. However, please note that the public meeting required by the PPP must be held prior to the application being determined complete and not during the public comment period as suggested in the PPP.*	Goodyear acknowledges the comment that the CLCPA Section 7(3) analysis and the Public Participation Plan were still under review upon the issuance of the NOIA letter. The next section of this Appendix addresses the Department's follow-up comments on the PPP. Please note that the PPP submitted to the Department on June 11, 2025 stated that the public meeting would be scheduled at a time once the draft ASF renewal application would be available for public comment, and not once the application and subsequent ASF Permit was deemed complete. Nevertheless, Goodyear acknowledges the Department's request to hold the public meeting at a time that is deemed acceptable to the Department .
Notice of Incomplete Application–Public Participation Plan Comments ("NOIA-PPP") letter, dated July 7, 2025	
NOIA-PPP Comment No. 1: *The draft PPP and CLCPA analyses should both be stand-alone documents with any references to the application to include page numbers or appendices as appropriate.*	The PPP and CLCPA Analysis are stand-alone documents. Any references to the ASF application package have been properly annotated.
NOIA-PPP Comment No. 2: *Please include the NYSDEC facility number on the cover page of the PPP.*	The Facility ID number has been added to the cover page of the PPP, the Revised AERMOD Protocol, the Revised CLCPA Analysis, the Sparkler Filter BACT Analysis, and other application supporting documentation.
NOIA-PPP Comment No. 3: *Section 1.2 Public Participation Plan Objective, Item 4 states that the applicant may choose to establish an on-line repository however an on-line document repository is a requirement of a PPP. Please revise accordingly.*	Section 1.2 Public Participation Plan Objective, Item 4 has been revised to state that the online repository shall be established. The Revised PPP can be found in Appendix G.
NOIA-PPP Comment No. 4: *Section 2.1 Project Overview must be revised to clearly outline in plain language the function of the wet scrubber and the regenerative thermal oxidizer (RTO).*	Section 2.1 Project Overview has been updated to provide a plain language description of the function of the wet scrubber and the regenerative thermal oxidizer (RTO). The Revised PPP can be found in Appendix G.
NOIA-PPP Comment No. 5: *Please revise Table 2-1 to list out all air contaminants (HAPs and VOCs) by name.*	Table 2-1 of the PPP has been updated to list all air contaminants (HAPs and VOCs) by name. The Revised PPP can be found in Appendix G.

APPENDIX A
GOODYEAR'S RESPONSES TO NYSDEC COMMENTS
DEC ID NO. 9-2911-00036

NYSDEC Comment	*Goodyear Response*
NOIA-PPP Comment No. 6: *Section 2.2.3 Potential Project Benefits* • *Please provide more details on your Zero Waste to Landfill program, specifically outlining how it benefits the local Environmental Justice (EJ) community in particular.* • *Please specify if your climate ambition goals are a local effort, and if so, how those goals may benefit the local EJ community and the localized progress on those goals and associated benefits to date.* • *Please specify if your sustainability goals are a local effort, and if so, how those goals may benefit the local EJ community and he localized progress on those goals and associated benefits to date.*	Section 2.2.3 Potential Project Benefits has been updated to include additional details on Goodyear's Zero Waste-to-Landfill program and the benefits that this program has to the local EJ community. Similarly, additional information has been added regarding Goodyear's climate and sustainability goals specific to its Niagara Falls facility. The Revised PPP can be found in Appendix G.
NOIA-PPP Comment No. 7: *Section 2.2.3.2 Economic Benefits* • *Please indicate how many of the jobs noted are filled by residents of the potentially impacted EJ Communities. These changes should also be made to the Fact Sheet in Appendix D of the PPP.* *Please remove references of economic benefits to the overall region. This document is to discuss potential impacts and possible benefits to the local community in and near the mapped Potential Environmental Justice Area (PEJA) and Disadvantaged Communities (DACs) as shown in your location and stakeholder maps included in your draft document.*	The PPP has been updated to reflect that 48% of Goodyear's associates (i.e., employees) reside within the greater City of Niagara Falls – the area that constitutes the majority of the Census Tracts identified in the Niagara Falls PEJA and DACs. Goodyear has removed reference of economic benefits to the overall region. The Revised PPP can be found in Appendix G.
NOIA-PPP Comment No. 8: *Please provide a project liaison as outlined in the PPP template provided to you by the Department.*	As proposed to and approved by the NYSDEC representatives via email correspondence on July 9, 2025 to ERM's David Murtha, the PPP has been updated to state that Goodyear's Corporate Communications Group will serve as the Project Liaison for this permit and will monitor the email address provided in the Revised PPP. The Revised PPP can be found in Appendix G.
NOIA-PPP Comment No. 9: *The public meeting should be two hours at a minimum.*	The public meeting timeslot listed in the PPP have been revised to show a minimum of two-hour duration. The Revised PPP can be found in Appendix G.

APPENDIX A
GOODYEAR'S RESPONSES TO NYSDEC COMMENTS
DEC ID NO. 9-2911-00036

NYSDEC Comment	*Goodyear Response*
NOIA-PPP Comment No. 10: *Please note in Section 5.4 Distribution of Notice of Complete Application (NOCA) that the NOCA can also be provided electronically. An opportunity to opt-in for NOCA distribution should be made clearly available at the public meeting.*	Once received by Goodyear, the Notice of Complete Application will be uploaded to the Goodyear online document repository. Attendees at the planned public meeting will be advised of how to access the NOCA from the online document repository, as well as from the NYSDEC's online Environmental Notice Bulletin (ENB). The Revised PPP can be found in Appendix G.
NOIA-PPP Comment No. 11: *Please note that the online document repository will need to be live and populated prior to PPP approval.*	The online document repository established by Goodyear was "under construction" at the time the draft PPP was submitted to the Department for review. Since then, the online document repository is now "live" and once the updated PPP is approved, documents submitted to the Department by Goodyear related to the ASF permit application will be uploaded to the repository for public review. The Revised PPP can be found in Appendix G.
NYSDEC NOIA-PPP Comment No. 12: *It should be noted that the Fact Sheet is intended to be widely available as a plain language resource on the project proposal for interested stakeholders. Please clarify where you will be posting the Fact Sheet as well as other additional plans for Fact Sheet distribution.*	As stated in Section 5.3 of the PPP, the Project Fact Sheet will be distributed at the planned public meeting and posted in readily accessible public bulletin boards and at such places as: • local grocery stores • the public library (the hardcopy repository) • local retail establishments (e.g., restaurants and other businesses, as allowed by the proprietors) • the Goodyear online document repository • upon request, distributed by email or mail. The Revised PPP can be found in Appendix G.

APPENDIX A
GOODYEAR'S RESPONSES TO NYSDEC COMMENTS
DEC ID NO. 9-2911-00036

NYSDEC Comment	*Goodyear Response*
NOIA-PPP Comment No. 13: *Please revise the Stakeholder List to include the following individuals and groups.* • *The following individuals and groups that were part of the initial coalition must be added to the list:* o *Matteo Anello: matteo@anello.com* o *Kelly Cloyd: kccloydboy@gmail.com* o *WNY Council on Occupational Safety & Health: Susan Woods: sew13att@gmail.com* • *Niagara Organizing Alliance for Hope must be added to the NGO list:* o *Danessia Scott-Warren, Interim Executive director: danessia@verizon.net* • *Please add the Buffalo News and NPR to the Media List:* • *Buffalo News, 726 Exchange Street Buffalo, NY 14240 Contact: Mackenzie Shuman mshuman@buffnews.com; (716) 715-4722* • *WBFO – Buffalo Toronto Public Media, Horizons Plaza, P.O. Box 1263, Buffalo, NY 14240-1263 Contact: Emyle Watkins ewatkins@wbfo.org; (716) 845-7040*	The individuals and groups provided by the Department have been added to the appropriate Stakeholder lists. The Revised PPP can be found in Appendix G.

APPENDIX A
GOODYEAR'S RESPONSES TO NYSDEC COMMENTS
DEC ID NO. 9-2911-00036

Comments on the Air Quality Modeling Protocol, dated August 1, 2025	
Protocol Comment No. 1: Protocol Table 5-1 must be updated to list every Part 212 contaminant emitted at the facility, each contaminant's facility-wide emission rate (in lbs/yr) and mass emission limit (MEL), as well as their Annual Guideline Concentrations (AGCs), Short-Term Guideline Concentrations (SGCs), and whether an air contaminant is an HTAC. This table should clearly identify which contaminants exceed their MEL levels and would therefore need to be modeled. For any Part 212 contaminants emitted at the facility but not listed in Part 212-2.2 Table 2 or DAR-1 AGC/SGC tables, the applicant should seek guidance from NYSDEC Air Toxics section by emailing DAR.AirToxics@dec.ny.gov.	Table 5-1 has been updated to identify HTACs, facility-wide emission rates, MELs, AGCs, and SGCs. The Revised AERMOD Protocol can be found in Appendix D.
Protocol Comment No. 2: Section 1: Please include the Facility's DEC ID in the revised modeling submission.	The DEC ID# 9-2911-00036 has been added to the revised Protocol.
Protocol Comment No. 3: Section 3.2 states there are "several tanks" at the property used to store raw materials and recycled material […]". Please specify the exact number of tanks used and how many are to be included in modeling.	There are a total of nine tanks used at the Facility to store raw material and recycled material. All nine tanks are included in the Revised AERMOD Protocol and properly identified on the Figures contained within the Revised AERMOD Protocol.
Protocol Comment No. 4: The applicant states in sections 3.2 and 4.1 that they manufacture an "antioxidant product." If the "antioxidant product" and/or any of its ingredients are emitted by process operations, please include them in the Part 212 Evaluation described in comment 1).	The antioxidant product, known as Nailax or Polystay 100®, is emitted as particulate matter from the Facility. The AERMOD Protocol has been updated to reflect these emissions and incorporated into the Part 212 evaluation contained within the Revised AERMOD Protocol.

APPENDIX A
GOODYEAR'S RESPONSES TO NYSDEC COMMENTS
DEC ID NO. 9-2911-00036

Protocol Comment No. 5: Section 4.1: The last sentence indicates that the ortho-toluidine (CAS# 95-53-4) fugitive emissions provided in this protocol are not final. Note that any changes in the fugitive emissions in the updated modeling protocol or report/modeling will have to be clearly explained and highlighted.	As discussed in Goodyear's response to NOIA Comment No. 10 above, Goodyear retained a third-party contractor to conduct a fugitive emissions measurement program for facility-wide equipment components in light liquid and heavy liquid service. The results of that program have been used to update the fugitive emissions calculations for other air contaminants, including o-xylene, aniline, and DPA. ERM's May 5, 2025 technical memorandum that was submitted to the Department has been replaced with a revised memorandum, dated August 29, 2025, that is included in Appendix C . The updated fugitive emissions calculations have also been included in the updated AERMOD Air Dispersion Modeling Protocol found in Appendix D.
Protocol Comment No. 6: The last paragraph of Section 4.1 states that facility-wide ortho-toluidine (OT) emissions, including the fugitives, were estimated to be 171 lbs/yr. Per Table 5-3, OT emissions add up to ~171 lbs/yr without the fugitives. According to this table, source F0112 adds another 6.062 lbs/yr. Please make sure the emission amounts are consistent throughout the protocol.	Appendix C includes the revised facility-wide air emissions calculations including Fugitive Emissions. With the revised application package, air emission amounts have been revised for consistency across the application documents.
Protocol Comment No. 7: Sections 4.1 and 5.0: There is a discrepancy between these sections and Table 5-1. Specifically, these sections do not mention diphenylamine (CAS# 122-39-4) or xylidine (CAS# 1300-73-8), both of which are in Table 5-1. Neither diphenylamine nor xylidine are HTACs. Therefore, these chemicals will need to be modeled if their facility-wide annual emission rate exceeds 100 lbs/yr.	Diphenylamine (DPA) has been added to the relevant sections. Xylidine has been eliminated from use at the Facility since 2022, when the Facility ceased production of Polystay® 200 and AZ. For this reason, xylidine was removed from the Revised AERMOD Protocol. The Revised AERMOD Protocol is set forth in Appendix D.
Protocol Comment No. 8: Section 5.1 and 5.4.3 should be updated to affirm the latest five years of surface KIAG and upper-air KBUF data, which is 2020-2024, will be used. The AERMOD-ready meteorological data is available from the NYSDEC by request to DAR.Meteorology@dec.ny.gov.	The Revised AERMOD Protocol has been updated with the latest meteorology data provided by NYSDEC.
Protocol Comment No. 9: Section 5.2: Figures 5-1 and 5-2 show the parking lot as being within the facility boundary. However, the parking lot on the southeast edge of the property is not included within the facility's fenced-in area. Receptors will need to be placed within the parking lot.	The figures included in Section 5.2 of the Revised AERMOD Protocol have been updated to exclude the southeast parking lot from the fenced-in area of the Niagara Falls Facility, and the receptor grid has been updated to include the southeast parking lot area.

APPENDIX A
GOODYEAR'S RESPONSES TO NYSDEC COMMENTS
DEC ID NO. 9-2911-00036

Protocol Comment No. 10: In Table 5-2, please include the base elevations for each of the stacks.	The base elevations have been added to Table 5-2.
Protocol Comment No. 11: Please label the facility structures shown in the map included as Figure 5-2 by their names to be used in modeling. Additionally, provide a table with the dimensions (maximum length, width, height, tiers as needed) of all buildings within the facility boundary.	Figure 5-2 has been updated accordingly. Table A-2 has been added with the building inputs used by BPIP. Maximum length and width are estimated because most structures were not drawn as rectangular tiers.
Protocol Comment No. 12: Figure 5-3: In the "Description" column, please specify what is being recycled in emission points F0103 and F0104 and state the composition of the recycled material stored in emission point F0107.	There is not sufficient room to add this information to Figure 5-3, but unreacted raw material from the product manufacturing process is recovered and recycled back into the manufacturing process. The recycle material composition varies based on the variability of recovered and recycled unreacted raw materials from the batch manufacturing process, but recent recycled raw material composition testing conducted at the Facility provides the average weight percentages of the following raw materials: • *33.09% O-Xylene* • *13.28% Aniline* • *13.12% Phenol* • *22.49% O-Toluidine* • *0.61% Hydroquinone* • *2.93% Nailax* • *1.88% Water*
Protocol Comment No. 13: Figure 5-3: Seven emission points are shown in the storage tank cluster on the northeast side of the facility, but ten storage tanks are shown in the aerial image on which the points are superimposed. Please clarify what the remaining three tanks are used for and if they do/do not need to be modeled.	The tanks in the storage tank cluster include nine permitted tanks and one tank with no emissions. The tanks are as follows: • Two aniline storage tanks (F-1009 and F-1106) • Three recycle storage tanks (F-1103, F-1104, and F0107) • Three ortho-toluidine storage tanks (F-1108, F-1110, and F-1112) • One o-xylene storage tank (F-1101) • One ferric chloride storage tank. Note that this tank is not equipped with a conservation vent and the tank is considered a non-emitting storage tank based on the vapor pressure of the stored material. The figure has been updated accordingly and the Revised AERMOD Protocol can be found in Appendix D.

APPENDIX A
GOODYEAR'S RESPONSES TO NYSDEC COMMENTS
DEC ID NO. 9-2911-00036

Protocol Comment No. 14: Section 5.3: It is not clear what type of source option will be used for modeling of the fugitive ortho-toluidine. Will this be an area source with a release height of 14 meters, or a volume source? Please provide an explanation of how fugitive ortho-toluidine emissions will be modeled.	The fugitive emissions from the equipment component measurement (LDAR) study for o-toluidine, aniline, DPA, and o-xylene will be modeled as a volume source at approximately the building roof height.
Protocol Comment No. 15: Table 5-2: Emission point F0112 (ortho-toluidine tank) is included in Table 5-3 but is not included in Table 5-2. Please update Table 5-2 to include emission point F0112.	Table 5-2 has been updated in the Revised AERMOD Protocol to include Emission point F0112.
Protocol Comment No. 16: All Table 5-2 stack parameters and Table 5-3 emission rates used in the modeling analysis will need to be reviewed and approved by a DEC engineer prior to use in the modeling analyses.	Goodyear recognizes and understands this requirement.
Protocol Comment No. 17: Table 5-3: *Please add another row showing the total facility-wide maximum annual emission rate and the facility-wide maximum hourly emission rate of each chemical.* *There is a discrepancy between Tables 5-1 and 5-3. Table 5-1 mentions diphenylamine (CAS# 122-39-4) and xylidine (CAS# 1300-73-8), while Table 5-3 does not. Neither diphenylamine nor xylidine are HTACs. These chemicals will only need to be modeled if their facility-wide annual emission rate exceeds 100 lbs/yr.*	Table 5-3 has been updated and moved to an Appendix to the Revised AERMOD Protocol due to its size. As mentioned in the response to Air Modeling Protocol Comment No. 7, xylidine is no longer used at the Facility and has been removed from the Protocol. Diphenylamine (DPA) has been added to Table 5-1.
Protocol Comment No. 18: In Section 5.4.4., please specify the resolution of the terrain elevations from the USGS National Elevation Data (NED) used. Per DAR-10 modeling guidance, we recommend 1/3 arc second (10 m) resolution.	The AERMOD Protocol assigned all elevations using the 1/3 arc second data (10m) resolution. This clarification has been added to the Revised AERMOD Protocol.

Protocol Comment No. 19: The air stripper associated with the wastewater recovery, emission source 0C2EO, is referenced in Section 3.2 of the modeling protocol, and o-xylene is to be modeled per Section 4.1. Please include emission source "0C2EO" in Table 5-2 and Table 5-3.	Emission source 0C2EO, the wastewater packed air stripper, has been added to Tables 5-2 and 5-3 of the Revised AERMOD Protocol.

APPENDIX B UPDATED ASF PERMIT MODIFICATION & RENEWAL APPLICATION

Figure 1. Simplified Process Flow Diagram (Future)

Goodyear Tire & Rubber Company

5500 Goodyear Drive ● Niagara Falls, New York

Environmental Resources Management
345 Woodcliff Drive
2nd Floor
Fairport, New York 14450

ERM

Appendix B-1.1: Emission Unit Matrix "Current" Configuration

Unit ID	Unit Description	Building No.		Process Description	Source ID	Source Description	Control ID	Control Description	Emission Point ID
U-000N3	Drum flaker, remelt tank, centrifuge, product tank, vented through a water-based wet scrubber	32	DFL	A drum flaker is used to flake the antioxidant product. The remelt tank is used to rework the antioxidant. The centrifuge removes solids from the product. The current control type for this process is a whirlwet continuous dust collector (scrubber) made by Tri-Mer company. Water is used to scrub the air stream.	REMEL	Re-melt Tank	0S0N3	Tri-mer Whirl Wet Scrubber	000N3
						Drum Flaker			
					CENTR	Centrifuge			
U-32034	Antioxidant batches are degassed and then filtered (Sparkler filter) to remove the neutralized catalyst. Filter is cleaned periodically and fumes are removed by a ventilation system (EP 32034). The filter is used for Nailax when the centrifuge is down. ~~for all AZ and Polystay 200 production.~~	32	SFI	Sparkler filter operates only when the centrifuge is down. Emissions are generated when the filter is opened.	03034	Sparkler Filter	~~3034~~	~~Sparkler filter~~	~~3034~~ 32034
0-ANIST	Aniline unloading from tank trucks or rail cars into two, 15,900 gallon storage tanks. Air that is displaced during unloading is removed by activated carbon.	35	AST		0F106	15,900 gallon storage tank with activated carbon unit and conservation vent.	0C106	Activated carbon	F0106
					0F109	15,900 gallon storage tank with activated carbon unit and conservation vent.	0C106	Activated carbon	F0109
0-RECYC	A mixture of o-xylene, aniline, o-toluidine, phenol, DPA, and ~~mixed xylidines~~ is stored in an atmospheric tank. Tank is filled and emptied as required. There are 3 recycle tanks.	35	RST		0F103	10,800 gallon Recycle tank			F0103
					0F104	10,800 gallon Recycle tank			F0104
					0F107	10,800 gallon Recycle tank			F0107
0-TOLST	o-toluidine unloading from tank trucks, isotainers, or rail cars into two, 15,928 gallon storage tanks and one 15,321 gallon storage tank.	35	TOL		F0108	15,928 gallon o-toluidine storage tank with conservation vent.			F0108
					F0110	15,928 gallon o-toluidine storage tank with conservation vent.			F0110
					F0112	15,321 o-toluidine storage tank with conservation vent.			F0112
U-000D1	Elimination Tank No. 1 system that provides overflow protection and additional condensing prior to emission. The system ~~has 2 parallel a systems for capturing~~ captures liquid and vapor overflow from the antioxidant production process	32	ETA	Elimination Tank No. 1 - serves the product holding tank vents and emissions from the pastille unit	000D1	Elimination Tank No. 1	0HXD1 PASTI	Vapor recovery system	000D1
			ETB	Elimination tank 2 - serves various raw material, recycle, and reactor system vents	000D2	Elimination Tank 2	0HXD2	Vapor recovery system	000D2
U-000N2	Packaging area product dust and material from the "liquid" drumming station are exhausted through a dust collector before the atmosphere	33	NPA	Product is solidified on a drum flaker or a metal belt. Dust is removed with the dust collector system	0F0N2	Antioxidant packaging	0F0N1	Dust collector/fabric filter	000N2
U-000N4	Product dust is exhausted through a 90-foot vibratory conveyor and bucket elevator equipped with a pulse jet type dust collector	32	BEL	Bucket elevator and vibrating conveyor moving flaked antioxidant			0F0N4	Pulse Jet Fabric Filter/Dust Collector	000N4

U-32009	Water that is used to flush the reactor and degasser is held in the sump holding tank before discharge. The tank is vented to the atmosphere. The tank exhausts trace emissions of aniline, phenol, o-toluidine, and hydroquinone. This unit also includes the neutralization solution (sodium bicarbonate) make-up tank system.	32	~~SHT~~NMR	Flush water is retained in the sump holding tank prior to discharge	03009	Sump Holding Tank			32009
					03017	Wastewater tank			32017
U-3393A	Hydroquinone (HQ) is discharged from bags through a chute into a tank. The HQ dust is removed by a dust collector station.	33	PTA	Hydroquinone is discharged from bulk bags through a chute into a tank, from two pumps during maintenance activities, and from a vacuum cleaning system for residual hq.	03393	HQ Disharge	~~3393~~ 0F393	Fabric Filter	3393A
U-F0101	Ortho-xylene is unloaded from a tank truck into a 10,400 gallon storage vessel. Air is displaced during the unloading operation.	35	OXS		F0101	10,400 uninsulated atmospheric storage tank			F0101
~~U-F0112~~	~~Mixed xylidines are unloaded into a 15,400 gallon storage tank from tank trucks or tank cars. Air is displaced during the operation and through normal breathing of the tank.~~	~~35~~	~~M12~~			~~15,400 gallon temperature controlled atmospheric storage tank~~			~~F0112~~
W-STWTR	Wastewater is transferred to a storage tank where solvent is used to extract organics. O-xylene is recovered by distillation. O-xylene is stripped from the wastewater stream by a packed column.	C-2	TAN	Solvents are used to extract organics from a storage tank	01862	Solvent Extraction/Distillation Equipment	0HSX1	Tube and shell condenser	F1862
					T3103	Xylene Tank 3103 (Solvent Tank)			
					T3104	Xylene Tank 3104 (Surge Tank)			
					1862A	Recovery Tank 3107 (Waste Water Tank)	0HSX2	Tube and shell condenser-tank vent	
					T3113	Decant Tank 3113			
			AIR	o-xylene removal by 8-inch diamater, 20-foot long packed air stripper	0C2EO	Air Stripper	0CAEO	Calgon carbon cannister	0C2E0

Note: Changes are indicated by strikethroughs and red font.

Unit ID	Unit Description	Building No.	Process ID	Process Description	Source ID	Source Description	Control ID	Control Description	Emission Point ID
U-000N3	Drum flaker, remelt tank, centrifuge, product tank, and elimination tank 2 vented through a replacement water-based wet scrubber and a new Regenerative Thermal Oxidizer (RTO). Elimination Tank No. 2 system that provides overflow protection and additional condensing prior to venting to atmosphere.The system captures liquid and vapor overflow from the antioxidant production process. Elimination Tank No. 1 system that provides overflow protection and additional condensing prior to emission. The system has 2 parallel a systems for capturing captures liquid and vapor overflow from the antioxidant production process	32	DFL	A drum flaker is used to flake the antioxidant product. The remelt tank is used to rework the antioxidant. The centrifuge removes solids from the product. The current control type for this process is a whirlwet continuous dust collector (scrubber) made by Tri-Mer company. Water is used to scrub the air stream.	REMEL	Re-melt Tank	~~0S0N3~~ 0S0N4 0S0N5	~~Tri-Mer Whirl Wet Scrubber~~ New Tri-Mer Wet Scrubber Regenerative Thermal Oxidizer	000N3
						Drum Flaker			
					CENTR	Centrifuge			
			ETB	Elimination Tank No. 2 - serves various raw material, recycle, and reactor system vents	000D2	Elimination Tank No. 2	0S0N4 0S0N5		
			ETA	Elimination Tank No. 1 - serves the product holding tank vents and emissions from the pastille unit	000D1	Elimination Tank No. 1	0HXD1		
U-32034	Antioxidant batches are degassed and then filtered (Sparkler filter) to remove the neutralized catalyst. Filter is cleaned periodically and fumes are removed by a ventilation system (EP 32034). The filter is used for Nailax when the centrifuge is down. ~~for all AZ and Polystay 200 production.~~	32	SFI	Sparkler filter operates only when the centrifuge is down. Emissions are generated when the filter is opened.	03034	Sparkler Filter	~~3034~~	~~Sparkler filter~~	~~3034~~ 32034
0-ANIST	Aniline unloading from tank trucks or rail cars into two, 15,900 gallon storage tanks. Air that is displaced during unloading is removed by activated carbon.	35	AST	Air is displaced during unloading of aniline into the storage tanks. Emissions are controlled by activated carbon.	0F106	15,900 gallon storage tank with activated carbon unit and conservation vent.	0C106	Conservation Vent with Activated carbon	F0106
					0F109	15,900 gallon storage tank with activated carbon unit and conservation vent.	0C106	Conservation Vent with Activated carbon	F0109
0-RECYC	A mixture of o-xylene, aniline, o-toluidine, phenol, DPA, and ~~mixed xylidines~~ is stored in an atmospheric tank. Tank is filled and emptied as required. There are 3 recycle tanks.	35	RS3	A mixture of o-xylene, aniline, o-toluidine, phenol, DPA, and ~~mixed xylidines~~ is stored in an atmospheric tank; the tank is filled and emptied as required to balance production.	0F103	10,800 gallon Recycle tank			F-1103
					0F104	10,800 gallon Recycle tank			F-1104
					0F107	10,800 gallon Recycle tank			F0107
0-TOLST	o-toluidine unloading from tank trucks, isotainers, or rail cars into two, 15,928 gallon storage tanks and one 15,321 gallon storage tank.	35	TOL	Air is displaced during unloading of OT into the storage tanks. Emissions are controlled by activated carbon.	F0108	15,928 gallon o-toluidine storage tank with conservation vent.	0V108	Conservation Vent	F0108
					F0110	15,928 gallon o-toluidine storage tank with conservation vent.	0V110	Conservation Vent	F0110
					F0112	15,321 o-toluidine storage tank with conservation vent.	0V112	Conservation Vent	F0112

~~U-000D1~~	~~Elimination Tank No. 1 system that provides overflow protection and additional condensing prior to emission. The system has 2 parallel a systems for capturing captures liquid and vapor overflow from the antioxidant production process~~	~~32~~	~~ETA~~	~~Elimination Tank No. 1 - serves the product holding tank vents and emissions from the pastille unit~~	~~000D1~~	~~Elimination Tank No. 1~~	~~0HXD1~~	~~Vapor recovery system~~	~~000D1~~
			~~ETB~~	~~Elimination tank 2 - serves various raw material, recycle, and reactor system vents~~	~~000D2~~	~~Elimination Tank 2~~	~~0HXD2~~	~~Vapor recovery system~~	~~000D2~~
U-000N2	Packaging area product dust and material from the "liquid" drumming station are exhausted through a dust collector before the atmosphere	33	NPA	Product is solidified on a drum flaker or a metal belt. Dust is removed with the dust collector system	0F0N2	Antioxidant packaging	0F0N1	Dust collector/fabric filter	000N2
U-000N4	Product dust is exhausted through a 90-foot vibratory conveyor and bucket elevator equipped with a pulse jet type dust collector	32	BEL	Bucket elevator and vibrating conveyor moving flaked antioxidant	000N4	Dust Collector	0F0N4	Pulse Jet Fabric Filter/Dust Collector	000N4
U-32009	Water that is used to flush the reactor and degasser is held in the sump holding tank before discharge. The tank is vented to the atmosphere. The tank exhausts trace emissions of aniline, phenol, o-toluidine, and hydroquinone. This unit also includes the neutralization solution (sodium bicarbonate) make-up tank system.	32	~~SHT~~NMR	Flush water is retained in the sump holding tank prior to discharge	03009	Sump Holding Tank			32009
					~~03017~~	~~Wastewater tank~~			~~32017~~
U-3393A	Hydroquinone (HQ) is discharged from bags through a chute into a tank. The HQ dust is removed by a dust collector station.	33	PTA	Hydroquinone is discharged from bulk bags through a chute into a tank, from two pumps during maintenance activities, and from a vacuum cleaning system for residual hq.	03393	HQ Disharge	~~3393~~ 0F393	Fabric Filter	3393A
U-F0101	Ortho-xylene is unloaded from a tank truck into a 10,400 gallon storage vessel. Air is displaced during the unloading operation.	35	OXS	o-xylene is unloaded from a tank truck into an uninsulated atmospheric storage vessel; air is displaced during the unloading operation.	F1101	10,400 uninsulated atmospheric storage tank			F0101
~~U-F0112~~	~~Mixed xylidines are unloaded into a 15,400 gallon storage tank from tank trucks or tank cars. Air is displaced during the operation and through normal breathing of the tank.~~	~~35~~	~~M12~~			~~15,400 gallon temperature controlled atmospheric storage tank~~			~~F0112~~
W-STWTR	Wastewater is transferred to a storage tank where solvent is used to extract organics. O-xylene is recovered by distillation. O-xylene is stripped from the wastewater stream by a packed column.	C-2	TAN	Solvents are used to extract organics from a storage tank	01862	Solvent Extraction/Distillation Equipment	0HSX1	Tube and shell condenser	F1862
					T3103	Xylene Tank 3103 (Solvent Tank)			
					T3104	Xylene Tank 3104 (Surge Tank)			
					1862A	Recovery Tank 3107 (Waste Water Tank)	0HSX2	Tube and shell condenser-tank vent	
					T3113	Decant Tank 3113			
			AIR	o-xylene removal by 8-inch diamater, 20-foot long packed air stripper	0C2EO	Air Stripper	0CAEO	Calgon carbon cannister	0C2E0

Note: Changes are indicated by strikethroughs and red font.

New York State Department of Environmental Conservation
Air Permit Application

DEC ID	Application ID	Application Type
9-2911-00036	- - /	☒ State Facility ☐ Title V

Section I - Certification

Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information required to complete this application, I believe the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Responsible Official	Denise Seiler	Title	Plant Manager
Signature		Date	09/15/2025

Professional Engineer Certification

I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments as they pertain to the practice of engineering. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Professional Engineer	Miranda Robinson	NYS License No.	103798
Signature		Date	09/15/2025

Section II - Identification Information

Type of Permit Action Requested

❑ New ☒ Renewal ❑ Significant Modification ❑ Administrative Amendment ☒ Minor Modification

❑ Application for the construction of new facility ❑ Application involves construction of new emission unit(s)

Facility Information

Name	GOODYEAR ~~CHEM~~ MANUFACTURING PLANT		
Location Address	5500 GOODYEAR DR		
☒ City / ❑ Town / ❑ Village	NIAGARA FALLS	Zip 14304	

Owner/Firm Information — **Business Taxpayer ID**: 34-0253240

Name: THE GOODYEAR TIRE & RUBBER COMPANY, INC.

Street Address: 200 INNOVATION WAY

City	State/Province	Country	Zip
AKRON	OHIO	USA	44309

Owner Classification ❑ Federal ❑ State ❑ Municipal ☒ Corporation/Partnership ❑ Individual

Facility Contact Information

Name	Daniel M. Planter		Phone No. (716) 236-2651
Email Address	Dan_planter@goodyear.com		Fax No.
Affiliation	The Goodyear Tire & Rubber Company	Title	Environmental Manager
Street Address	5000 Goodyear Drive		

City	State	Country	Zip
Niagara Falls	NY	USA	14304

New York State Department of Environmental Conservation
Air Permit Application

DEC ID
9 - 2 9 1 1 - 0 0 0 3 6

Section II - Identification Information

Project Description ☐ **Continuation Sheet(s)**

This application is for the renewal and modification of The Goodyear Tire & Rubber Company Air State Facility (ASF) permit for its manufacturing plant, located in the city of Niagara Falls, NY. As a part of the ASF renewal, modifications will be made that include the emissions from Elimination Tank #2 (process ETB) will be re-routed to a new Regenerative Thermal Oxidizer (RTO) to be installed downstream of a new wet scrubber that will replace the current Tri-Mer Whirl Wet model scrubber. The RTO is being added for increased air emissions control of VOCs and HAPs. This change will remove control ID 0S0N3 and emission point 000N3 and replace them with control devices 0S0N4. 0S0N5, respectively, and move process ETB to emission unit U-000N3 (see the updated Emission Unit Matrix).

NOTE: The permit conditions identified in these forms reflect the requirements identified in the current Air State Facility Permit that became effective on 06/15/2009 (i.e., "MOD 0" version) and was last modified on 04/21/2011 (i.e., "MOD 2"). Requested additions have been identified with red underlining, while requested deletions are identified with ~~red strikethroughs~~. Comments are provided within this application to provide the Department with an explanation for the requested changes, however, these explanations are not intended to be included in the issued permit.

Section III - Facility Information

Facility Classification

❑ Hospital ❑ Residential ☐ Educational/Institutional ☐ Commercial ☒ Industrial ☐ Utility

Affected States (Title V Applications Only)

❑ Vermont ❑ Massachusetts ❑ Rhode Island ❑ Pennsylvania Tribal Land:
❑ New Hampshire ❑ Connecticut ❑ New Jersey ❑ Ohio Tribal Land:

SIC Code(s)			NAICS Code(s)			
2869	~~2821~~		3251			

Facility Description ☐ **Continuation Sheet(s)**

The Goodyear ~~Chemical~~ Plant located in Niagara Falls, New York produces antioxidants used in tires and other rubber products to prevent deterioration in the form of cracking or checking. Operations are batch. Wastewater is processed to remove organics which are then recycled back into the process.

Compliance Statements (Title V Applications Only)

I certify that as of the date of this application the facility is in compliance with all applicable requirements: ☐ YES ☐ NO
If one or more emission units at the facility are not in compliance with all applicable requirements at the time of signing this application (the 'NO' box must be checked), the noncomplying units must be identified in the "Compliance Plan" block on page 8 of this form along with the compliance plan information required. For all emission units at this facility that are operating in compliance with all applicable requirements complete the following:

☐ This facility will continue to be operated and maintained in such a manner as to assure compliance for the duration of the permit, except those emission units referenced in the compliance plan portion of this application.
☐ For all emission units, subject to any applicable requirements that will become effective during the term of the permit, this facility will meet such requirements on a timely basis.
☐ Compliance certification reports will be submitted at least once a year. Each report will certify compliance status with respect to each applicable requirement, and the method used to determine the status.

New York State Department of Environmental Conservation
Air Permit Application

DEC ID
9-291100036

Section III - Facility Information

Facility Emissions Summary

CAS Number	Contaminant Name	Potential to Emit (tons/yr)	2024 Actual Emissions (pounds/yr)
NY075-00-0	TOTAL PM	0.87	586
7446-09-5	SULFUR DIOXIDE	0.03	29.82
NY210-00-0	OXIDES OF NITROGEN	5.75	4,969
000630-08-0	CARBON MONOXIDE	4.83	4,174
7439-92-1	LEAD (ELEMENTAL)		
NY988-00-0	TOTAL VOLATILE ORGANIC COMPOUNDS	9.18	7,289
NY100-00-0	*TOTAL HAZARDOUS AIR POLLUTANTS (HAP)*	*8.83*	*12,370*
N/A	*Total HAPs from exempt combustion sources*	*0.11*	*94*
62-53-3	*ANILINE*	*0.30*	*319*
123-31-9	*HYDROQUINONE*	*0.02*	*20*
108-95-2	*PHENOL*	*0.04*	*24.40*
95-53-4	*o-TOLUIDINE*	*0.27*	*279*
95-47-6	*o-XYLENE*	*8.31*	*11,634*

New York State Department of Environmental Conservation
Air Permit Application

DEC ID
9 - 2 9 1 1 - 0 0 0 3 6

Section III - Facility Information

Facility Applicable Federal Requirements ☐ Continuation Sheet(s)									
Title	**Type**	**Part**	**Subpart**	**Section**	**Subdivision**	**Paragraph**	**Subparagraph**	**Clause**	**Sub Clause**
~~6~~	~~NYCRR~~	~~201~~	~~6~~	~~5~~	~~(g)~~				***(PC # 1)***
6	NYCRR	201	7						***(PC #2-2)***
6	NYCRR	201	7						***(PC #2-3)***
6	NYCRR	201	7						***(PC #2-4)***
6	NYCRR	201	7						***(PC # 2-5)***
6	NYCRR	212	1	~~6~~	(a)				***(PC #8)***
~~6~~	~~NYCRR~~	~~212~~		~~10~~	~~(a)~~				***(PC #9)***
6	NYCRR	211	2						***(PC # 2-8, shown in current permit as State-only requirement)***

Facility State Only Requirements ☐ Continuation Sheet(s)									
Title	**Type**	**Part**	**Subpart**	**Section**	**Subdivision**	**Paragraph**	**Subparagraph**	**Clause**	**Sub Clause**
6	NYCRR	201	5						***(PC # 31, #33, #34)***
6	NYCRR	211		1					***(PC NEW)***

New York State Department of Environmental Conservation
Air Permit Application

DEC ID
9 - 2 9 1 1 - 0 0 0 3 6

Section III – Facility Information

Facility Compliance Certification ☐ Continuation Sheet(s)

Rule Citation

Title	Type	Part	Subpart	Section	Subdivision	Paragraph	Subparagraph	Clause	Subclause
6	NYCRR	201	7						

		CAS Number	Contaminant Name
☒ Applicable Federal Requirement ☐State Only Requirement	☒ Capping	95-47-6; 0NY100-00-0; 0NY998-00-0;	o-Xylene (aka benzene, 1,2-dimethyl); Total HAPs; Total VOCs

Monitoring Information

☐ Ambient Air Monitoring ☐ Work Practice Involving Specific Operations ☐ Record Keeping/Maintenance Procedures

Description

(PC #2-2)

Potential total facility-wide emissions of o-xylene, an individual hazardous air pollutant (HAP), total HAPs, and volatile organic compounds (VOC) from both permitted and exempt/trivial sources shall not exceed 9.9 tons, 24.9 tons and 49.9 tons respectively during any consecutive twelve month period. This emissions cap will establish the facility as a minor source of air pollution not subject to major source Title V permitting requirements of 6NYCRR, Part 201-6 and the requirements for HAPs emitted from Miscellaneous Organic Chemical Manufacturing facilities (National Emissions Standards for Hazardous Air Pollutants, 40 CFR Part 63 Subpart FFFF).

Compliance with this limit will be achieved by limiting the number of batches of antioxidant produced to 3,450 batches during any consecutive twelve-month period.

An annual certification shall be submitted certifying that the facility emissions have remained below the emissions cap during any twelve-month period for the calendar year. The report shall be sent to the New York State Department of Environmental Conservation, Division of Air Resources,~~, 270 Michigan Avenue, Buffalo, New York, 14203~~ 700 Delaware Avenue, Buffalo, NY 14209.

Work Practice Type	Process Material Code	Process Material Description	Reference Test Method

Parameter Code	Parameter Description	Manufacturer's Name/Model Number
	BATCHES	

Limit Upper	Limit Lower	Limit Units Code	Limit Units Description
3,450			Batches per year

Averaging Method Code	Averaging Method Description	Monitoring Frequency Code	Monitoring Frequency Description	Reporting Requirements Code	Reporting Requirements Description
	12-month total, rolled monthly		MONTHLY		ANNUALLY (CALENDAR)

New York State Department of Environmental Conservation
Air Permit Application

DEC ID
9-291100036

Section III – Facility Information

Facility Compliance Certification ☐ Continuation Sheet(s)

Rule Citation

Title	Type	Part	Subpart	Section	Subdivision	Paragraph	Subparagraph	Clause	Subclause
6	NYCRR	201	7						

		CAS Number	Contaminant Name
☒ Applicable Federal Requirement ☐State Only Requirement	☒ Capping	0NY998-00-0	VOC

Monitoring Information

☒ Ambient Air Monitoring ☐ Work Practice Involving Specific Operations ☐ Record Keeping/Maintenance Procedures

Description

(PC #2-3)

Potential total facility-wide emissions of volatile organic compounds (VOC) from both permitted and exempt/trivial sources shall not exceed 49.9 tons during any consecutive twelve month period. Compliance with this limit will establish the facility as a minor source of VOC not subject to the Title V permitting requirements of 6NYCRR, Part 201-6. Compliance with this limit will be achieved by limiting the number of batches of antioxidant produced to 3,450 batches during any consecutive twelve-month period. ~~Based on this limit VOC emissions are estimated at 34.5 tons per year.~~

Goodyear has developed emission factors based on source testing, raw material thruput, EPA Tanks calculations, and mass balance calculations to derive the VOC emissions per batch.

An annual certification shall be submitted certifying that the facility emissions have remained below the emissions cap during any twelve month period for the calendar year. The report shall be sent to the New York State Department of Environmental Conservation, Division of Air Resources, ~~270 Michigan Avenue, Buffalo, New York, 14203.~~ 700 Delaware Avenue, Buffalo, NY 14209

Work Practice Type	Process Material Code	Process Material Description	Reference Test Method

Parameter Code	Parameter Description	Manufacturer's Name/Model Number
	VOC	

Limit Upper	Limit Lower	Limit Units Code	Limit Units Description
49.9			Tons per year

Averaging Method Code	Averaging Method Description	Monitoring Frequency Code	Monitoring Frequency Description	Reporting Requirements Code	Reporting Requirements Description
	12-month total, rolled monthly		MONTHLY		ANNUALLY (CALENDAR)

New York State Department of Environmental Conservation
Air Permit Application

DEC ID
9-291100036

Section III – Facility Information (continued)

Facility Compliance Certification (continuation)

Rule Citation

Title	Type	Part	Subpart	Section	Subdivision	Paragraph	Subparagraph	Clause	Subclause
6	NYCRR	201	7						

		CAS Number	Contaminant Name
☒ Applicable Federal Requirement ☐State Only Requirement	☒ Capping	95-47-6	o-Xylene (aka BENZENE,1,2-DIMETHYL)

Monitoring Information

☒ Work Practice Involving Specific Operations ☐ Ambient Air Monitoring ☐ Record Keeping/Maintenance Procedures

Compliance Activity Description

(PC #2-4)

Potential emissions of o-xylene, a hazardous air pollutant (HAP), from both permitted and exempt/trivial sources are limited to less than 10 tons during any consecutive twelve-month period. Compliance with this limit will establish the facility as a minor source not subject to 6NYCRR, Part 201-6 Title V permitting requirements and the requirements of the National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Miscellaneous Organic Chemical Manufacturing (MON), 40 CFR Part 63 Subpart FFFF. Compliance will be achieved by:

1.) Limiting the number of batches of antioxidant produced to 3,450 batches during any consecutive twelve-month period. ~~Based on this production rate, o-xylene emissions are calculated at 7.7 tons per year.~~ Goodyear will keep records to demonstrate that facility production will not exceed the annual limit. The records are to be retained on-site in a format easily accessible to Department representatives on request.
2.) Monitoring and maintenance of the carbon bed on the air stripper discharge as established in the 6NYCRR, Part 212-1.7(b) ~~.10(c)(4)(i)~~ monitoring condition for emission point 0C2EO located in emission unit WSTWTR.

An annual certification shall be submitted certifying that the facility emissions have remained below the emissions cap during any twelve month period for the calendar year. The report shall be sent to the New York State Department of Environmental Conservation, Division of Air Resources, ~~270 Michigan Avenue, Buffalo, New York, 14203~~ 700 Delaware Avenue, Buffalo, NY 14209.

Work Practice Type	Process Material		Reference Test Method
	Code	Description	

Monitored Parameter		Manufacturer's Name/Model Number
Code	Description	
	Benzene, 1,2-Dimethyl (aka o-xylene)	

Limit		Limit Units	
Upper	Lower	Code	Description
9.9			Tons per year

Averaging Method		Monitoring Frequency		Reporting Requirements	
Code	Description	Code	Description	Code	Description
	12-month total, rolled monthly		MONTHLY		ANNUALLY (CALENDAR)

New York State Department of Environmental Conservation
Air Permit Application

DEC ID
9 - 2 9 1 1 - 0 0 0 3 6

Section III – Facility Information (continued)

Facility Compliance Certification (continuation)

Rule Citation

Title	Type	Part	Subpart	Section	Subdivision	Paragraph	Subparagraph	Clause	Subclause
6	NYCRR	201	7						

☒ Applicable Federal Requirement ☐State Only Requirement	☒ Capping	CAS Number	Contaminant Name
		0NY100-00-0	HAP

Monitoring Information

☒ Work Practice Involving Specific Operations ☐ Ambient Air Monitoring ☐ Record Keeping/Maintenance Procedures

Compliance Activity Description

(PC #2-5)

Potential emissions of total hazardous air pollutants (HAP) from both permitted and exempt/trivial sources shall not exceed 24.9 tons during any consecutive twelve month period. Compliance with this limit will establish the facility as a minor source not subject to 6NYCRR, Part 201-6 Title V permitting requirements and the requirements of the National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Miscellaneous Organic Chemical Manufacturing (MON), 40 CFR Part 63 Subpart FFFF. Compliance will be achieved by limiting the number of batches of antioxidant produced to 3,450 batches during any consecutive twelve month period. ~~Based on this production rate, HAP emissions are calculated at less than 24.9 tons per year.~~

Goodyear has developed emission factors based on source testing, raw material thruput, EPA Tanks calculations, and mass balance calculations to derive the VOC emissions per batch.

An annual certification shall be submitted certifying that the facility emissions have remained below the emissions cap during any twelve month period for the calendar year. The report shall be sent to the New York State Department of Environmental Conservation, Division of Air Resources, ~~270 Michigan Avenue, Buffalo, New York, 14203~~ 700 Delaware Avenue, Buffalo, NY 14209.

Work Practice Type	Process Material		Reference Test Method
	Code	Description	

Monitored Parameter		Manufacturer's Name/Model Number
Code	Description	
	HAP	

Limit		Limit Units	
Upper	Lower	Code	Description
24.9			Tons per year

Averaging Method		Monitoring Frequency		Reporting Requirements	
Code	Description	Code	Description	Code	Description
	12-month total, rolled monthly		MONTHLY		ANNUALLY (CALENDAR)

DEC ID
9-291-00036

Section III - Facility Information (continued)

Facility Compliance Certification (continuation)

Rule Citation

Title	Type	Part	Subpart	Section	Subdivision	Paragraph	Subparagraph	Clause	Subclause
6	NYCRR	212	1	6	(a)				

☒ Applicable Federal Requirement ☐ State Only Requirement	☐ Capping	CAS Number	Contaminant Name
		0NY075-00-0	PARTICULATES

Monitoring Information

☐ Intermittent Emission Testing ☐ Ambient Air Monitoring ☐ Record Keeping/Maintenance Procedures

Compliance Activity Description

(PC #8)

No person shall cause or allow emissions having an average opacity during any six consecutive minutes of 20 percent or greater from any process emission source, except only the emission of uncombined water.

Compliance with this requirement shall be determined by the facility owner/operator conducting a daily survey of visible emissions whenever a process is in operation. If any visible emissions are identified, corrective action is required.

Records shall be kept on-site of the corrective action and made available to Department representatives on request.

The Department reserves the right to perform or require the performance of a Method 9 opacity evaluation.

Work Practice Type	Process Material		Reference Test Method
	Code	Description	
			Method 9

Monitored Parameter		Manufacturer's Name/Model Number
Code	Description	
	OPACITY	

Limit		Limit Units	
Upper	Lower	Code	Description
20%			PERCENT

Averaging Method		Monitoring Frequency		Reporting Requirements	
Code	Description	Code	Description	Code	Description
	6-MINUTE AVERAGE (METHOD 9)		AS REQUIRED – SEE PERMIT MONITORING DESCRIPTION		UPON REQUEST BY REGULATORY AGENCY

New York State Department of Environmental Conservation
Air Permit Application

DEC ID
9 - 2 9 1 1 - 0 0 0 3 6

Section III - Facility Information (continued)

Facility Compliance Certification (continuation)

Rule Citation

Title	Type	Part	Subpart	Section	Subdivision	Paragraph	Subparagraph	Clause	Subclause
~~6~~	~~NYCRR~~	~~212~~		~~10~~	~~(a)~~				

☒ Applicable Federal Requirement ☐State Only Requirement	☐ Capping	CAS Number	Contaminant Name

Monitoring Information

☐ Intermittent Emission Testing ☐ Ambient Air Monitoring ☐ Record Keeping/Maintenance Procedures ☐ Work Practice Involving Specific Operations

Compliance Activity Description

(PC #9)

~~Owners and/or operators of facilities located outside of the lower Orange County and New York City metropolitan areas with an annual potential to emit of 100 tons or more of nitrogen oxides or 50 tons or more of volatile organic compounds must comply with the requirements of section 212.10 Reasonably Available Control Technology for major facilities.~~

COMMENTS: *It is requested that this permit condition be deleted, as the facility is capped below the major source threshold for VOCs.*

Work Practice Type	Process Material		Reference Test Method
	Code	Description	

Monitored Parameter		Manufacturer's Name/Model Number
Code	Description	

Limit		Limit Units	
Upper	Lower	Code	Description

Averaging Method		Monitoring Frequency		Reporting Requirements	
Code	Description	Code	Description	Code	Description

New York State Department of Environmental Conservation
Air Permit Application

DEC ID
9-291-00036

Section III - Facility Information (continued)

Facility Compliance Certification (continuation)

Rule Citation

Title	Type	Part	Subpart	Section	Subdivision	Paragraph	Subparagraph	Clause	Subclause
6	NYCRR	212	2	1					

☒ Applicable Federal Requirement ☐ State Only Requirement	☐ Capping	CAS Number	Contaminant Name

Monitoring Information

☐ Intermittent Emission Testing ☐ Ambient Air Monitoring ☐ Record Keeping/Maintenance Procedures ☐ Work Practice Involving Specific Operations

Compliance Activity Description

In order to comply with the revised version of 6 NYCRR Part 212, the facility has submitted a 6 NYCRR Part 212 Applicability Assessment and Air Quality Modeling Protocol for approval by the NYSDEC. This assessment/protocol shall include a complete list of facility process emissions, including contaminants, as well as an assessment regarding the emissions that are subject to air dispersion modeling.

Within 90 days of NYSDEC approval of the modeling protocol, the facility shall submit a report that provides the results of the air dispersion modeling and the Part 212 compliance methodology.

Work Practice Type	Process Material		Reference Test Method
	Code	Description	

Monitored Parameter		Manufacturer's Name/Model Number
Code	Description	

Limit		Limit Units	
Upper	Lower	Code	Description

Averaging Method		Monitoring Frequency		Reporting Requirements	
Code	Description	Code	Description	Code	Description

DEC ID
9 - 2 9 1 1 - 0 0 0 3 6

Section IV - Emission Unit Information

Emission Unit	Emission Point	Process	Emission Source	Emission Unit Applicable Federal Requirements ☐ Continuation Sheet(s)									
				Title	Type	Part	Sub Part	Section	Sub Division	Parag.	Sub Parag.	Clause	Sub Clause
0-ANIST				6	NYCRR	212	2	~~4~~ 1	~~b~~				***(PC #10)***
0-ANIST		AST	0F106	40	CFR	60	Kb	116b	b				***(PC #11)***
0-RECYC				6	NYCRR	212	2	~~3~~ 1	~~a~~				***(PC #12)***
0-RECYC		107		40	CFR	60	Kb	116b	b				***(PC #13)***
0-TOLST				6	NYCRR	212	2	~~3~~ 1	~~a~~				***(PC #14)***
0-TOLST				40	CFR	60	Kb	116b	b				***(PC #15)***
~~U-000D1~~ U-000N3		ETA		6	NYCRR	212	2	~~4~~ 1	~~a~~				***(PC #16)***
~~U-000D1~~ U-000N3		ETB		6	NYCRR	212	2	~~4~~ 1	~~a~~				***(PC #17)***
U-000N3	000N3	ETB	000D2	6	NYCRR	212	2	1					***(PC NEW)***
U-000N2				6	NYCRR	212	2	~~4~~ 1	~~a~~				***(PC #18)***
U-000N3				6	NYCRR	212	2	~~5~~ 1	~~d~~				***(PC #2-6)***
U-000N3				6	NYCRR	212	2	~~5~~ 1	~~d~~				***(PC #19)***
U-000N4				6	NYCRR	212	2	~~4~~ 1	~~a~~				***(PC #21)***
U-32034				6	NYCRR	212	2	~~5~~ 1	~~d~~				***(PC #2-7)***
U-3393A	3393A			6	NYCRR	212	2	~~4~~ 1	~~a~~				***(PC #23)***
U-3393A	3393A			6	NYCRR	212	2	~~4~~ 1	~~a~~				***(PC #24)***
U-F0101				6	NYCRR	229		3	e	2	iv		***(PC #25)***
~~U-F0112~~ 0-TOLST				6	NYCRR	229		3	e	2	iv		***(PC #26)***
~~W-STWTR~~	~~0C2EO~~	~~AIR~~		~~6~~	~~NYCRR~~	~~212~~		~~10~~	~~e~~	~~4~~	~~(i)~~		***(PC #27)***
W-STWTR	F1862	TAN		6	NYCRR	212	2	~~4~~ 1	~~a~~				***(PC #28)***

DEC ID
9 - 2 9 1 1 - 0 0 0 3 6

Section IV - Emission Unit Information

Emission Unit Compliance Certification (continuation)

Rule Citation

Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	Sub Clause
6	NYCRR	212	2	4 1	~~b~~				

☒ Applicable Federal Requirement ☐ State Only Requirement ☐ Capping

Emission Unit	Emission Point	Process	Emission Source	CAS No.	Contaminant Name
0-ANIST				62-53-3	ANILINE

Monitoring Information

☐ Continuous Emission Monitoring
☐ Intermittent Emission Testing
☐ Ambient Air Monitoring
☒ Monitoring of Process or Control Device Parameters as Surrogate
☐ Work Practice Involving Specific Operations
☐ Record Keeping/Maintenance Procedures

Description

(PC #10)

Aniline emissions from storage tanks 0F109 and 0F106 are each vented to a carbon canister. The carbon will be monitored monthly using a combustion gas meter. When levels of aniline detected at the outlet of the carbon canisters exceed 10% of the lower explosive limit (LEL=1.3%), the carbon drums will be replaced within 24 hours.

Records shall be kept noting the date of each monthly reading and the VOC level detected along with the date of the carbon replacement. The emission rate potential (ERP) from each tank has been calculated at less than 1 pound per hour. Aniline is assigned an environmental rating of 'A' and the canisters will provide a control efficiency of 95%. Consistent with the provisions of 6NYCRR, ~~Part 212.4(b)~~ Part 212-2.1(a), this has been determined to be an acceptable degree of control.

Each tank has been equipped with submerged fill.

The facility shall keep on-site, records showing the dimension of each storage tank and an analysis showing the capacity of the tank. These records shall be kept on-site for the life of the vessel and made available to Department representatives on request.

COMMENTS: *Under the revised version of 6 NYCRR Part 212 that became effective on 6/14/2015, emissions of aniline will be subject to the requirements of §212-2.1. Under the current version of DAR-1 (dated 2/12/2021), aniline has a Toxicity Classification of "High" and would continue to have an environmental rating of "High". (NOTE: This compound is a liquid and an HTAC).*

Work Practice Type	Process Material Code	Process Material Description	Reference Test Method

Parameter Code	Parameter Description	Manufacturer Name/Model No.
	LOWER EXPLOSIVE LIMIT	

Limit Upper	Limit Lower	Limit Units Code	Limit Units Description
10%			PERCENT

Averaging Method Code	Averaging Method Description	Monitoring Frequency Code	Monitoring Frequency Description	Reporting Requirements Code	Reporting Requirements Description
	MAXIMUM – NOT TO EXCEED STATED VALUE-SEE MONITORING DESCRIPTION		MONTHLY		UPON REQUEST BY REGULATORY AGENCY

DEC ID										
9	-	2	9	1	1	-	0	0	3	6

Section IV - Emission Unit Information

Emission Unit Compliance Certification (continuation)

Rule Citation

Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	Sub Clause
~~40~~	~~CFR~~	~~60~~	~~Kb~~	~~116b~~	~~b~~				

☒ Applicable Federal Requirement ☐ State Only Requirement ☐ Capping

Emission Unit	Emission Point	Process	Emission Source	CAS No.	Contaminant Name
~~0-ANIST~~		~~AST~~	~~0F106~~	~~62-53-3~~	~~ANILINE~~

Monitoring Information

☐ Continuous Emission Monitoring ☐ Monitoring of Process or Control Device Parameters as Surrogate
☐ Intermittent Emission Testing ☐ Work Practice Involving Specific Operations
☐ Ambient Air Monitoring ☒ Record Keeping/Maintenance Procedures

Description

(PC #11)

~~The New Source Performance Standards (NSPS), for Volatile Organic Liquid Storage Vessels, 40CFR Part 60.110b is applicable to each storage tank with a capacity greater than 40 cubic meters (10,568 gallons) which have commenced construction or modification after July 23, 1984.~~

~~The aniline storage tanks identified as tank F0106 having a capacity of 15,900 gallons and a start-up date of 07/01/1986 is subject only to the recordkeeping requirements of this subpart as specified in paragraph (b) of 60.116b.~~

~~(b)The facility shall keep on-site, records showing the dimension of the storage tank and an analysis showing the capacity of the tank. These records shall be kept on-site for the life of the vessel and made available to Department representatives on request.~~

COMMENTS: *Per 40 CFR 60.110b(a), Subpart Kb applies to "each storage vessel with a capacity greater than or equal to 75 cubic meters (m3) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984, and on or before October 4, 2023"*. *Because the tank has a capacity of less than 75m^3 (19,800 gallons), this requirement must be deleted.*

Work Practice Type	Process Material Code	Process Material Description	Reference Test Method

Parameter Code	Parameter Description	Manufacturer Name/Model No.

Limit Upper	Limit Lower	Limit Units Code	Limit Units Description

Averaging Method Code	Averaging Method Description	Monitoring Frequency Code	Monitoring Frequency Description	Reporting Requirements Code	Reporting Requirements Description
			~~AS REQUIRED- SEE PERMIT MONITORING DESCRIPTION~~		~~UPON REQUEST BY REGULATORY AGENCY~~

DEC ID										
9	-	2	9	1	1	-	0	0	0	3	6

Section IV – Emission Unit Information

Emission Unit Compliance Certification (continuation)

Rule Citation

Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	Sub Clause
6	NYCRR	212	2	~~3~~ 1	~~a~~				

☒ Applicable Federal Requirement ☐ State Only Requirement ☐ Capping

Emission Unit	Emission Point	Process	Emission Source	CAS No.	Contaminant Name
0-RECYC				95-53-4; 108-95-2; 122-39-4; ~~1300-73-8;~~ 62-53-3; 95-47-6	BENZENAMINE, 2-METHYL; PHENOL; BENZENAMINE, N-PHENYL; ~~BENEZENAMINE,AR,AR-DIMETHYL-C8H11N;~~ ANILINE O-XYLENE

Monitoring Information

☐ Continuous Emission Monitoring
☐ Intermittent Emission Testing
☐ Ambient Air Monitoring
☐ Monitoring of Process or Control Device Parameters as Surrogate
☐ Work Practice Involving Specific Operations
☒ Record Keeping/Maintenance Procedures

Description

(PC #12)

The recycle tanks identified as F0103, F0104 and F0107 contain a mixture of aniline, phenol, o-toludine, and diphenylamine (DPA), ~~and mixed xylidines~~ o-xylene. Each of these contaminants is assigned an environmental rating of 'A' with emission rate potentials calculated as less than 1 pound per hour. The tanks have submerged fill and along with the preventative maintenance program established by the facility will constitute compliance with 6NYCRR, Part 212.

Goodyear shall make available records of tank inspection and maintenance to this Department on request.

COMMENTS:

(1) *Under the revised version of 6 NYCRR Part 212 that became effective on 6/14/2015, emissions of the four indicated compounds will be subject to the requirements of §212-2.1. Under the current version of DAR-1 (dated 2/12/2021), aniline and o-toluidine have a Toxicity Classification of "High" and would continue to have an environmental rating of "High". Both of these compounds are liquids and HTACs.*

Phenol and DPA are both solids at room temperature. Under DAR-1, phenol, has a Toxicity Classification of "Moderate" and DPA has no classification. If the NYSDEC determines that DPA merits and environmental classification of "Moderate" and the results of the air dispersion modeling for both compounds support an environmental rating of "B", a separate permit condition for phenol and DPA could be issued that cites the particulate standard of 6 NYCRR 212-2.4(b) as the basis. However, in order to eliminate duplicate monitoring requirements in the permit, it is preferable to keep all four contaminants in the same monitoring condition, citing §212-2.1 as the basis.

(2) *Please make the indicated correction to the content of the recycle tanks.*

Work Practice Type	Process Material Code	Process Material Description	Reference Test Method

Parameter Code	Parameter Description	Manufacturer Name/Model No.

Limit Upper	Limit Lower	Limit Units Code	Limit Units Description

Averaging Method Code	Averaging Method Description	Monitoring Frequency Code	Monitoring Frequency Description	Reporting Requirements Code	Reporting Requirements Description
			AS REQUIRED – SEE PERMIT		UPON REQUEST BY

DEC ID
9-291-00036

			MONITORING DESCRIPTION		REGULATORY AGENCY

DEC ID										
9	-	2	9	1	1	-	0	0	3	6

Section IV - Emission Unit Information

Emission Unit Compliance Certification (continuation)

Rule Citation

Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	Sub Clause
~~40~~	~~CFR~~	~~60~~	~~Kb~~	~~116b~~	~~b~~				

☒ Applicable Federal Requirement ☐ State Only Requirement ☐ Capping

Emission Unit	Emission Point	Process	Emission Source	CAS No.	Contaminant Name
~~0 RECYC~~		~~107~~		~~0NY998-00-0~~	~~VOC~~

Monitoring Information

☐ Continuous Emission Monitoring
☐ Intermittent Emission Testing
☐ Ambient Air Monitoring
☐ Monitoring of Process or Control Device Parameters as Surrogate
☐ Work Practice Involving Specific Operations
☒ Record Keeping/Maintenance Procedures

Description

(PC #13)

~~The New Source Performance Standards (NSPS), for Volatile Organic Liquid Storage Vessels, 40CFR Part 60.110b is applicable to each storage tank with a capacity greater than 40 cubic meters (10,568 gallons).~~

~~The recycle storage tank identified as tank F0107, having a capacity of 14,768 gallons and a start-up date of 04/1986 is subject only to the recordkeeping requirements of this subpart as specified in paragraph (b) of 60.116b.~~

~~(b)The facility shall keep on-site, records showing the dimension of the storage tank and an analysis showing the capacity of the tank. These records shall be kept on-site for the life of the vessel and made available to Department representatives on request.~~

COMMENTS: *Per 40 CFR 60.110b(a), Subpart Kb applies to "each storage vessel with a capacity greater than or equal to 75 cubic meters (m3) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984, and on or before October 4, 2023"*. *Because the tank has a capacity of less than 75m^3 (19,800 gallons), this requirement must be deleted.*

Work Practice Type	Process Material Code	Process Material Description	Reference Test Method

Parameter Code	Parameter Description	Manufacturer Name/Model No.

Limit Upper	Limit Lower	Limit Units Code	Limit Units Description

Averaging Method Code	Averaging Method Description	Monitoring Frequency Code	Monitoring Frequency Description	Reporting Requirements Code	Reporting Requirements Description
			~~AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION~~		~~UPON REQUEST BY REGULATORY AGENCY~~

DEC ID
9-291100036

Section IV - Emission Unit Information

Emission Unit Compliance Certification (continuation)

Rule Citation

Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	Sub Clause
6	NYCRR	212	2	~~3~~ 1	~~a~~				

☒ Applicable Federal Requirement ☐ State Only Requirement ☐ Capping

Emission Unit	Emission Point	Process	Emission Source	CAS No.	Contaminant Name
0-TOLST				95-53-4	BENZENAMINE, 2-METHYL

Monitoring Information

☐ Continuous Emission Monitoring
☐ Intermittent Emission Testing
☐ Ambient Air Monitoring
☐ Monitoring of Process or Control Device Parameters as Surrogate
☐ Work Practice Involving Specific Operations
☒ Record Keeping/Maintenance Procedures

Description

(PC #14)

o-Toluidine, a hazardous air pollutant (HAP) and "A" rated contaminant, is unloaded from tank trucks, isotainers or railcars into temperature controlled atmospheric storage vessels identified as emission sources F0108, F0110 and F0112. Emissions of o-toluidine are assigned an environmental rating of 'A' and the emission rate potential has been calculated as less than 1 pound per hour. The tanks are equipped with submerged fill and conservation vents and along with the preventative maintenance program established by the facility will constitute compliance with 6NYCRR Part 212.

Goodyear shall make available records of tank inspection and maintenance to the Department on request.

COMMENTS:

(1) Under the revised version of 6 NYCRR Part 212 that became effective on 6/14/2015, emissions o-toluidine will be subject to the requirements of §212-2.1. Under the current version of DAR-1 (dated 2/12/2021), o-toluidine has a Toxicity Classification of "High" and would continue to have an environmental rating of "High". (NOTE: This compound is a liquid and an HTAC).

(2) Please make the indicated correction to the content of the emission sources.

Work Practice Type	Process Material Code	Process Material Description	Reference Test Method

Parameter Code	Parameter Description	Manufacturer Name/Model No.

Limit Upper	Limit Lower	Limit Units Code	Limit Units Description

Averaging Method Code	Averaging Method Description	Monitoring Frequency Code	Monitoring Frequency Description	Reporting Requirements Code	Reporting Requirements Description
			AS REQUIRED – SEE PERMIT MONTIORING DESCRIPTION		UPON REQUEST BY REGULATORY AGENCY

DEC ID
9-291100036

Section IV - Emission Unit Information

Emission Unit Compliance Certification (continuation)

Rule Citation

Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	Sub Clause
~~40~~	~~CFR~~	~~60~~	~~Kb~~	~~116b~~	~~b~~				

☒ Applicable Federal Requirement ☐ State Only Requirement ☐ Capping

Emission Unit	Emission Point	Process	Emission Source	CAS No.	Contaminant Name
~~0-TOLST~~					

Monitoring Information

☐ Continuous Emission Monitoring
☐ Intermittent Emission Testing
☐ Ambient Air Monitoring
☐ Monitoring of Process or Control Device Parameters as Surrogate
☐ Work Practice Involving Specific Operations
☒ Record Keeping/Maintenance Procedures

Description

(PC #15)

~~The New Source Performance Standards (NSPS), for Volatile Organic Liquid Storage Vessels, 40CFR Part 60.110b is applicable to each storage tank with a capacity greater than 40 cubic meters (10,568 gallons) which have commenced construction or modification after July 23, 1984.~~

~~The o-toluidine storage tanks identified as tank F0108 and F0110, each having a capacity of 15,928 gallons and a start-up dates of 08/01/1990 and 10/01/1987 respectively, are subject only to the recordkeeping requirements of this subpart as specified in paragraph (b) of 60.116b.~~

~~(b)The facility shall keep on-site, records showing the dimension of the storage tank and an analysis showing the capacity of the tank. These records shall be kept on-site for the life of the vessel and made available to Department representatives on request.~~

COMMENTS: *Per 40 CFR 60.110b(a), Subpart Kb applies to "each storage vessel with a capacity greater than or equal to 75 cubic meters (m3) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984, and on or before October 4, 2023"*. *Because the tank has a capacity of less than 75m^3 (19,800 gallons), this requirement must be deleted.*

Work Practice Type	Process Material Code	Process Material Description	Reference Test Method

Parameter Code	Parameter Description	Manufacturer Name/Model No.

Limit Upper	Limit Lower	Limit Units Code	Limit Units Description

Averaging Method Code	Averaging Method Description	Monitoring Frequency Code	Monitoring Frequency Description	Reporting Requirements Code	Reporting Requirements Description
			~~AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION~~		~~UPON REQUEST BY REGULATORY AGENCY~~

DEC ID
9-291100036

Section IV - Emission Unit Information

Emission Unit Compliance Certification (continuation)

Rule Citation

Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	Sub Clause
6	NYCRR	212	2	~~4~~ 1	~~a~~				

☒ Applicable Federal Requirement ☐ State Only Requirement ☐ Capping

Emission Unit	Emission Point	Process	Emission Source	CAS No.	Contaminant Name
~~U-000D1~~ U-000N3		ETA		95-47-6; 95-53-4; 108-95-2; 62-53-3	BENZENE, 1,2-DIMETHYL; BENZENAMINE, 2-METHYL; PHENOL; ANILINE

Monitoring Information

☐ Continuous Emission Monitoring
☐ Intermittent Emission Testing
☐ Ambient Air Monitoring
☒ Monitoring of Process or Control Device Parameters as Surrogate
☐ Work Practice Involving Specific Operations
☐ Record Keeping/Maintenance Procedures

Description

(PC #16)

The emission rate potentials (from elimination tank #1) of xylene, aniline, phenol, and o-toluidine which are less than 1 pound per hour for each contaminant will be controlled by two outlet heat exchangers (condensors) connected in series. ~~An Air GuideDAR-1 analysis indicates the potential aniline impact to be 3.4% of less than the AGC (0.6 ug/m3). The potential impact of o-toluidine is less than the AGC (21 2.0E-02 ug/m3).~~ The potential annual impacts are restricted by the 3,450 batch per year limit.

The elimination tank #1 heat exchanger system temperatures will be continuously monitored at the condenser outlet to verify that the system is operating properly. Once per shift, the operator reviews the thermal temperature data for the condenser outlet and records the outlet temperature on a log sheet. This data will be maintained on-site for a period of five years, along with a log of condenser maintenance and repair activities. In the event that the process stream temperature exceeds 50 degrees centigrade from the first exchanger (cooling tower water), the facility will immediately respond and conduct an investigation to determine the cause of the elevated temperature. If the temperature exceeds 45 degrees centigrade from the second exchanger (chilled water), the cause of the elevated temperature will be investigated and corrective actions implemented if necessary, including but not limited to heat exchanger cleaning if exchangers are plugged. (Note: At times when the process is not venting a gas stream to the condensers, the ambient temperature in the area can cause the temperature to rise above 45 degrees C).

Heat exchangers are covered by the Plant Process Safety Management Program which includes mechanical integrity inspections performed according to PSM regulations and maintained accordingly.

This process will be routed to the same wet scrubber and RTO as Elimination Tank #2.

COMMENTS:

(1) *Under the revised version of 6 NYCRR Part 212 that became effective on 6/14/2015, emissions of the four indicated compounds will be subject to the requirements of §212-2.1. Under the current version of DAR-1 (dated 2/12/2021), aniline and o-toluidine have a Toxicity Classification of "High" and would continue to have an environmental rating of "High". Both of these compounds are liquids.*

Xylene is a liquid at room temperature.

Phenol is a solid at room temperature. Under DAR-1, phenol, has a Toxicity Classification of "Moderate. If the results of the air dispersion modeling for phenol supports an environmental rating of "B", a separate permit condition for phenol could be issued that cites the particulate standard of 6 NYCRR 212-2.4(b) as the basis. However, in order to eliminate duplicate monitoring requirements in the permit, it is preferable to keep all four contaminants in the same monitoring condition, citing §212-2.1 as the basis.

Work Practice Type	Process Material Code	Process Material Description	Reference Test Method

Parameter Code	Parameter Description	Manufacturer Name/Model No.
	TEMPERATURE	

DEC ID
9-291-00036

Limit		Limit Units	
Upper	Lower	Code	Description
45			Degrees Celsius

Averaging Method		Monitoring Frequency		Reporting Requirements	
Code	Description	Code	Description	Code	Description
	MAXIMUM – NOT TO EXCEED STATED VALUE – SEE MONITORING DESCRIPTION		PER SHIFT		UPON REQUEST BY REGULATORY AGENCY

New York State Department of Environmental Conservation
Air Permit Application

DEC ID
9-291100036

Section IV - Emission Unit Information

Emission Unit Compliance Certification (continuation)

Rule Citation

Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	Sub Clause
40	NYCRR	212	2	~~4~~ 1	~~b~~				

☒ Applicable Federal Requirement ☐ State Only Requirement ☐ Capping

Emission Unit	Emission Point	Process	Emission Source	CAS No.	Contaminant Name
~~U-000D1~~ U-000N3		ETB		95-47-6 62-53-3 95-53-4	BENZENE,1,2-DIMETHYL ANILINE o-TOLUIDINE

Monitoring Information

☐ Continuous Emission Monitoring
☐ Intermittent Emission Testing
☐ Ambient Air Monitoring
☒ Monitoring of Process or Control Device Parameters as Surrogate
☐ Work Practice Involving Specific Operations
☐ Record Keeping/Maintenance Procedures

Description

(PC #17)

Emissions of volatile organic compounds (VOC) and hazardous air pollutants (HAPs) from Elimination Tank #2 are controlled by a one outlet two pass vapor condenser system then routed to a new RTO. ~~The efficiency of the condenser systems is estimated at 80 %; while~~ The new RTO has a rated control efficiency of 90%. The emission rate potential of xylene is less than 3 pounds per hour; aniline, phenol, and o-toluidine which are 'A' rated contaminants are less than 1 pound per hour. O-xylene (a 'B' rated contaminant) has an emission rate potential of less than 1 pound per hour.

~~An Air Guide-1~~ A DAR-1 analysis of aniline, o-toluidine, and xylene emissions from EP ~~000D2~~ 000N3 will be conducted pending Department approval of the air dispersion modeling (AERMOD) protocol. ~~indicates the actual annual impact to be at 8.5% of the AGC(0.6 ug/m3) and the potential aniline impact is 21% of less than the AGC. The potential o-toluidine impact is 0.15% of less than the AGC (21 2.0E-02 ug/m3). Potential xylene impacts are at 2.8% of less than the AGC (100 ug/m3).~~ The potential annual impacts are restricted by the 3,450 batch per year limit.

The elimination tank #2 heat exchanger system temperatures will be continuously monitored at the condenser outlet to verify that the system is operating properly. Once per shift, the operator reviews the thermal temperature data for the condenser outlet and records the outlet temperature on a log sheet. This data will be maintained on-site for a period of five years, along with a log of condenser maintenance and repair activities. In the event that the condenser vent gas temperature exceeds 45 degrees centigrade from the heat exchanger (chilled water), the cause of the elevated temperature will be investigated and corrective actions implemented if necessary, including but not limited to heat exchanger cleaning if exchangers are plugged. (Note: At times when the process is not venting a gas stream to the condensers, the ambient temperature in the area can cause the temperature to rise above 45 degrees C).

Heat exchangers are covered by the Plant Process Safety Management Program which includes mechanical integrity inspections performed according to PSM program and maintained accordingly.

COMMENTS:

(1) *Under the revised version of 6 NYCRR Part 212 that became effective on 6/14/2015, emissions of the three indicated compounds will be subject to the requirements of §212-2.1. Under the current version of DAR-1 (dated 2/12/2021), aniline and o-toluidine have a Toxicity Classification of "High" and would continue to have an environmental rating of "High". Both of these compounds are liquids and HTACs.*

O-xylene is a liquid at room temperature. Under DAR-1, o-xylene has a Toxicity Classification of "Moderate".

Work Practice Type	Process Material Code	Process Material Description	Reference Test Method

Parameter Code	Parameter Description	Manufacturer Name/Model No.

Limit	Limit Units

DEC ID
9-291-00036

Upper	Lower	Code	Description
45			Degrees Celsius

Averaging Method		Monitoring Frequency		Reporting Requirements	
Code	Description	Code	Description	Code	Description
	MAXIMUM – NOT TO EXCEED STATED VALUE- SEE MONITORING DESCRIPTION		PER SHIFT		UPON REQUEST BY REGULATORY AGENCY

New York State Department of Environmental Conservation
Air Permit Application

DEC ID
9-291100036

Emission Unit Compliance Certification (continuation)

Rule Citation

Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	Sub Clause
40	NYCRR	212	2	1					

☒ Applicable Federal Requirement ☐ State Only Requirement ☐ Capping

Emission Unit	Emission Point	Process	Emission Source	CAS No.	Contaminant Name
U-000N3	000N3	ETB	000D2	62-53-3	ANILINE
		ETA	000D1	108-95-2	PHENOL
				95-53-4	BENZENAMINE,2-METHYL
				95-47-6	BENZENE, 1,2-DIMETHYL

Monitoring Information

☐ Continuous Emission Monitoring
☐ Intermittent Emission Testing
☐ Ambient Air Monitoring
☒ Monitoring of Process or Control Device Parameters as Surrogate
☐ Work Practice Involving Specific Operations
☐ Record Keeping/Maintenance Procedures

Description

(PC NEW)

The regenerative thermal oxidizer (RTO) shall be maintained at or above the temperature required to achieve the required 90% destruction efficiency of HAPs and VOCs from the Elimination Tank #2 process. The exact temperature range and destruction efficiency shall be determined during Department approved stack testing of the RTO after installation. Upon approval of the stack test report, the facility shall maintain the combustion temperature of the RTO at or above the combustion temperature used during the stack test.

The Facility shall investigate and document any one-hour average combustion temperature that drops more than 50 degrees Fahrenheit (°F) below the established minimum for more than three consecutive hours and initiate corrective action as necessary.

All temperature data shall be recorded continuously and maintained for a period of five years in a format acceptable to the Department.

Work Practice Type	Process Material Code	Process Material Description	Reference Test Method

Parameter Code	Parameter Description	Manufacturer Name/Model No.

Limit Upper	Limit Lower	Limit Units Code	Limit Units Description
TBD	TBD		DEGREES FAHRENHEIT

Averaging Method Code	Averaging Method Description	Monitoring Frequency Code	Monitoring Frequency Description	Reporting Requirements Code	Reporting Requirements Description
	RANGE - SEE MONITORING DESCRIPTION		PER SHIFT		UPON REQUEST BY REGULATORY AGENCY

DEC ID
9-291100036

Section IV – Emission Unit Information

Emission Unit Compliance Certification (continuation)

Rule Citation

Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	Sub Clause
6	NYCRR	212	2	~~4~~ 1	~~a~~				

☒ Applicable Federal Requirement ☐ State Only Requirement ☐ Capping

Emission Unit	Emission Point	Process	Emission Source	CAS No.	Contaminant Name
U-000N2				122-39-4	BENZENAMINE, N-PHENYL

Monitoring Information

☐ Continuous Emission Monitoring
☐ Intermittent Emission Testing
☐ Ambient Air Monitoring
☒ Monitoring of Process or Control Device Parameters as Surrogate
☐ Work Practice Involving Specific Operations
☐ Record Keeping/Maintenance Procedures

Description

(PC #18)

~~The emission rate potential~~ For diphenylamine, **a 'B'** ~~an "A"~~ rated compound, ~~exceeds 1 pound per hour and will require an emission control efficiency of 99% for the dust collector on the packaging system.~~ compliance with the provisions of 6 NYCRR,Part 212.~~4(a)~~ **2** ~~and 212.9 Table 2~~ will be demonstrated by the operation of the fabric filter dust collector system in accordance with the operational and preventative maintenance programs established by Goodyear.

~~An DAR-1 analysis indicates potential annual impacts of diphenylamine from this source to be 21.2% of~~ **less than** ~~the AGC (24 ug/m3) and actual impacts to be 0.34% of the AGC~~. A facility-wide DAR-1 Analysis using a Department-approved AERMOD Protocol will be performed to demonstrate compliance with the requirements of 6 NYCRR Part 212.

The pressure drop across the antioxidant packaging dust collector will be continuously indicated and recorded by the operator once per shift to verify that the system is operating properly. The differential pressure operating range for the dust collector is between 2 and 11 inches of water. In the event that the pressure drop is out of range, the facility will respond immediately and conduct an incident investigation to determine the cause. If the condition cannot be readily resolved and visible emissions are observed from the stack, the system will be shut down until the condition is remedied.

The exception will occur when new bags are installed in the dust collector and until they are coated, a differential pressure of less than 2" of water may occur.

Records of the pressure drop readings and bag house maintenance (including bag replacements) shall be kept on-site for a period of 5 years and made available to Department representatives on request.

COMMENTS:

(1) *Under the revised version of 6 NYCRR Part 212 that became effective on 6/14/2015, emissions of the diphenylamine will be subject to the requirements of §212-2.1. Under the current version of DAR-1 (dated 2/12/2021), aniline and o-toluidine have a Toxicity Classification of "High" and would continue to have an environmental rating of "High". Both of these compounds are liquids and HTACs.*

DPA is a solid at room temperature. Under DAR-1, DPA has no toxicity classification. If the NYSDEC determines that DPA merits an environmental classification of "Moderate" and the results of the air dispersion modeling support an environmental rating of "B", the NYSDEC may consider citing the particulate standard of 6 NYCRR 212-2.4(b) as the basis of this condition (rather than 212-2.1).

Work Practice Type	Process Material Code	Process Material Description	Reference Test Method

Parameter Code	Parameter Description	Manufacturer Name/Model No.
	PRESSURE DROP	

Limit Upper	Limit Lower	Limit Units Code	Limit Units Description
11	2		INCHES OF WATER

DEC ID
9-291-00036

Averaging Method		Monitoring Frequency		Reporting Requirements	
Code	Description	Code	Description	Code	Description
	RANGE – NOT TO FALL OUTSIDE OF STATED RANGE AT ANY TIME		PER SHIFT		UPON REQUEST BY REGULATORY AGENCY

DEC ID
9-291100036

Section IV - Emission Unit Information

Emission Unit Compliance Certification (continuation)

Rule Citation

Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	Sub Clause
6	NYCRR	212	2	~~5~~-1	~~d~~				

☒ Applicable Federal Requirement ☐ State Only Requirement ☐ Capping

Emission Unit	Emission Point	Process	Emission Source	CAS No.	Contaminant Name
U-000N3				122-39-4; 95-53-4; 95-47-6; 108-95-2 62-53-3	BENZENAMINE, N-PHENYL; BENZENAMINE, 2-METHYL; BENZENE,1,2-DIMETHYL; PHENOL; ANILINE

Monitoring Information

☐ Continuous Emission Monitoring
☐ Intermittent Emission Testing
☐ Ambient Air Monitoring
☒ Monitoring of Process or Control Device Parameters as Surrogate
☐ Work Practice Involving Specific Operations
☐ Record Keeping/Maintenance Procedures

Description

(PC #2-6)

The new wet scrubber and RTO, which ~~was~~ will be installed in ~~1992~~ TBD to replace the 1992 Tri-Mer Whirlwet scrubber, controls emissions of DPA, o-toluidine, aniline, phenol and xylene and other compounds. Stack testing will be performed after installation and startup of the new scrubber. ~~Stack testing performed in March 2010, indicates that when the centrifuge and flaker are operating simultaneously, the emission rate potential (ERP) of diphenylamine (DPA) is in excess of 1 pound per hour and as **a 'B'** an 'A' rated compounds is required by 6NYCRR, Part 212.4(a) and Table 2 to be controlled to a minimum of 99%.~~ The wet scrubber ~~which was installed in 1992~~ and the RTO (which has not yet been installed) ~~has~~ have been conservatively estimated to have a control efficiency of 90% for particulates and VOCs. ~~A DAR-1 screening for DPA indicates that the potential annual concentration (1.06 lb/hour) for DPA to be 5.5% of the AGC (24 ug/m3). The short-term (1-hour) impact is calculated at 11.91 ug/m3 or 0.5% of the short-term guideline concentration (SGC) of 2,400 ug/m3.~~

Emission rate potentials for aniline and o-toluidine 'A' rated compounds, are estimated to be less than 1 pound per hour. ~~An DAR-1 screening for aniline indicates the potential impact at 133% of the AGC (0.6 ug/m3) and an actual annual impact at 79% of the AGC. Potential o-toluidine impacts are 2.95% of the SGC (880 ug/m3) and 10% of **less than** the AGC (21 **2.0E-02** ug/m3).~~ The potential annual impact will be restricted by the 3,450 batches per year limit on which the actual impacts are based. ~~Phenol and xylene emissions were also evaluated and determined to be below their respective AGCs and SGCs.~~
~~A discussion of various control technologies was submitted in 02/20/2009. In consideration of the ERPs and associated AGC and SGC impacts, the scrubber and 90% control efficiency will be accepted as Best Available Control Technology (BACT) for DPA and meeting the requirements of 6NYCRR, Part 212.4(a).~~

~~Should new scientific evidence from a recognized institution result in a decision by this Department that lower ambient guideline concentrations be established for DPA, aniline or o-toluidine, it may be necessary to reduce emissions from this source.~~

COMMENTS:

(1) *Under the revised version of 6 NYCRR Part 212 that became effective on 6/14/2015, emissions of the five indicated compounds will be subject to the requirements of §212-2.1. Under the current version of DAR-1 (dated 2/12/2021), aniline and o-toluidine (CAS 95-53-4) have a Toxicity Classification of "High" and would continue to have an environmental rating of "High". Both of these compounds are liquids and HTACs.*

O-Xylene is a liquid at room temperature.

Phenol and DPA are both solids at room temperature. Under DAR-1, phenol, has a Toxicity Classification of "Moderate" and DPA has no classification. If the NYSDEC determines that DPA merits an environmental classification of "Moderate" and the results of the air dispersion modeling for both compounds support an environmental rating of "B", a separate permit condition for phenol and DPA could be issued that cites the particulate standard of 6 NYCRR 212-2.4(b) as the basis. However, in order to eliminate duplicate monitoring requirements in the permit, it is preferable to keep all four contaminants in the same monitoring condition, citing §212-2.1 as the basis.

Work Practice	Process Material		
Type	Code	Description	Reference Test Method

DEC ID
9-291100036

Parameter			
Code		Description	Manufacturer Name/Model No.
		BATCHES	

Limit		Limit Units	
Upper	Lower	Code	Description
3,450			Batches per year

Averaging Method		Monitoring Frequency		Reporting Requirements	
Code	Description	Code	Description	Code	Description
	MAXIMUM – NOT TO EXCEED STATED VALUE – SEE MONITORING DESCRIPTION		AS REQUIRED – SEE PERMIT MONITORING DESCRIPTION		UPON REQUEST BY REGULATORY AGENCY

DEC ID
9-291100036

Section IV - Emission Unit Information

Emission Unit Compliance Certification (continuation)

Rule Citation

Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	Sub Clause
6	NYCRR	212	2	~~5~~ 1	~~d~~				

☒ Applicable Federal Requirement ☐ State Only Requirement ☐ Capping

Emission Unit	Emission Point	Process	Emission Source	CAS No.	Contaminant Name
U-000N3				62-53-3; 95-47-6; 95-53-4; 108-95-2; 122-39-4	ANILINE; BENZENE,1,2-DIMETHYL; BENZENAMINE, 2-METHYL; PHENOL; BENZENAMINE, N-PHENYL

Monitoring Information

☐ Continuous Emission Monitoring
☐ Intermittent Emission Testing
☐ Ambient Air Monitoring
☒ Monitoring of Process or Control Device Parameters as Surrogate
☐ Work Practice Involving Specific Operations
☐ Record Keeping/Maintenance Procedures

Description

(PC #19)

The wet scrubber-associated with the drum flaker, re-melt tank, centrifuge, ~~and~~ belt pastille, and Elimination Tank #2 are ~~is~~ used to control emissions of diphenylamine, aniline, o-toluidine, xylene, and phenol. In order to maintain the minimum scrubber efficiency of 90%, the differential pressure across the column (6-12 inches) and the minimum level in the scrubber reservoir (4-8 inches of water) are recorded by the operator once per shift. Readings outside the established operating ranges will require the facility to immediately respond and conduct an investigation to determine the cause of those readings. If, based on that investigation, the facility reasonably determines the scrubber is outside the operating range corrective actions will be initiated to return the operation of the wet scrubber to within the operating range.

Readings shall be kept in a format easily accessible by Department representatives and be made available on request. Records are to be kept on-site for a period of five years.

COMMENTS:

(1) *Under the revised version of 6 NYCRR Part 212 that became effective on 6/14/2015, emissions of the five indicated compounds will be subject to the requirements of §212-2.1. Under the current version of DAR-1 (dated 2/12/2021), aniline and o-toluidine have a Toxicity Classification of "High" and would continue to have an environmental rating of "High". Both of these compounds are liquids and HTACs.*

O-Xylene is a liquid at room temperature.

Phenol and DPA are both solids at room temperature. Under DAR-1, phenol, has a Toxicity Classification of "Moderate" and DPA has no classification. If the NYSDEC determines that DPA merits an environmental classification of "Moderate" and the results of the air dispersion modeling for both compounds support an environmental rating of "B", a separate permit condition for phenol and DPA could be issued that cites the particulate standard of 6 NYCRR 212-2.4(b) as the basis. However, in order to eliminate duplicate monitoring requirements in the permit, it is preferable to keep all four contaminants in the same monitoring condition, citing §212-2.1 as the basis.

Work Practice Type	Process Material Code	Process Material Description	Reference Test Method

Parameter Code	Parameter Description	Manufacturer Name/Model No.
	PRESSURE DROP	

Limit Upper	Limit Lower	Limit Units Code	Limit Units Description
12	6		Inches of water

Averaging Method Code	Averaging Method Description	Monitoring Frequency Code	Monitoring Frequency Description	Reporting Requirements Code	Reporting Requirements Description

DEC ID
9 - 2 9 1 1 - 0 0 0 3 6

	RANGE – NOT TO FALL OUTSIDE OF STATED RANGE AT ANY TIME		PER SHIFT		UPON REQUEST BY REGULATORY AGENCY

New York State Department of Environmental Conservation
Air Permit Application

DEC ID
9 - 2 9 1 1 - 0 0 0 3 6

Section IV - Emission Unit Information

Emission Unit Compliance Certification (continuation)

Rule Citation

Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	Sub Clause
6	NYCRR	212	2	~~4~~ 1	~~a~~				

☒ Applicable Federal Requirement ☐ State Only Requirement ☐ Capping

Emission Unit	Emission Point	Process	Emission Source	CAS No.	Contaminant Name
U-000N4				122-39-4	BENZENAMINE, N-PHENYL

Monitoring Information

☐ Continuous Emission Monitoring
☐ Intermittent Emission Testing
☐ Ambient Air Monitoring
☒ Monitoring of Process or Control Device Parameters as Surrogate
☐ Work Practice Involving Specific Operations
☐ Record Keeping/Maintenance Procedures

Description

(PC #21)

The emission rate potential of diphenylamine, a 'B' ~~"A"~~ rated compound, exceeds 1 pound per hour ~~and will require an emission control efficiency of 99% for the dust collector on the vibratory conveyor and bucket elevator system.~~ Compliance with the provisions of 6NYCRR **Part 212-2** ~~Part 212.4(a) and 212.9 Table 2~~ will be demonstrated by the operation of the fabric filter dust collector system in accordance with the operational and preventative maintenance programs established by Goodyear. The pressure drop across the bucket elevator dust collector will be continuously indicated and recorded by the operator once per shift to verify that the system is operating properly. The differential pressure operating range for the dust collector is between 2 and 11 inches of water. In the event that the pressure drop is out of range, the facility will respond immediately and conduct an incident investigation to determine the cause. if the condition cannot be readily resolved and visible emissions are observed from the stack, the system will be shut down until the condition is remedied.

The exception will occur when new bags are installed in the dust collector and until they are coated, a differential pressure of less than 2" of water may occur.

Records of the pressure drop readings and baghouse maintenance (including bag replacements) shall be kept on-site for a period of 5 years and made available to Department representatives on request.

COMMENTS:

(1) *Under the revised version of 6 NYCRR Part 212 that became effective on 6/14/2015, emissions of the diphenylamine will be subject to the requirements of §212-2.1. Under the current version of DAR-1 (dated 2/12/2021), aniline and o-toluidine have a Toxicity Classification of "High" and would continue to have an environmental rating of "High". Both of these compounds are liquids and HTACs.*

DPA is a solid at room temperature. Under DAR-1, DPA has no toxicity classification. If the NYSDEC determines that DPA merits an environmental classification of "Moderate" and the results of the air dispersion modeling support an environmental rating of "B", the NYSDEC may consider citing the particulate standard of 6 NYCRR 212-2.4(b) as the basis of this condition (rather than 212-2.1).

Work Practice Type	Process Material Code	Process Material Description	Reference Test Method

Parameter Code	Parameter Description	Manufacturer Name/Model No.
	PRESSURE DROP	

Limit Upper	Limit Lower	Limit Units Code	Limit Units Description
11	2		Inches of water

Averaging Method Code	Averaging Method Description	Monitoring Frequency Code	Monitoring Frequency Description	Reporting Requirements Code	Reporting Requirements Description
	RANGE – NOT TO FALL OUTSIDE OF STATED RANGE AT ANY TIME		PER SHIFT		UPON REQUEST BY REGULATORY AGENCY

DEC ID
9 - 2 9 1 1 - 0 0 0 3 6

Section IV - Emission Unit Information

Emission Unit Compliance Certification (continuation)

Rule Citation

Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	Sub Clause
6	NYCRR	212	2	~~5~~ 1	~~d~~				

☒ Applicable Federal Requirement ☐ State Only Requirement ☐ Capping

Emission Unit	Emission Point	Process	Emission Source	CAS No.	Contaminant Name
U-32034				95-53-4; 122-39-4; 62-53-3	BENZENAMINE, 2-METHYL; BENZENAMINE, N-PHENYL; ANILINE

Monitoring Information

☐ Continuous Emission Monitoring
☐ Intermittent Emission Testing
☐ Ambient Air Monitoring
☒ Monitoring of Process or Control Device Parameters as Surrogate
☐ Work Practice Involving Specific Operations
☐ Record Keeping/Maintenance Procedures

Description

(PC #2-7)
The sparkler filter processes approximately 238 batches per year of Nailax ~~AZ, and Polystay 200~~. The filter is used for Nailax when the centrifuge is down. ~~and for all AZ and Polystay 200 produced by the facility.~~ Emissions are generated for approximately one hour when the filter is opened for cleaning. Cleaning is typically performed after processing 2 batches.

Emissions from the sparkler filter are subject to the control requirements of 6NYCRR, ~~Part 212.4(a)~~ Part 212-2.1(b) ~~and as indicated in 6NYCRR,Part 212.9 Table 2~~ Table 4. ~~The emission rate potential of diphenylamine (DPA) is 1.56 #/hour and assigned an environmental rating of **'B'** 'A' would require 99% emissions control.~~ Aniline and o-toluidine emissions, ~~also~~ 'A' rated compounds, are less than one pound per hour. There currently is no emissions control for this source.

An ~~Air Guide-1 41.4% of The AGC (annual guideline concentration) for DPA is 24 ug/m^3, aniline is 0.6 ug/m^3, and o-Toluidine (21 ug/m3). Actual AGC impacts are 0.56% for DPA, 0.25% for aniline, and 0.02% for o-toluidine.~~

~~The potential short term impacts and short-term guideline concentrations (SGC) for aniline is 0.812 (760 ug/m3); DPA is 69.35 ug/m3 (2400 ug/m3); o-toluidine is 2.4 ug/m3 (880 ug/m3).~~

This emission stream having limited hours would not be cost effective to control. Therefore, in consideration of the actual AGC impact and the restriction of 238 batches per year, no control will be accepted as BACT.

If lower ambient guideline concentrations are established, then a revised analysis will be required, and based on those results it may be necessary to reduce emissions from this source.

Records of the number of batches processed through the sparkler filter in each year are to be kept on-site and made available to Department representatives on request.

COMMENTS:

(1) *Under the revised version of 6 NYCRR Part 212 that became effective on 6/14/2015, emissions of the four indicated compounds will be subject to the requirements of §212-2.1. Under the current version of DAR-1 (dated 2/12/2021), aniline and o-toluidine have a Toxicity Classification of "High" and would continue to have an environmental rating of "High". Both of these compounds are liquids and HTACs.*

DPA is a solid at room temperature. Under DAR-1, DPA has no Toxicity Classification. If the NYSDEC determines that DPA merits an environmental classification of "Moderate" and the results of the air dispersion modeling for both compounds support an environmental rating of "B", a separate permit condition for phenol and DPA could be issued that cites the particulate standard of 6 NYCRR 212-2.4(b) as the basis. However, in order to eliminate duplicate monitoring requirements in the permit, it is preferable to keep all four contaminants in the same monitoring condition, citing §212-2.1 as the basis.

Work Practice Type	Process Material Code	Process Material Description	Reference Test Method

DEC ID
9-291100036

Parameter Code	Description	Manufacturer Name/Model No.
	BATCHES	

Limit		Limit Units	
Upper	Lower	Code	Description
238			Batches per year

Averaging Method		Monitoring Frequency		Reporting Requirements	
Code	Description	Code	Description	Code	Description
	MAXIMUM – NOT TO EXCEED STATED VALUE – SEE MONITORING DESCRIPTION		PER BATCH OF PRODUCT/RAW MATERIAL CHANGE		AS REQUIRED – SEE MONITORING DESCRIPTION

DEC ID
9-291-00036

Section IV - Emission Unit Information

Emission Unit Compliance Certification (continuation)

Rule Citation

Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	Sub Clause
6	NYCRR	212	2	~~4~~ 1	~~a~~				

☒ Applicable Federal Requirement ☐ State Only Requirement ☐ Capping

Emission Unit	Emission Point	Process	Emission Source	CAS No.	Contaminant Name
U-3393A	3393A			123-31-9	1,4-BENZENODIOL

Monitoring Information

☐ Continuous Emission Monitoring
☐ Intermittent Emission Testing
☐ Ambient Air Monitoring
☒ Monitoring of Process or Control Device Parameters as Surrogate
☐ Work Practice Involving Specific Operations
☐ Record Keeping/Maintenance Procedures

Description

(PC #23)

The pressure drop across the hydroquinone dust collector is monitored and recorded by the operator once per shift to verify that the system is operating properly. Pressure drop readings out of range are an indicator of potential cartridge or unit malfunction. In the event that the differential pressure (2-11 inches of water) is out of range, the shift supervisor is notified and will immediately initiate a diagnostic inspection to determine the problem and institute corrective action. If the condition cannot be easily resolved, the system will be shut down until the condition is remedied. Spare filter cartridges are to be kept on-site to expedite replacement.

The exception will occur when new bags are installed in the dust collector and until they are coated, a differential pressure of less than 2" of water may occur.

Monthly QA/QC procedures are required to confirm that the differential pressure gauge is operating properly by disconnecting the pressure taps and checking for zero. In addition, inspection and calibration of the gauge is performed on an annual basis as part of the facility preventative maintenance program. Malfunctioning gauges are repaired or replaced promptly.

Differential pressure readings and a log of baghouse maintenance and repair activities undertaken at the facility will be maintained on-site for a period of 5 years and made available to Department representatives on request.

COMMENTS:

(1) *Under the revised version of 6 NYCRR Part 212 that became effective on 6/14/2015, emissions of the hydroquinone (CAS 123-31-9) will be subject to the requirements of §212-2.1. Hydroquinone (HQ) is a solid at room temperature. Under DAR-1, HQ has a Toxicity Classification of "Moderate". If the NYSDEC determines that the results of the air dispersion modeling support an environmental rating of "B", the NYSDEC may consider citing the particulate standard of 6 NYCRR 212-2.4(b) as the basis of this condition (rather than 212-2.1).*

Work Practice Type	Process Material Code	Process Material Description	Reference Test Method

Parameter Code	Parameter Description	Manufacturer Name/Model No.
	PRESSURE DROP	

Limit Upper	Limit Lower	Limit Units Code	Limit Units Description
11	2		Inches of water

Averaging Method Code	Averaging Method Description	Monitoring Frequency Code	Monitoring Frequency Description	Reporting Requirements Code	Reporting Requirements Description
	RANGE – NOT TO FALL OUTSIDE OF STATED RANGE AT ANY TIME		PER SHIFT		UPON REQUEST BY REGULATORY AGENCY

New York State Department of Environmental Conservation
Air Permit Application

DEC ID
9 - 2 9 1 1 - 0 0 0 3 6

Section IV - Emission Unit Information

Emission Unit Compliance Certification (continuation)

Rule Citation

Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	Sub Clause
6	NYCRR	212	2	~~4~~ 1	~~a~~				

☒ Applicable Federal Requirement ☐ State Only Requirement ☐ Capping

Emission Unit	Emission Point	Process	Emission Source	CAS No.	Contaminant Name
U-3393A	3393A			123-31-9	1,4-BENZENEDIOL

Monitoring Information

☐ Continuous Emission Monitoring
☐ Intermittent Emission Testing
☐ Ambient Air Monitoring
☒ Monitoring of Process or Control Device Parameters as Surrogate
☐ Work Practice Involving Specific Operations
☐ Record Keeping/Maintenance Procedures

Description

(PC #24)

Hydroquinone (1,4-Benzenediol), a hazardous air pollutant (HAP), is discharged from bulk bags into a pre-mix tank. Dust from charging is captured by a hood and directed to a baghouse with a reported control efficiency of 99%. ~~Particulate emissions of hydroquinone from this process are subject to the control requirements of 6NYCRR, Part 214(a) Table 2. Emissions are assigned an 'A' environmental rating and having an emission rate potential greater than 1 pound per hour are required to have a minimum of 99% control.~~ ~~Organic emissions in amounts of less than 1 pound per hour consist of aniline, o-toluidine, xylene and other trace HAPs.~~

~~An Air Guide 1~~ A DAR-1 analysis will be completed pending Department approval of the air dispersion modeling (AERMOD) protocol. ~~of hydroquinone emissions indicates potential impacts at 110% of the AGC of 4.8 ug/m3. The actual annual impact is 0.34 % of the AGC. The actual aniline impact is at 10.5% of the AGC and potential at 11.21% of the AGC of 0.6 ug/m3. o-Toluidine actual and potential impacts are at .17% of the AGC (21 **2.0E-02** ug/m3).~~ Potential impacts will be restricted by the 3,450 batch annual production limit on which the actual impacts are based.

The operational efficiency of the baghouse will be demonstrated through monitoring of the pressure drop at the established range and maintenance of the equipment in accordance with the facility preventative maintenance program.

COMMENTS:

(1) Under the revised version of 6 NYCRR Part 212 that became effective on 6/14/2015, emissions of the hydroquinone (CAS 123-31-9) will be subject to the requirements of §212-2.1. Hydroquinone (HQ) is a solid at room temperature. Under DAR-1, HQ has a Toxicity Classification of "Moderate". If the NYSDEC determines that the results of the air dispersion modeling support an environmental rating of "B", the NYSDEC may consider citing the particulate standard of 6 NYCRR 212-2.4(b) as the basis of this condition (rather than 212-2.1).

Work Practice Type	Process Material Code	Process Material Description	Reference Test Method
			EPA RM 7E

Parameter Code	Parameter Description	Manufacturer Name/Model No.
	1,4-BENZENEDIOL	

Limit Upper	Limit Lower	Limit Units Code	Limit Units Description
	99		Percent reduction

Averaging Method Code	Averaging Method Description	Monitoring Frequency Code	Monitoring Frequency Description	Reporting Requirements Code	Reporting Requirements Description
	MINIMUM – NOT TO FALL BELOW STATED VALUE AT ANY TIME		PER SHIFT		UPON REQUEST BY REGULATORY AGENCY

DEC ID
9-291100036

Section IV - Emission Unit Information

Emission Unit Compliance Certification (continuation)

Rule Citation

Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	Sub Clause
6	NYCRR	229		3	e	2	iv		

☒ Applicable Federal Requirement ☐ State Only Requirement ☐ Capping

Emission Unit	Emission Point	Process	Emission Source	CAS No.	Contaminant Name
U-F0101				95-47-6	BENZENE,1,2-DIMETHYL

Monitoring Information

☐ Continuous Emission Monitoring
☐ Intermittent Emission Testing
☐ Ambient Air Monitoring
☐ Monitoring of Process or Control Device Parameters as Surrogate
☐ Work Practice Involving Specific Operations
☒ Record Keeping/Maintenance Procedures

Description

(PC #25)

The o-xylene storage tank identified as F0101 and having a capacity of 10,469 gallons is required to be equipped with submerged fill.
The facility shall keep records of the dimension of the storage tank and an analysis showing the capacity of the tank. These records shall be kept on-site for the life of the vessel and made available to Department representatives on request.

Work Practice Type	Process Material Code	Process Material Description	Reference Test Method

Parameter Code	Parameter Description	Manufacturer Name/Model No.

Limit Upper	Limit Lower	Limit Units Code	Limit Units Description

Averaging Method Code	Averaging Method Description	Monitoring Frequency Code	Monitoring Frequency Description	Reporting Requirements Code	Reporting Requirements Description
			AS REQUIRED – SEE PERMIT MONITORING DESCRIPTION		UPON REQUEST BY REGULATORY AGENCY

New York State Department of Environmental Conservation
Air Permit Application

DEC ID
9-291-00036

Section IV - Emission Unit Information

Emission Unit Compliance Certification (continuation)

Rule Citation

Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	Sub Clause
6	NYCRR	229		3	e	2	iv		

☒ Applicable Federal Requirement ☐ State Only Requirement ☐ Capping

Emission Unit	Emission Point	Process	Emission Source	CAS No.	Contaminant Name
O-TOLST ~~U-F0112~~				~~1300-73-8~~ 95-53-4	~~BENZENAMINE,AR,AR-DIMETHYL-C8H11N~~ BENZENAMINE, 2-METHYL

Monitoring Information

☐ Continuous Emission Monitoring
☐ Intermittent Emission Testing
☐ Ambient Air Monitoring
☐ Monitoring of Process or Control Device Parameters as Surrogate
☐ Work Practice Involving Specific Operations
☒ Record Keeping/Maintenance Procedures

Description

(PC #26)

This ~~mixed xylidine~~ ortho-toluidine storage tank identified as F0112 and having a capacity of 15,351 gallons (Start-up 1968) is required to be equipped with submerged fill.

The facility shall keep records of the dimension of the storage tank and an analysis showing the capacity of the tank. These records shall be kept on-site for the life of the vessel and made available to Department representatives on request.

Work Practice Type	Process Material Code	Process Material Description	Reference Test Method

Parameter Code	Parameter Description	Manufacturer Name/Model No.

Limit Upper	Limit Lower	Limit Units Code	Limit Units Description

Averaging Method Code	Averaging Method Description	Monitoring Frequency Code	Monitoring Frequency Description	Reporting Requirements Code	Reporting Requirements Description
			AS REQUIRED – SEE PERMIT MONITORING DESCRIPTION		UPON REQUEST BY REGULATORY AGENCY

New York State Department of Environmental Conservation
Air Permit Application

DEC ID
9-291100036

Section IV - Emission Unit Information

Emission Unit Compliance Certification (continuation)

Rule Citation

Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	Sub Clause
~~6~~	~~NYCRR~~	~~212~~		~~10~~	~~e~~	~~4~~	~~i~~		

☒ Applicable Federal Requirement ☐ State Only Requirement ☐ Capping

Emission Unit	Emission Point	Process	Emission Source	CAS No.	Contaminant Name
~~W-STWATR~~	~~0C2EO~~	~~AIR~~		~~95-47-6~~	~~BENZENE,1,2-DIMETHYL~~

Monitoring Information

☐ Continuous Emission Monitoring
☐ Intermittent Emission Testing
☐ Ambient Air Monitoring
☒ Monitoring of Process or Control Device Parameters as Surrogate
☐ Work Practice Involving Specific Operations
☐ Record Keeping/Maintenance Procedures

Description

(PC #27)

~~The facility, as a major source of volatile organic compounds (VOC) as of June 1, 1995, is subject to the Reasonable Available Control Technology (RACT) requirements of 6 NYCRR, Part 212.10. RACT is required for those sources having an emission rate potential (ERP) greater than 3 pounds per hour. This emission source associated with emission point 0C2E0, with an ERP of 5.08 pounds per hour of xylene is required by 212.10(c)(4)(i) to have a minimum overall control efficiency of 81 percent.~~

~~The air stripper removes o-xylene from the wastewater. Xylene emissions are then vented through the Calgon carbon cannister which is expected to have a control efficiency of 95 percent. The carbon bed on the air stripper discharge will be monitored each month to determine if a changeout of the carbon cannister is required. A combustion gas meter will be used to monitor for the lower explosive limit (LEL) of o-xylene. Replacement of the carbon bed is required within 24 hours when the reading is at 10% of the LEL. The LEL for o-xylene (1,2-Dimethylbenzene) is 1.1%.~~

~~Records shall be kept noting the date of each monthly reading and the VOC level detected along with the date of the carbon replacement. Records shall be kept on-site for a period of 5 years and made available to Department representatives on request.~~

~~This Department may request more frequent monitoring if it is determined that the current monthly interval is not sufficient to address breakthrough in a timely manner.~~

COMMENTS: *It is requested that this permit condition be deleted, as the facility is capped below the major source threshold for VOCs.*

Work Practice Type	Process Material Code	Process Material Description	Reference Test Method
		~~WASTEWATER~~	

Parameter Code	Parameter Description	Manufacturer Name/Model No.
	~~LOWER EXPLOSIVE LIMIT~~	

Limit Upper	Limit Lower	Limit Units Code	Limit Units Description
~~10~~			~~Percent~~

Averaging Method Code	Averaging Method Description	Monitoring Frequency Code	Monitoring Frequency Description	Reporting Requirements Code	Reporting Requirements Description
	~~MAXIMUM - NOT TO EXCEED STATED VALUE - SEE MONITORING DESCRIPTION~~		~~MONTHLY~~		~~UPON REQUEST BY REGULATORY AGENCY~~

New York State Department of Environmental Conservation
Air Permit Application

DEC ID
9-291100036

Section IV - Emission Unit Information

Emission Unit Compliance Certification (continuation)

Rule Citation

Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	Sub Clause
6	NYCRR	212	2	~~4~~ 1	~~a~~				

☒ Applicable Federal Requirement ☐ State Only Requirement ☐ Capping

Emission Unit	Emission Point	Process	Emission Source	CAS No.	Contaminant Name
W-STWTR	F1862	TAN		95-47-6	BENZENE,1,2-DIMETHYL

Monitoring Information

☐ Continuous Emission Monitoring
☐ Intermittent Emission Testing
☐ Ambient Air Monitoring
☒ Monitoring of Process or Control Device Parameters as Surrogate
☐ Work Practice Involving Specific Operations
☐ Record Keeping/Maintenance Procedures

Description

(PC #28)

The temperature of the cooling water discharge on the condensers associated with the solvent extraction system is not to exceed 45 degrees Celsius. Goodyear will immediately respond to any temperature excess and if necessary shut down the process until corrective action can be completed. The temperature shall be monitored and recorded daily. These records shall be kept on-site in a form easily accessible and made available to Department representatives on request.

COMMENTS:

(1) Under the revised version of 6 NYCRR Part 212 that became effective on 6/14/2015, emissions of the o-xylene (CAS 95-47-6) will be subject to the requirements of §212-2.

Work Practice Type	Process Material Code	Process Material Description	Reference Test Method

Parameter Code	Parameter Description	Manufacturer Name/Model No.
	TEMPERATURE	

Limit Upper	Limit Lower	Limit Units Code	Limit Units Description
45			Degrees Celsius

Averaging Method Code	Averaging Method Description	Monitoring Frequency Code	Monitoring Frequency Description	Reporting Requirements Code	Reporting Requirements Description
	MAXIMUM – NOT TO EXCEED STATED VALUE – SEE MONITORING DESCRIPTION		DAILY		UPON REQUEST BY REGULATORY AGENCY

New York State Department of Environmental Conservation
Air Permit Application

DEC ID
9-291-00036

Section IV - Emission Unit Information

Emission Unit Description	☒ Continuation Sheet(s)
EMISSION UNIT	U-00N03

A drum flaker, remelt tank, and centrifuge are vented through ~~the~~ a new water-based wet scrubber and **Regenerative Thermal Oxidizer (RTO)** then to atmosphere through emission point 000N3.

COMMENTS: The new wet scrubber and RTO will be installed and operational on or before October 31, 2026.

Building Information	☐ Continuation Sheet(s)			
Building ID	Building Name	Length (ft)	Width (ft)	Orientation
32				

Emission Point Information	☐ Continuation Sheet(s)					
EMISSION PT.	00N03					
Ground Elev. (ft)	Height (ft)	Height Above Structure (ft)	Inside Diameter (in)	Exit Temp. (°F)	Cross Section Length (in)	Cross Section Width (in)
	~~80~~ **TBD**		~~24~~ **TBD**			
Exit Velocity (FPS)	Exit Flow (ACFM)	NYTM (E) (KM)	NYTM (N) (KM)	Building	Distance to Property Line (ft)	Date of Removal
		~~4817.223~~ **TBD**	~~382.831~~ **TBD**	32		

Section IV - Emission Unit Information

Emission Unit Description	☒ Continuation Sheet(s)
EMISSION UNIT	U-32034

Antioxidant batches are degassed and then filtered (Sparkler filter) to remove the neutralized catalyst. The filter is cleaned periodically and fumes from the filter cake are removed by a ventilation system (EP 32034). The filter is used for Nailax when the centrifuge is down.~~ and for all AZ and Polystay 200.~~

Building Information	☐ Continuation Sheet(s)			
Building ID	Building Name	Length (ft)	Width (ft)	Orientation
32				

Emission Point Information	☐ Continuation Sheet(s)					
EMISSION PT.	32034					
Ground Elev. (ft)	Height (ft)	Height Above Structure (ft)	Inside Diameter (in)	Exit Temp. (°F)	Cross Section Length (in)	Cross Section Width (in)
	55		32			
Exit Velocity (FPS)	Exit Flow (ACFM)	NYTM (E) (KM)	NYTM (N) (KM)	Building	Distance to Property Line (ft)	Date of Removal
		174.429	4778.02	32		

New York State Department of Environmental Conservation
Air Permit Application

DEC ID
9-291100036

Section IV - Emission Unit Information

Emission Unit Description ☒ Continuation Sheet(s)

EMISSION UNIT: 0ANIST

Aniline is unloaded from tank trucks or rail cars into temperature controlled atmospheric storage tanks. As the air is displaced during unloading, aniline is removed by an activated carbon unit. The tanks are identified as 0F106 and 0F109 with each having a capacity of 15,900 gallons. Each tank has a dedicated carbon unit and conservation vent.

Building Information ☐ Continuation Sheet(s)

Building ID	Building Name	Length (ft)	Width (ft)	Orientation
35				

Emission Point Information ☐ Continuation Sheet(s)

EMISSION PT.: F0106

Ground Elev. (ft)	Height (ft)	Height Above Structure (ft)	Inside Diameter (in)	Exit Temp. (°F)	Cross Section Length (in)	Cross Section Width (in)
	4		2			

Exit Velocity (FPS)	Exit Flow (ACFM)	NYTM (E) (KM)	NYTM (N) (KM)	Building	Distance to Property Line (ft)	Date of Removal
		174.429	4778	35		

Building Information ☐ Continuation Sheet(s)

Building ID	Building Name	Length (ft)	Width (ft)	Orientation
35				

Emission Point Information ☐ Continuation Sheet(s)

EMISSION PT.: F0109

Ground Elev. (ft)	Height (ft)	Height Above Structure (ft)	Inside Diameter (in)	Exit Temp. (°F)	Cross Section Length (in)	Cross Section Width (in)
	4		2			

Exit Velocity (FPS)	Exit Flow (ACFM)	NYTM (E) (KM)	NYTM (N) (KM)	Building	Distance to Property Line (ft)	Date of Removal
		174.4	4778	35		

Emission Source/Control ☐ Continuation Sheet(s)

Emission Source ID	Type	Date of Construction	Date of Operation	Date of Removal	Control Type Code	Control Type Description	Manufacturer's Name/Model Number
0F106						Conservation Vent 0V106	

Design Capacity	Design Capacity Units Code	Design Capacity Units Description	Waste Feed Code	Waste Feed Description	Waste Type Code	Waste Type Description

Emission Source ID	Type	Date of Construction	Date of Operation	Date of Removal	Control Type Code	Control Type Description	Manufacturer's Name/Model Number
0F109						Conservation Vent 0V109	

Design Capacity	Design Capacity Units Code	Design Capacity Units Description	Waste Feed Code	Waste Feed Description	Waste Type Code	Waste Type Description

New York State Department of Environmental Conservation
Air Permit Application

DEC ID
9-291100036

Section IV - Emission Unit Information

Emission Unit Description ☒ Continuation Sheet(s)

EMISSION UNIT: 0-RECYC

A mixture of o-Xylene, Aniline, o-Toluidine, Phenol, Diphenylamine (DPA) ~~and mixed Xylidines~~ is stored in an atmospheric tank. The tank is filled and emptied as required to balance production. There are three recycle tanks located in building 35: 0F103, 0F104, and 0F107.

Building Information ☐ Continuation Sheet(s)

Building ID	Building Name	Length (ft)	Width (ft)	Orientation
35				

Emission Point Information ☐ Continuation Sheet(s)

EMISSION PT.: F0103

Ground Elev. (ft)	Height (ft)	Height Above Structure (ft)	Inside Diameter (in)	Exit Temp. (°F)	Cross Section Length (in)	Cross Section Width (in)
	8		2			
Exit Velocity (FPS)	**Exit Flow (ACFM)**	**NYTM (E) (KM)**	**NYTM (N) (KM)**	**Building**	**Distance to Property Line (ft)**	**Date of Removal**
		174.4	4778	35		

Emission Point Information ☐ Continuation Sheet(s)

EMISSION PT.: F0104

Ground Elev. (ft)	Height (ft)	Height Above Structure (ft)	Inside Diameter (in)	Exit Temp. (°F)	Cross Section Length (in)	Cross Section Width (in)
	8		2			
Exit Velocity (FPS)	**Exit Flow (ACFM)**	**NYTM (E) (KM)**	**NYTM (N) (KM)**	**Building**	**Distance to Property Line (ft)**	**Date of Removal**
		174.4	4778	35		

Emission Point Information ☐ Continuation Sheet(s)

EMISSION PT.: F0107

Ground Elev. (ft)	Height (ft)	Height Above Structure (ft)	Inside Diameter (in)	Exit Temp. (°F)	Cross Section Length (in)	Cross Section Width (in)
	2		2			
Exit Velocity (FPS)	**Exit Flow (ACFM)**	**NYTM (E) (KM)**	**NYTM (N) (KM)**	**Building**	**Distance to Property Line (ft)**	**Date of Removal**
		174.4	4778	35		

New York State Department of Environmental Conservation
Air Permit Application

DEC ID
9-291100036

Section IV - Emission Unit Information

Emission Unit Description ☒ Continuation Sheet(s)

EMISSION UNIT: 0-TOLST

o-Toluidine is unloaded from tank trucks,isotainers or rail cars into a temperature controlled atmospheric storage tank. There are two 15,928 gallon storage tanks identified as F0108 and F0110 and one tank 15,400 gallon storage tank identified as F0112.

Building Information ☐ Continuation Sheet(s)

Building ID	Building Name	Length (ft)	Width (ft)	Orientation
35				

Emission Point Information ☐ Continuation Sheet(s)

EMISSION PT.						
F0108						
Ground Elev. (ft)	Height (ft)	Height Above Structure (ft)	Inside Diameter (in)	Exit Temp. (°F)	Cross Section Length (in)	Cross Section Width (in)
	14		2			
Exit Velocity (FPS)	Exit Flow (ACFM)	NYTM (E) (KM)	NYTM (N) (KM)	Building	Distance to Property Line (ft)	Date of Removal
		174.4	4778	35		

Emission Point Information ☐ Continuation Sheet(s)

EMISSION PT.						
F0110						
Ground Elev. (ft)	Height (ft)	Height Above Structure (ft)	Inside Diameter (in)	Exit Temp. (°F)	Cross Section Length (in)	Cross Section Width (in)
	14		2			
Exit Velocity (FPS)	Exit Flow (ACFM)	NYTM (E) (KM)	NYTM (N) (KM)	Building	Distance to Property Line (ft)	Date of Removal
		174.4	4778	35		

Emission Point Information ☐ Continuation Sheet(s)

EMISSION PT.						
F0112						
Ground Elev. (ft)	Height (ft)	Height Above Structure (ft)	Inside Diameter (in)	Exit Temp. (°F)	Cross Section Length (in)	Cross Section Width (in)
	3		3			
Exit Velocity (FPS)	Exit Flow (ACFM)	NYTM (E) (KM)	NYTM (N) (KM)	Building	Distance to Property Line (ft)	Date of Removal
		174.263	4778.196	35		

Emission Source/Control ☐ Continuation Sheet(s)

Emission Source ID	Type	Date of Construction	Date of Operation	Date of Removal	Control Type Code	Control Type Description	Manufacturer's Name/Model Number
F0108						Conservation Vent 0V108	

Design Capacity	Design Capacity Units Code	Design Capacity Units Description	Waste Feed Code	Waste Feed Description	Waste Type Code	Waste Type Description

Emission Source ID	Type	Date of Construction	Date of Operation	Date of Removal	Control Type Code	Control Type Description	Manufacturer's Name/Model Number
F0110						Conservation Vent 0V110	

Design Capacity	Design Capacity Units Code	Design Capacity Units Description	Waste Feed Code	Waste Feed Description	Waste Type Code	Waste Type Description

New York State Department of Environmental Conservation
Air Permit Application

DEC ID
9 - 2 9 1 1 - 0 0 0 3 6

Emission Source ID	Type	Date of Construction	Date of Operation	Date of Removal	Control Type Code	Control Type Description	Manufacturer's Name/Model Number
F0112						Conservation Vent 0V112	

Design Capacity	Design Capacity Units Code	Design Capacity Units Description	Waste Feed Code	Waste Feed Description	Waste Type Code	Waste Type Description

Emission Unit Description ☒ Continuation Sheet(s)

EMISSION UNIT: U - 0 0 0 D 1

The elimination tank system provides overflow protection and additional condensing prior to emission to the atmosphere. The elimination tank system has two parallel systems for capturing liquid overflow and vapor from the antioxidant production process. Elimination tank # 1(Process ETA) serves the product holding tank vents. Elimination tank # 2 (Process ETB) serves various raw material, recycle, and reactor system vents. The parallel systems enhance the ability of the facility to recover and recycle materials. Elimination Tank #1 ~~Each tanks~~ vents to a dedicated emission point~~s~~ identified as 000D1; both Elimination Tank #1 and Elimination Tank #2 emissions will be re-routed to vent through the new RTO and wet scrubber (EP 000N3)~~and 000D2~~. Emissions from the pastille unit are also directed to Elimination Tank #1.

Building Information ☐ Continuation Sheet(s)

Building ID	Building Name	Length (ft)	Width (ft)	Orientation
32				

DEC ID
9-291-00036

Emission Point Information		☐ Continuation Sheet(s)				
EMISSION PT.	~~0~~ ~~0~~ ~~0~~ ~~D~~ ~~1~~					
Ground Elev. (ft)	Height (ft)	Height Above Structure (ft)	Inside Diameter (in)	Exit Temp. (°F)	Cross Section	
					Length (in)	Width (in)
	~~61~~		~~11~~			
Exit Velocity (FPS)	Exit Flow (ACFM)	NYTM (E) (KM)	NYTM (N) (KM)	Building	Distance to Property Line (ft)	Date of Removal
		~~174.429~~	~~4778.02~~	~~32~~		

Emission Point Information		☐ Continuation Sheet(s)				
EMISSION PT.	0 0 0 D **2**					
Ground Elev. (ft)	Height (ft)	Height Above Structure (ft)	Inside Diameter (in)	Exit Temp. (°F)	Cross Section	
					Length (in)	Width (in)
	61		10			
Exit Velocity (FPS)	Exit Flow (ACFM)	NYTM (E) (KM)	NYTM (N) (KM)	Building	Distance to Property Line (ft)	Date of Removal
		174.429	4778.02	32		

DEC ID
9-291100036

Section IV - Emission Unit Information

Emission Unit Description ☒ Continuation Sheet(s)

EMISSION UNIT: U-00N2

Product dust from the packaging area and material from the "liquid" drumming station are exhausted through a dust collector and then to atmosphere thru emission point 000N2.

Building Information ☐ Continuation Sheet(s)

Building ID	Building Name	Length (ft)	Width (ft)	Orientation
33				

Emission Point Information ☐ Continuation Sheet(s)

EMISSION PT.: 000N2

Ground Elev. (ft)	Height (ft)	Height Above Structure (ft)	Inside Diameter (in)	Exit Temp. (°F)	Cross Section Length (in)	Cross Section Width (in)
	34		18			
Exit Velocity (FPS)	**Exit Flow (ACFM)**	**NYTM (E) (KM)**	**NYTM (N) (KM)**	**Building**	**Distance to Property Line (ft)**	**Date of Removal**
		174.429	4778.02	33		

Emission Unit Description ☒ Continuation Sheet(s)

EMISSION UNIT: U-00N4

Product dust is exhausted from a 90-foot vibratory conveyor and bucket elevator through a pulse jet type dust collector and then to the atmosphere thru emission point 000N4. Emissions of organics are negligible.

Building Information ☐ Continuation Sheet(s)

Building ID	Building Name	Length (ft)	Width (ft)	Orientation
32				

Emission Point Information ☐ Continuation Sheet(s)

EMISSION PT.: 000N4

Ground Elev. (ft)	Height (ft)	Height Above Structure (ft)	Inside Diameter (in)	Exit Temp. (°F)	Cross Section Length (in)	Cross Section Width (in)
	61				11	11
Exit Velocity (FPS)	**Exit Flow (ACFM)**	**NYTM (E) (KM)**	**NYTM (N) (KM)**	**Building**	**Distance to Property Line (ft)**	**Date of Removal**
		174.429	4778.02	32		

DEC ID
9-291-00036

Section IV - Emission Unit Information

Emission Unit Description	☒ Continuation Sheet(s)
EMISSION UNIT	U-32009

Water that is used to flush the reactor and degasser is held in the sump holding tank prior to discharge. The tank is vented to atmosphere through emission point 32009. The tank exhausts trace emissions of aniline, phenol, o-toluidine and hydroquinone. This emission unit also includes the neutralization solution (sodium bicarbonate) make-up tank system which is vented to emission point 32017.

Building Information	☐ Continuation Sheet(s)			
Building ID	Building Name	Length (ft)	Width (ft)	Orientation
32				

Emission Point Information	☐ Continuation Sheet(s)					
EMISSION PT.	32009					
Ground Elev. (ft)	Height (ft)	Height Above Structure (ft)	Inside Diameter (in)	Exit Temp. (°F)	Cross Section Length (in)	Cross Section Width (in)
	51		4			
Exit Velocity (FPS)	Exit Flow (ACFM)	NYTM (E) (KM)	NYTM (N) (KM)	Building	Distance to Property Line (ft)	Date of Removal
		174.429	4778.02			

Emission Unit Description	☒ Continuation Sheet(s)
EMISSION UNIT	U-33931

Hydroquinone (HQ) is discharged from bulk bags through a chute into a tank. The HQ dust from the dumping operation is removed by the dust collector station where HQ is separated from air. This exhaust also vents pumps during maintenance activities and a vacuum cleaning system for residual HQ.

Building Information	☐ Continuation Sheet(s)			
Building ID	Building Name	Length (ft)	Width (ft)	Orientation
33				

Emission Point Information	☐ Continuation Sheet(s)					
EMISSION PT.	33931A					
Ground Elev. (ft)	Height (ft)	Height Above Structure (ft)	Inside Diameter (in)	Exit Temp. (°F)	Cross Section Length (in)	Cross Section Width (in)
	56		22			
Exit Velocity (FPS)	Exit Flow (ACFM)	NYTM (E) (KM)	NYTM (N) (KM)	Building	Distance to Property Line (ft)	Date of Removal
		174.429	4778.02			

New York State Department of Environmental Conservation
Air Permit Application

DEC ID
9 - 2 9 1 1 - 0 0 0 3 6

Emission Unit Description	☒ Continuation Sheet(s)
EMISSION UNIT	U - F 0 1 0 1

o-Xylene is unloaded from tank truck into an uninsulated atmospheric storage vessel of 10,400 gallons. Air is displaced during the unloading operation.

Building Information	☐ Continuation Sheet(s)			
Building ID	Building Name	Length (ft)	Width (ft)	Orientation
35				

Emission Point Information	☐ Continuation Sheet(s)					
EMISSION PT.	F 0 1 0 1					
Ground Elev. (ft)	Height (ft)	Height Above Structure (ft)	Inside Diameter (in)	Exit Temp. (°F)	Cross Section Length (in)	Cross Section Width (in)
	~~28~~ **33**		2			
Exit Velocity (FPS)	Exit Flow (ACFM)	NYTM (E) (KM)	NYTM (N) (KM)	Building	Distance to Property Line (ft)	Date of Removal
		174.263	4778.196	35		

~~**Emission Unit Description**~~	☒ ~~Continuation Sheet(s)~~

~~Mixed xylidines are unloaded into a temperature controlled atmospheric 15,400 gallon storage tank from tank trucks or tank cars. Air is displaced during the unloading operation and through normal breathing of the tank~~

Note: This Emission Unit and Emission Point were moved to O-TOLST due to this tank now servicing o-toluidine.

~~**Building Information**~~	☐ ~~Continuation Sheet(s)~~			
~~Building ID~~	~~Building Name~~	~~Length (ft)~~	~~Width (ft)~~	~~Orientation~~
~~35~~				

~~**Emission Point Information**~~	☐ ~~Continuation Sheet(s)~~					
~~EMISSION PT.~~	~~F 0 1 1 2~~					
~~Ground Elev. (ft)~~	~~Height (ft)~~	~~Height Above Structure (ft)~~	~~Inside Diameter (in)~~	~~Exit Temp. (°F)~~	~~Cross Section Length (in)~~	~~Cross Section Width (in)~~
			~~3~~ **2**			
~~Exit Velocity (FPS)~~	~~Exit Flow (ACFM)~~	~~NYTM (E) (KM)~~	~~NYTM (N) (KM)~~	~~Building~~	~~Distance to Property Line (ft)~~	~~Date of Removal~~
		~~174.263~~	~~4778.196~~	~~35~~		

New York State Department of Environmental Conservation
Air Permit Application

DEC ID
9-291-00036

Emission Unit Description ☒ Continuation Sheet(s)

EMISSION UNIT	W	-	S	T	W	T	R

Wastewater is transferred to a storage tank where solvent is used to extract organics (emission point F1862). Xylene is subsequently recovered by distillation. o-Xylene is stripped from the wastewater stream by air in an eight-inch diameter, twenty-foot long packed extraction column (emission point 0C2E0).

Building Information ☐ Continuation Sheet(s)

Building ID	Building Name	Length (ft)	Width (ft)	Orientation
C-2				

Emission Point Information ☐ Continuation Sheet(s)

EMISSION PT.	0	C	2	E	O						
Ground Elev. (ft)	Height (ft)		Height Above Structure (ft)		Inside Diameter (in)		Exit Temp. (°F)	Cross Section Length (in)		Width (in)	
	11				4						
Exit Velocity (FPS)	Exit Flow (ACFM)		NYTM (E) (KM)		NYTM (N) (KM)		Building	Distance to Property Line (ft)		Date of Removal	
			174.4		4778		C-2				

Emission Point Information ☐ Continuation Sheet(s)

EMISSION PT.	F	1	8	6	2						
Ground Elev. (ft)	Height (ft)		Height Above Structure (ft)		Inside Diameter (in)		Exit Temp. (°F)	Cross Section Length (in)		Width (in)	
	30				4						
Exit Velocity (FPS)	Exit Flow (ACFM)		NYTM (E) (KM)		NYTM (N) (KM)		Building	Distance to Property Line (ft)		Date of Removal	
			174.429		4778.02		C-2				

New York State Department of Environmental Conservation
Air Permit Application

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

DEC ID													
9	-	2	9	1	1	-	0	0	0	3	6		

****THIS PAGE INTENTIONALLY LEFT BLANK****

Section IV - Emission Unit

Request for Emission Reduction Credits	☐ Continuation Sheet(s)		
EMISSION UNIT			
Emission Reduction Description			
Contaminant Emission Reduction Data			
Baseline Period / / to / / .		Reduction	
		Date	Method
		/ / .	
CAS No.	Contaminant Name	ERC (lbs/yr)	
		Netting	Offset

Facility to Use Future Reduction		
Name	APPLICATION ID	
	- - /	
Location Address		
☐ City / ☐ Town / ☐ Village	State	Zip

Use of Emission Reduction Credits	☐ Continuation Sheet(s)	
EMISSION UNIT		
Proposed Project Description		
Contaminant Emissions Increase Data		
CAS No.	Contaminant Name	PEP (lbs/yr)

Statement of Compliance

☐ All facilities under the ownership of this "ownership/firm" are operating in compliance with all applicable requirements and state regulations including any compliance certification requirements under Section 114(a)(3) of the Clean Air Act Amendments of 1990, or are meeting the schedule of a consent order.

Source of Emission Reduction Credit - Facility		
Name	PERMIT ID	
	- - /	
Location Address		
☐ City / ☐ Town / ☐ Village	State New York	Zip

Emission Unit	CAS No.	Contaminant Name	ERC (lbs/yr)	
			Netting	Offset
	- -			

New York State Department of Environmental Conservation
Air Permit Application

DEC ID
9 - 2 9 1 1 - 0 0 0 3 6

Supporting Documentation

Required Supporting Documentation:

- ☐ List of Exempt Activities
- ☐ Plot Plan
- ☐ Methods Used to Determine Compliance
- ☒ Application Forms
- ☐X Calculations

Optional Supporting Documentation:

- ☐ Air Quality Model (____ / _____ / ____)
- ☐ Confidentiality Justification (Cover letter)
- ☐ Ambient Air Monitoring Plan (_____ / _____ / _____)
- ☐ Stack Test Protocols/Reports (_____ / _____ / _____)
- ☐ Continuous Emissions Monitoring Plans/QA/QC (_____ / _____ / _____)
- ☐ MACT Demonstration (_____ / _____ / _____)
- ☐ Operational Flexibility: Description of Alternative Operating Scenarios and Protocols (Cover letter)
- ☐ Title IV: Application/Registration
- ☐ ERC Quantification (form attached)
- ☐ Use of ERC(s) (form attached)
- ☐ Baseline Period Demonstration
- ☐ Analysis of Contemporaneous Emission Increase/Decrease
- ☐ LAER Demonstration (____ / _____ / ___)
- ☐ BACT Demonstration (____ / _____ / ___)
- ☒ Other Document(s):
  - SEQR FEAF Parts 1 & 2
  - AERMOD Air Dispersion Modeling Protocol
  - Sparkler Filer BACT Evaluation
  - CLCPA Analysis

  Public Participation Plan

Full Environmental Assessment Form
Part 1 - Project and Setting

Instructions for Completing Part 1

Part 1 is to be completed by the applicant or project sponsor. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification.

Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information; indicate whether missing information does not exist, or is not reasonably available to the sponsor; and, when possible, generally describe work or studies which would be necessary to update or fully develop that information.

Applicants/sponsors must complete all items in Sections A & B. In Sections C, D & E, most items contain an initial question that must be answered either "Yes" or "No". If the answer to the initial question is "Yes", complete the sub-questions that follow. If the answer to the initial question is "No", proceed to the next question. Section F allows the project sponsor to identify and attach any additional information. Section G requires the name and signature of the applicant or project sponsor to verify that the information contained in Part 1is accurate and complete.

A. Project and Applicant/Sponsor Information.

Name of Action or Project: Goodyear Manufacturing Air State Facility Permit Modification and Renewal		
Project Location (describe, and attach a general location map): Goodyear Manufacturing Plant located at 5500 Goodyear Drive in Niagara Falls, NY		
Brief Description of Proposed Action (include purpose or need): Modification and renewal of the Goodyear Manufacturing Plant Air State Facility (ASF) Permit with DEC ID 9-2911-00036/00151. The permit was first issued on 6/15/2009, and the most recent modification became effective on 04/21/2011 (Mod 2). Actions include adding a regenerative thermal oxidizer (RTO) and a new replacement wet scrubber for control of VOCs, HAPs, and PM from Elimination Tank #1 and Elimination Tank #2, along with a variety of updates to the existing permit conditions. A CLCPA Analysis and Air Dispersion Modeling Protocol are being submitted as appendices to the application.		
Name of Applicant/Sponsor: The Goodyear Tire & Rubber Company	Telephone: 716-236-2651 E-Mail: dan_planter@goodyear.com	
Address: 5500 Goodyear Drive		
City/PO: Niagara Falls	State: NY	Zip Code: 14304
Project Contact (if not same as sponsor; give name and title/role): Denise Seiler	Telephone: 716-236-2638 E-Mail: denise_seiler@goodyear.com	
Address: 5500 Goodyear Drive		
City/PO: Niagara Falls	State: NY	Zip Code: 14304
Property Owner (if not same as sponsor): The Goodyear Tire & Rubber Company	Telephone: 716-236-2651 E-Mail: dan_planter@goodyear.com	
Address: 5500 Goodyear Drive		
City/PO: Niagara Falls	State: NY	Zip Code: 14304

B. Government Approvals

B. Government Approvals, Funding, or Sponsorship. ("Funding" includes grants, loans, tax relief, and any other forms of financial assistance.)		
Government Entity	**If Yes: Identify Agency and Approval(s) Required**	**Application Date (Actual or projected)**
a. City Counsel, Town Board, or Village Board of Trustees ☐Yes☑No		
b. City, Town or Village Planning Board or Commission ☐Yes☑No		
c. City, Town or Village Zoning Board of Appeals ☐Yes☑No		
d. Other local agencies ☐Yes☑No		
e. County agencies ☐Yes☑No		
f. Regional agencies ☐Yes☑No		
g. State agencies ☑Yes☐No	NYSDEC Air State Facility Permit Renewal	September 15, 2025
h. Federal agencies ☐Yes☑No		

i. Coastal Resources.
i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway? ☐Yes☑No

ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program? ☐Yes☑No

iii. Is the project site within a Coastal Erosion Hazard Area? ☐Yes☑No

C. Planning and Zoning

C.1. Planning and zoning actions.

Will administrative or legislative adoption, or amendment of a plan, local law, ordinance, rule or regulation be the only approval(s) which must be granted to enable the proposed action to proceed? ☐Yes☑No

- **If Yes,** complete sections C, F and G.
- **If No,** proceed to question C.2 and complete all remaining sections and questions in Part 1

C.2. Adopted land use plans.

a. Do any municipally- adopted (city, town, village or county) comprehensive land use plan(s) include the site where the proposed action would be located? ☐Yes☑No

If Yes, does the comprehensive plan include specific recommendations for the site where the proposed action would be located? ☐Yes☐No

b. Is the site of the proposed action within any local or regional special planning district (for example: Greenway; Brownfield Opportunity Area (BOA); designated State or Federal heritage area; watershed management plan; or other?) ☑Yes☐No

If Yes, identify the plan(s):
NYS Heritage Areas:West Erie Canal Corridor

c. Is the proposed action located wholly or partially within an area listed in an adopted municipal open space plan, or an adopted municipal farmland protection plan? ☐Yes☑No

If Yes, identify the plan(s):

C.3. Zoning

a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. ☑ Yes ☐ No
If Yes, what is the zoning classification(s) including any applicable overlay district?
I2 Industrial

b. Is the use permitted or allowed by a special or conditional use permit? ☑ Yes ☐ No

c. Is a zoning change requested as part of the proposed action? ☐ Yes ☑ No
If Yes,
i. What is the proposed new zoning for the site? _____

C.4. Existing community services.

a. In what school district is the project site located? Niagara Falls City School District

b. What police or other public protection forces serve the project site?
City of Niagara Falls Police Department - Station 3;

c. Which fire protection and emergency medical services serve the project site?
City of Niagara Falls Fire Department; American Medical Response (AMR) Niagara Falls and Niagara Falls Memorial Medical Center - ER1

d. What parks serve the project site?
Niagara Falls State Park, Lasalle Waterfront Park, Hyde Park, Gill Creek Park, Jayne Park

D. Project Details

D.1. Proposed and Potential Development

a. What is the general nature of the proposed action (e.g., residential, industrial, commercial, recreational; if mixed, include all components)? Industrial

b. a. Total acreage of the site of the proposed action? 27.7 acres
b. Total acreage to be physically disturbed? 0 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 27.7 acres

c. Is the proposed action an expansion of an existing project or use? ☐ Yes ☑ No
i. If Yes, what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, housing units, square feet)? % _____ Units: _____

d. Is the proposed action a subdivision, or does it include a subdivision? ☐ Yes ☑ No
If Yes,
i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)
ii. Is a cluster/conservation layout proposed? ☐ Yes ☐ No
iii. Number of lots proposed? _____
iv. Minimum and maximum proposed lot sizes? Minimum _____ Maximum _____

e. Will the proposed action be constructed in multiple phases? ☐ Yes ☑ No
i. If No, anticipated period of construction: _____ months
ii. If Yes:
- Total number of phases anticipated _____
- Anticipated commencement date of phase 1 (including demolition) _____ month _____ year
- Anticipated completion date of final phase _____ month _____ year
- Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases: _____

f. Does the project include new residential uses? ☐Yes ☑No
If Yes, show numbers of units proposed.

	One Family	Two Family	Three Family	Multiple Family (four or more)
Initial Phase				
At completion of all phases				

g. Does the proposed action include new non-residential construction (including expansions)? ☐Yes ☑No
If Yes,
i. Total number of structures _____
ii. Dimensions (in feet) of largest proposed structure: _____height; _____width; and _____ length
iii. Approximate extent of building space to be heated or cooled: _____ square feet

h. Does the proposed action include construction or other activities that will result in the impoundment of any liquids, such as creation of a water supply, reservoir, pond, lake, waste lagoon or other storage? ☐Yes ☑No
If Yes,
i. Purpose of the impoundment: _____
ii. If a water impoundment, the principal source of the water: ☐ Ground water ☐ Surface water streams ☐Other specify:
_____
iii. If other than water, identify the type of impounded/contained liquids and their source.
_____
iv. Approximate size of the proposed impoundment. Volume: _____ million gallons; surface area: _____ acres
v. Dimensions of the proposed dam or impounding structure: _____ height; _____ length
vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete):
_____

D.2. Project Operations

a. Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both? ☐Yes ☑No
(Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite)
If Yes:
i. What is the purpose of the excavation or dredging? _____
ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site?
- Volume (specify tons or cubic yards): _____
- Over what duration of time? _____

iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them.
_____
_____
iv. Will there be onsite dewatering or processing of excavated materials? ☐Yes ☐No
If yes, describe. _____
_____
v. What is the total area to be dredged or excavated? _____ acres
vi. What is the maximum area to be worked at any one time? _____ acres
vii. What would be the maximum depth of excavation or dredging? _____ feet
viii. Will the excavation require blasting? ☐Yes ☐No
ix. Summarize site reclamation goals and plan: _____
_____
_____

b. Would the proposed action cause or result in alteration of, increase or decrease in size of, or encroachment into any existing wetland, waterbody, shoreline, beach or adjacent area? ☐Yes ☑No
If Yes:
i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description): _____
_____

ii. Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placement of structures, or alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres:

_____

_____

_____

_____

iii. Will the proposed action cause or result in disturbance to bottom sediments? ☐Yes ☐No

If Yes, describe: _____

iv. Will the proposed action cause or result in the destruction or removal of aquatic vegetation? ☐Yes ☐No

If Yes:

- acres of aquatic vegetation proposed to be removed: _____
- expected acreage of aquatic vegetation remaining after project completion: _____
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access): _____

_____

- proposed method of plant removal: _____
- if chemical/herbicide treatment will be used, specify product(s): _____

v. Describe any proposed reclamation/mitigation following disturbance: _____

_____

c. Will the proposed action use, or create a new demand for water? ☐Yes ☑No

If Yes:

i. Total anticipated water usage/demand per day: _____ gallons/day

ii. Will the proposed action obtain water from an existing public water supply? ☐Yes ☐No

If Yes:

- Name of district or service area: _____
- Does the existing public water supply have capacity to serve the proposal? ☐Yes ☐No
- Is the project site in the existing district? ☐Yes ☐No
- Is expansion of the district needed? ☐Yes ☐No
- Do existing lines serve the project site? ☐Yes ☐No

iii. Will line extension within an existing district be necessary to supply the project? ☐Yes ☐No

If Yes:

- Describe extensions or capacity expansions proposed to serve this project: _____

_____

- Source(s) of supply for the district: _____

iv. Is a new water supply district or service area proposed to be formed to serve the project site? ☐Yes ☐No

If, Yes:

- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- Proposed source(s) of supply for new district: _____

v. If a public water supply will not be used, describe plans to provide water supply for the project: _____

_____

vi. If water supply will be from wells (public or private), what is the maximum pumping capacity: _____ gallons/minute.

d. Will the proposed action generate liquid wastes? ☐Yes ☑No

If Yes:

i. Total anticipated liquid waste generation per day: _____ gallons/day

ii. Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe all components and approximate volumes or proportions of each): _____

_____

_____

iii. Will the proposed action use any existing public wastewater treatment facilities? ☐Yes ☐No

If Yes:

- Name of wastewater treatment plant to be used: _____
- Name of district: _____
- Does the existing wastewater treatment plant have capacity to serve the project? ☐Yes ☐No
- Is the project site in the existing district? ☐Yes ☐No
- Is expansion of the district needed? ☐Yes ☐No

- Do existing sewer lines serve the project site? ☐Yes ☐No
- Will a line extension within an existing district be necessary to serve the project? ☐Yes ☐No

If Yes:

- Describe extensions or capacity expansions proposed to serve this project: _____

iv. Will a new wastewater (sewage) treatment district be formed to serve the project site? ☐Yes ☐No

If Yes:

- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- What is the receiving water for the wastewater discharge? _____

v. If public facilities will not be used, describe plans to provide wastewater treatment for the project, including specifying proposed receiving water (name and classification if surface discharge or describe subsurface disposal plans):

vi. Describe any plans or designs to capture, recycle or reuse liquid waste: _____

e. Will the proposed action disturb more than one acre and create stormwater runoff, either from new point sources (i.e. ditches, pipes, swales, curbs, gutters or other concentrated flows of stormwater) or non-point source (i.e. sheet flow) during construction or post construction? ☐Yes ☑No

If Yes:

i. How much impervious surface will the project create in relation to total size of project parcel?

_____ Square feet or _____ acres (impervious surface)

_____ Square feet or _____ acres (parcel size)

ii. Describe types of new point sources. _____

iii. Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent properties, groundwater, on-site surface water or off-site surface waters)?

- If to surface waters, identify receiving water bodies or wetlands: _____
- Will stormwater runoff flow to adjacent properties? ☐Yes ☐No

iv. Does the proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater? ☐Yes ☐No

f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel combustion, waste incineration, or other processes or operations? ☑Yes ☐No

If Yes, identify:

i. Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles)

NA

ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers)

NA

iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation)

decrease in process emissions

g. Will any air emission sources named in D.2.f (above), require a NY State Air Registration, Air Facility Permit, or Federal Clean Air Act Title IV or Title V Permit? ☑Yes ☐No

If Yes:

i. Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet ambient air quality standards for all or some parts of the year) ☐Yes ☑No

ii. In addition to emissions as calculated in the application, the project will generate:

- 7,955 Tons/year (short tons) of Carbon Dioxide (CO_2)e
- 8.72 Tons/year (short tons) of Nitrous Oxide (N_2O)
- 0 Tons/year (short tons) of Perfluorocarbons (PFCs)
- 0 Tons/year (short tons) of Sulfur Hexafluoride (SF_6)
- 0 Tons/year (short tons) of Carbon Dioxide equivalent of Hydroflourocarbons (HFCs)
- 6.19 Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

*CO2e emissions are estimated based on the NYSDEC's current upstream and direct GHG emissions factors and the Global Warming Potential 20-year (GWP-20) factors.

h. Will the proposed action generate or emit methane (including, but not limited to, sewage treatment plants, landfills, composting facilities)? ☐Yes ☑No

If Yes:

i. Estimate methane generation in tons/year (metric): _____

ii. Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring): _____

i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations? ☐Yes ☑No

If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust):

j. Will the proposed action result in a substantial increase in traffic above present levels or generate substantial new demand for transportation facilities or services? ☐Yes ☑No

If Yes:

i. When is the peak traffic expected (Check all that apply): ☐ Morning ☐ Evening ☐Weekend
☐ Randomly between hours of _____ to _____.

ii. For commercial activities only, projected number of truck trips/day and type (e.g., semi trailers and dump trucks): _____

iii. Parking spaces: Existing _____ Proposed _____ Net increase/decrease _____

iv. Does the proposed action include any shared use parking? ☐Yes ☐No

v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe:

vi. Are public/private transportation service(s) or facilities available within ½ mile of the proposed site? ☐Yes ☐No

vii Will the proposed action include access to public transportation or accommodations for use of hybrid, electric or other alternative fueled vehicles? ☐Yes ☐No

viii. Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? ☐Yes ☐No

k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? ☐Yes ☑No

If Yes:

i. Estimate annual electricity demand during operation of the proposed action: _____

ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other):

iii. Will the proposed action require a new, or an upgrade, to an existing substation? ☐Yes ☐No

l. Hours of operation. Answer all items which apply.

i. During Construction:

- Monday - Friday: 8 hr/day
- Saturday: -
- Sunday: -
- Holidays: -

ii. During Operations:

- Monday - Friday: continuous
- Saturday: continuous
- Sunday: continuous
- Holidays: continuous

m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? ☐ Yes ☑ No

If yes:

i. Provide details including sources, time of day and duration:

ii. Will the proposed action remove existing natural barriers that could act as a noise barrier or screen? ☐ Yes ☐ No

Describe:

n. Will the proposed action have outdoor lighting? ☐ Yes ☑ No

If yes:

i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:

ii. Will proposed action remove existing natural barriers that could act as a light barrier or screen? ☐ Yes ☐ No

Describe:

o. Does the proposed action have the potential to produce odors for more than one hour per day? ☐ Yes ☑ No

If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures:

p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons) or chemical products 185 gallons in above ground storage or any amount in underground storage? ☐ Yes ☑ No

If Yes:

i. Product(s) to be stored

ii. Volume(s) _____ per unit time _____ (e.g., month, year)

iii. Generally, describe the proposed storage facilities:

q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? ☐ Yes ☑ No

If Yes:

i. Describe proposed treatment(s):

ii. Will the proposed action use Integrated Pest Management Practices? ☐ Yes ☐ No

r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? ☐ Yes ☑ No

If Yes:

i. Describe any solid waste(s) to be generated during construction or operation of the facility:

- Construction: _____ tons per _____ (unit of time)
- Operation : _____ tons per _____ (unit of time)

ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:

- Construction:
- Operation:

iii. Proposed disposal methods/facilities for solid waste generated on-site:

- Construction:
- Operation:

s. Does the proposed action include construction or modification of a solid waste management facility? ☐ Yes ☑ No

If Yes:

i. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): _____

ii. Anticipated rate of disposal/processing:

- _____ Tons/month, if transfer or other non-combustion/thermal treatment, or
- _____ Tons/hour, if combustion or thermal treatment

iii. If landfill, anticipated site life: _____ years

t. Will the proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste? ☐ Yes ☑ No

If Yes:

i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: _____

ii. Generally describe processes or activities involving hazardous wastes or constituents: _____

iii. Specify amount to be handled or generated _____ tons/month

iv. Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: _____

v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? ☐ Yes ☐ No

If Yes: provide name and location of facility: _____

If No: describe proposed management of any hazardous wastes which will not be sent to a hazardous waste facility:

E. Site and Setting of Proposed Action

E.1. Land uses on and surrounding the project site

a. Existing land uses.

i. Check all uses that occur on, adjoining and near the project site.

☑ Urban ☑ Industrial ☑ Commercial ☑ Residential (suburban) ☐ Rural (non-farm)
☐ Forest ☐ Agriculture ☐ Aquatic ☐ Other (specify): _____

ii. If mix of uses, generally describe:

The land use surrounding the Goodyear facility is a mix of industrial, commercial and residential areas along the Niagara River. Also nearby is Niagara Falls State Park, the Niagara Scenic Parkway and Niagara Falls International Airport.

b. Land uses and covertypes on the project site.

Land use or Covertype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	27.7	27.7	0
• Forested	0	0	0
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)	0	0	0
• Agricultural (includes active orchards, field, greenhouse etc.)	0	0	0
• Surface water features (lakes, ponds, streams, rivers, etc.)	0	0	0
• Wetlands (freshwater or tidal)	0	0	0
• Non-vegetated (bare rock, earth or fill)	0	0	0
• Other Describe: _____			

c. Is the project site presently used by members of the community for public recreation? ☐Yes☑No

i. If Yes: explain: _____

d. Are there any facilities serving children, the elderly, people with disabilities (e.g., schools, hospitals, licensed day care centers, or group homes) within 1500 feet of the project site? ☐Yes☑No

If Yes,

i. Identify Facilities:

_____

_____

e. Does the project site contain an existing dam? ☐Yes☑No

If Yes:

i. Dimensions of the dam and impoundment:

- Dam height: _____ feet
- Dam length: _____ feet
- Surface area: _____ acres
- Volume impounded: _____ gallons OR acre-feet

ii. Dam's existing hazard classification: _____

iii. Provide date and summarize results of last inspection:

_____

_____

f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management facility? ☐Yes☑No

If Yes:

i. Has the facility been formally closed? ☐Yes☐ No

- If yes, cite sources/documentation: _____

ii. Describe the location of the project site relative to the boundaries of the solid waste management facility:

_____

_____

iii. Describe any development constraints due to the prior solid waste activities: _____

_____

g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste? ☐Yes☑No

If Yes:

i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred:

_____

_____

h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? ☑Yes☐ No

If Yes:

i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: ☐Yes☑No

☐ Yes – Spills Incidents database Provide DEC ID number(s): _____

☐ Yes – Environmental Site Remediation database Provide DEC ID number(s): _____

☐ Neither database

ii. If site has been subject of RCRA corrective activities, describe control measures: _____

_____

_____

iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? ☑Yes☐No

If yes, provide DEC ID number(s): 932046, 932042, 932002, C932143, V00373, C93214...

iv. If yes to (i), (ii) or (iii) above, describe current status of site(s):

There are 12 hazardous waste remediation sites within 2,000 ft of the project: No. 932046, CECOS (regulated by RCRA post-closure permit); No. 932042 Niagara Recycling (regulated by post-closure permit); No. 932002 Airco Speer Carbon-Graphite (closed); No. C932143 Northern Ethanol Redevelopment Site (closed); No. C932160 Covanta Niagara Rail-to-Truck Intermodal Facility (closed); No. V00373 Niacet Corporation (active); No. C932172 Niacet Site

Question 20 Continued:
(active); No. C932146 6100-6200 Niagara Falls Boulevard (closed); No. C932150 Former Mill No. 2 (active); No. 932110 Frontier Chemical - Royal Avenue (active); No. C932170 6200-6390 Niagara Falls Boulevard (active); and No. 932019 Former Hooker Main Plant (active). The project will have no impact on these sites.

v. Is the project site subject to an institutional control limiting property uses? ☐ Yes ☑ No

- If yes, DEC site ID number: _____
- Describe the type of institutional control (e.g., deed restriction or easement): _____
- Describe any use limitations: _____
- Describe any engineering controls: _____
- Will the project affect the institutional or engineering controls in place? ☐ Yes ☐ No
- Explain: _____

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site? No bedrock in map un feet

b. Are there bedrock outcroppings on the project site? ☐ Yes ☑ No
If Yes, what proportion of the site is comprised of bedrock outcroppings? _____ %

c. Predominant soil type(s) present on project site:
NOTCOM- No Digital Data Available 100 %
_____ %
_____ %

d. What is the average depth to the water table on the project site? Average: > 15 feet

e. Drainage status of project site soils:
☐ Well Drained: NA % of site
☐ Moderately Well Drained: NA % of site
☐ Poorly Drained NA % of site

f. Approximate proportion of proposed action site with slopes:
☑ 0-10%: 100 % of site
☐ 10-15%: _____ % of site
☐ 15% or greater: _____ % of site

g. Are there any unique geologic features on the project site? ☐ Yes ☑ No
If Yes, describe: _____

h. Surface water features.

i. Does any portion of the project site contain wetlands or other waterbodies (including streams, rivers, ponds or lakes)? ☐ Yes ☑ No

ii. Do any wetlands or other waterbodies adjoin the project site? ☐ Yes ☑ No

If Yes to either *i* or *ii*, continue. If No, skip to E.2.i.

iii. Are any of the wetlands or waterbodies within or adjoining the project site regulated by any federal, state or local agency? ☐ Yes ☐ No

iv. For each identified regulated wetland and waterbody on the project site, provide the following information:

- Streams: Name _____ Classification _____
- Lakes or Ponds: Name _____ Classification _____
- Wetlands: Name _____ Approximate Size _____
- Wetland No. (if regulated by DEC) _____

v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? ☐ Yes ☑ No

If yes, name of impaired water body/bodies and basis for listing as impaired: _____

i. Is the project site in a designated Floodway? ☐ Yes ☑ No

j. Is the project site in the 100-year Floodplain? ☐ Yes ☑ No

k. Is the project site in the 500-year Floodplain? ☐ Yes ☑ No

l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? ☐ Yes ☑ No
If Yes:

i. Name of aquifer: _____

m. Identify the predominant wildlife species that occupy or use the project site:
squirrels, various common songbirds (warblers), seagulls, white-tailed deer

n. Does the project site contain a designated significant natural community? ☐Yes ☑No
If Yes:
i. Describe the habitat/community (composition, function, and basis for designation):
ii. Source(s) of description or evaluation:
iii. Extent of community/habitat:
- Currently: _____ acres
- Following completion of project as proposed: _____ acres
- Gain or loss (indicate + or -): _____ acres

o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened species? ☐ Yes ☑No
If Yes:
i. Species and listing (endangered or threatened):

p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? ☐Yes ☑No
If Yes:
i. Species and listing:

q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? ☐Yes ☑No
If yes, give a brief description of how the proposed action may affect that use:

E.3. Designated Public Resources On or Near Project Site

a. Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? ☐Yes ☑No
If Yes, provide county plus district name/number:

b. Are agricultural lands consisting of highly productive soils present? ☐Yes ☑No
i. If Yes: acreage(s) on project site?
ii. Source(s) of soil rating(s):

c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? ☐Yes ☑No
If Yes:
i. Nature of the natural landmark: ☐ Biological Community ☐ Geological Feature
ii. Provide brief description of landmark, including values behind designation and approximate size/extent:

d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? ☐Yes ☑No
If Yes:
i. CEA name:
ii. Basis for designation:
iii. Designating agency and date:

e. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places? ☐ Yes ☑ No

If Yes:

i. Nature of historic/archaeological resource: ☐ Archaeological Site ☐ Historic Building or District

ii. Name: _____

iii. Brief description of attributes on which listing is based:

_____

f. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory? ☐ Yes ☑ No

g. Have additional archaeological or historic site(s) or resources been identified on the project site? ☐ Yes ☑ No

If Yes:

i. Describe possible resource(s): _____

ii. Basis for identification: _____

h. Is the project site within fives miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource? ☑ Yes ☐ No

If Yes:

i. Identify resource: Niagara Scenic Parkway and Niagara Falls State Park

ii. Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): NYS Scenic Byway and National Historic Landmark

iii. Distance between project and resource: 0.8 and 3.3 miles.

i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666? ☐ Yes ☑ No

If Yes:

i. Identify the name of the river and its designation: _____

ii. Is the activity consistent with development restrictions contained in 6NYCRR Part 666? ☐ Yes ☐ No

F. Additional Information

Attach any additional information which may be needed to clarify your project.

If you have identified any adverse impacts which could be associated with your proposal, please describe those impacts plus any measures which you propose to avoid or minimize them.

G. Verification

I certify that the information provided is true to the best of my knowledge.

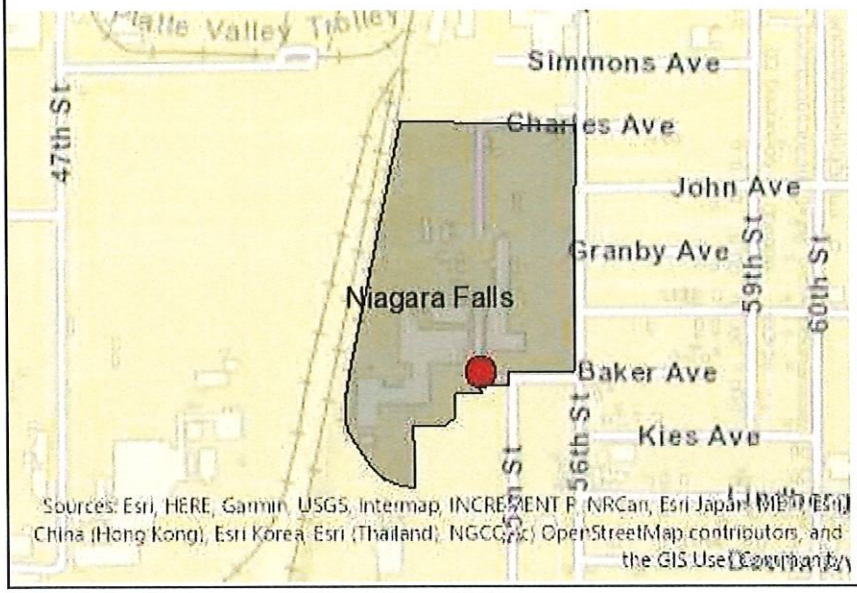
Applicant/Sponsor Name Denise Seller Date 9/11/2025

Signature _____ Title Plant Manager

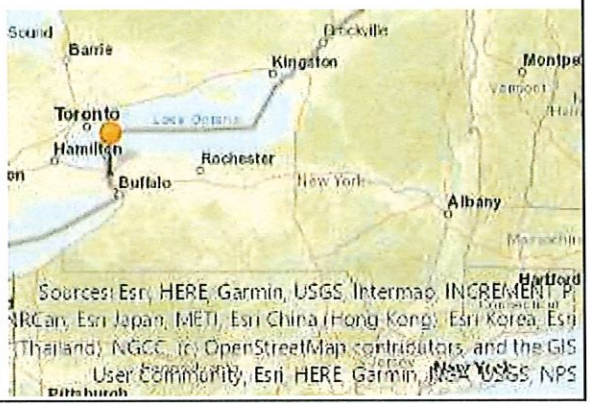
PRINT FORM

EAF Mapper Summary Report

Thursday, September 11, 2025 8:49 AM



Disclaimer: The EAF Mapper is a screening tool intended to assist project sponsors and reviewing agencies in preparing an environmental assessment form (EAF). Not all questions asked in the EAF are answered by the EAF Mapper. Additional information on any EAF question can be obtained by consulting the EAF Workbooks. Although the EAF Mapper provides the most up-to-date digital data available to DEC, you may also need to contact local or other data sources to confirm data provided by the Mapper or to obtain data not provided by the Mapper.



B.i.i [Coastal or Waterfront Area]	No
B.i.ii [Local Waterfront Revitalization Area]	No
C.2.b. [Special Planning District]	Yes - Digital mapping data are not available for all Special Planning Districts. Refer to EAF Workbook.
C.2.b. [Special Planning District - Name]	NYS Heritage Areas:West Erie Canal Corridor
E.1.h [DEC Spills or Remediation Site - Potential Contamination History]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Listed]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Environmental Site Remediation Database]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.iii [Within 2,000' of DEC Remediation Site]	Yes
E.1.h.iii [Within 2,000' of DEC Remediation Site - DEC ID]	932046, 932042, 932002, C932143, V00373, C932146, 932019, C932160, C932150, 932110, C932170, C932172
E.2.g [Unique Geologic Features]	No
E.2.h.i [Surface Water Features]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.2.h.ii [Surface Water Features]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.2.h.iii [Surface Water Features]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.2.h.v [Impaired Water Bodies]	No
E.2.i. [Floodway]	No
E.2.j. [100 Year Floodplain]	No
E.2.k. [500 Year Floodplain]	No
E.2.l. [Aquifers]	No

E.2.n. [Natural Communities]	No
E.2.o. [Endangered or Threatened Species]	No
E.2.p. [Rare Plants or Animals]	No
E.3.a. [Agricultural District]	No
E.3.c. [National Natural Landmark]	No
E.3.d [Critical Environmental Area]	No
E.3.e. [National or State Register of Historic Places or State Eligible Sites]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.3.f. [Archeological Sites]	No
E.3.i. [Designated River Corridor]	No

Agency Use Only [If applicable]

Project :

Date :

Full Environmental Assessment Form
Part 2 - Identification of Potential Project Impacts

Part 2 is to be completed by the lead agency. Part 2 is designed to help the lead agency inventory all potential resources that could be affected by a proposed project or action. We recognize that the lead agency's reviewer(s) will not necessarily be environmental professionals. So, the questions are designed to walk a reviewer through the assessment process by providing a series of questions that can be answered using the information found in Part 1. To further assist the lead agency in completing Part 2, the form identifies the most relevant questions in Part 1 that will provide the information needed to answer the Part 2 question. When Part 2 is completed, the lead agency will have identified the relevant environmental areas that may be impacted by the proposed activity.

If the lead agency is a state agency **and** the action is in any Coastal Area, complete the Coastal Assessment Form before proceeding with this assessment.

Tips for completing Part 2:

- Review all of the information provided in Part 1.
- Review any application, maps, supporting materials and the Full EAF Workbook.
- Answer each of the 18 questions in Part 2.
- If you answer "**Yes"** to a numbered question, please complete all the questions that follow in that section.
- If you answer "**No"** to a numbered question, move on to the next numbered question.
- Check appropriate column to indicate the anticipated size of the impact.
- Proposed projects that would exceed a numeric threshold contained in a question should result in the reviewing agency checking the box "Moderate to large impact may occur."
- The reviewer is not expected to be an expert in environmental analysis.
- If you are not sure or undecided about the size of an impact, it may help to review the sub-questions for the general question and consult the workbook.
- When answering a question consider all components of the proposed activity, that is, the "whole action".
- Consider the possibility for long-term and cumulative impacts as well as direct impacts.
- Answer the question in a reasonable manner considering the scale and context of the project.

1. Impact on Land

Proposed action may involve construction on, or physical alteration of, the land surface of the proposed site. (See Part 1. D.1)

☑ NO ☐ YES

If "Yes", answer questions a - j. If "No", move on to Section 2.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may involve construction on land where depth to water table is less than 3 feet.	E2d	☐	☐
b. The proposed action may involve construction on slopes of 15% or greater.	E2f	☐	☐
c. The proposed action may involve construction on land where bedrock is exposed, or generally within 5 feet of existing ground surface.	E2a	☐	☐
d. The proposed action may involve the excavation and removal of more than 1,000 tons of natural material.	D2a	☐	☐
e. The proposed action may involve construction that continues for more than one year or in multiple phases.	D1e	☐	☐
f. The proposed action may result in increased erosion, whether from physical disturbance or vegetation removal (including from treatment by herbicides).	D2e, D2q	☐	☐
g. The proposed action is, or may be, located within a Coastal Erosion hazard area.	B1i	☐	☐
h. Other impacts: _____ _____		☐	☐

2. Impact on Geological Features

The proposed action may result in the modification or destruction of, or inhibit access to, any unique or unusual land forms on the site (e.g., cliffs, dunes, minerals, fossils, caves). (See Part 1. E.2.g) ☑ NO ☐ YES

If "Yes", answer questions a - c. If "No", move on to Section 3.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. Identify the specific land form(s) attached: _____ _____	E2g	□	□
b. The proposed action may affect or is adjacent to a geological feature listed as a registered National Natural Landmark. Specific feature: _____	E3c	□	□
c. Other impacts: _____ _____		□	□

3. Impacts on Surface Water

The proposed action may affect one or more wetlands or other surface water bodies (e.g., streams, rivers, ponds or lakes). (See Part 1. D.2, E.2.h) ☑ NO ☐ YES

If "Yes", answer questions a - l. If "No", move on to Section 4.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may create a new water body.	D2b, D1h	□	□
b. The proposed action may result in an increase or decrease of over 10% or more than a 10 acre increase or decrease in the surface area of any body of water.	D2b	□	□
c. The proposed action may involve dredging more than 100 cubic yards of material from a wetland or water body.	D2a	□	□
d. The proposed action may involve construction within or adjoining a freshwater or tidal wetland, or in the bed or banks of any other water body.	E2h	□	□
e. The proposed action may create turbidity in a waterbody, either from upland erosion, runoff or by disturbing bottom sediments.	D2a, D2h	□	□
f. The proposed action may include construction of one or more intake(s) for withdrawal of water from surface water.	D2c	□	□
g. The proposed action may include construction of one or more outfall(s) for discharge of wastewater to surface water(s).	D2d	□	□
h. The proposed action may cause soil erosion, or otherwise create a source of stormwater discharge that may lead to siltation or other degradation of receiving water bodies.	D2e	□	□
i. The proposed action may affect the water quality of any water bodies within or downstream of the site of the proposed action.	E2h	□	□
j. The proposed action may involve the application of pesticides or herbicides in or around any water body.	D2q, E2h	□	□
k. The proposed action may require the construction of new, or expansion of existing, wastewater treatment facilities.	D1a, D2d	□	□

l. Other impacts: _____ _____		□	□

4. Impact on groundwater

The proposed action may result in new or additional use of ground water, or may have the potential to introduce contaminants to ground water or an aquifer. (See Part 1. D.2.a, D.2.c, D.2.d, D.2.p, D.2.q, D.2.t)

☑ NO ☐ YES

If "Yes", answer questions a - h. If "No", move on to Section 5.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may require new water supply wells, or create additional demand on supplies from existing water supply wells.	D2c	□	□
b. Water supply demand from the proposed action may exceed safe and sustainable withdrawal capacity rate of the local supply or aquifer. Cite Source: _____	D2c	□	□
c. The proposed action may allow or result in residential uses in areas without water and sewer services.	D1a, D2c	□	□
d. The proposed action may include or require wastewater discharged to groundwater.	D2d, E2l	□	□
e. The proposed action may result in the construction of water supply wells in locations where groundwater is, or is suspected to be, contaminated.	D2c, E1f, E1g, E1h	□	□
f. The proposed action may require the bulk storage of petroleum or chemical products over ground water or an aquifer.	D2p, E2l	□	□
g. The proposed action may involve the commercial application of pesticides within 100 feet of potable drinking water or irrigation sources.	E2h, D2q, E2l, D2c	□	□
h. Other impacts: _____ _____		□	□

5. Impact on Flooding

The proposed action may result in development on lands subject to flooding. (See Part 1. E.2)

☑ NO ☐ YES

If "Yes", answer questions a - g. If "No", move on to Section 6.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may result in development in a designated floodway.	E2i	□	□
b. The proposed action may result in development within a 100 year floodplain.	E2j	□	□
c. The proposed action may result in development within a 500 year floodplain.	E2k	□	□
d. The proposed action may result in, or require, modification of existing drainage patterns.	D2b, D2e	□	□
e. The proposed action may change flood water flows that contribute to flooding.	D2b, E2i, E2j, E2k	□	□
f. If there is a dam located on the site of the proposed action, is the dam in need of repair, or upgrade?	E1e	□	□

g. Other impacts: _____ _____		☐	☐

6. Impacts on Air

The proposed action may include a state regulated air emission source. ☐ NO ☑ YES
(See Part 1. D.2.f., D.2.h, D.2.g)
If "Yes", answer questions a - f. If "No", move on to Section 7.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. If the proposed action requires federal or state air emission permits, the action may also emit one or more greenhouse gases at or above the following levels:			
i. More than 1000 tons/year of carbon dioxide (CO_2)	D2g	☑	☐
ii. More than 3.5 tons/year of nitrous oxide (N_2O)	D2g	☑	☐
iii. More than 1000 tons/year of carbon equivalent of perfluorocarbons (PFCs)	D2g	☑	☐
iv. More than .045 tons/year of sulfur hexafluoride (SF_6)	D2g	☑	☐
v. More than 1000 tons/year of carbon dioxide equivalent of hydrochloroflourocarbons (HFCs) emissions	D2g	☑	☐
vi. 43 tons/year or more of methane	D2h	☑	☐
b. The proposed action may generate 10 tons/year or more of any one designated hazardous air pollutant, or 25 tons/year or more of any combination of such hazardous air pollutants.	D2g	☑	☐
c. The proposed action may require a state air registration, or may produce an emissions rate of total contaminants that may exceed 5 lbs. per hour, or may include a heat source capable of producing more than 10 million BTU's per hour.	D2f, D2g	☑	☐
d. The proposed action may reach 50% of any of the thresholds in "a" through "c", above.	D2g	☑	☐
e. The proposed action may result in the combustion or thermal treatment of more than 1 ton of refuse per hour.	D2s	☑	☐
f. Other impacts: _____ _____		☐	☐

7. Impact on Plants and Animals

The proposed action may result in a loss of flora or fauna. (See Part 1. E.2. m.-q.) ☑ NO ☐ YES
If "Yes", answer questions a - j. If "No", move on to Section 8.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may cause reduction in population or loss of individuals of any threatened or endangered species, as listed by New York State or the Federal government, that use the site, or are found on, over, or near the site.	E2o	☐	☐
b. The proposed action may result in a reduction or degradation of any habitat used by any rare, threatened or endangered species, as listed by New York State or the federal government.	E2o	☐	☐
c. The proposed action may cause reduction in population, or loss of individuals, of any species of special concern or conservation need, as listed by New York State or the Federal government, that use the site, or are found on, over, or near the site.	E2p	☐	☐
d. The proposed action may result in a reduction or degradation of any habitat used by any species of special concern and conservation need, as listed by New York State or the Federal government.	E2p	☐	☐

e. The proposed action may diminish the capacity of a registered National Natural Landmark to support the biological community it was established to protect.	E3c	□	□
f. The proposed action may result in the removal of, or ground disturbance in, any portion of a designated significant natural community. Source: _____	E2n	□	□
g. The proposed action may substantially interfere with nesting/breeding, foraging, or over-wintering habitat for the predominant species that occupy or use the project site.	E2m	□	□
h. The proposed action requires the conversion of more than 10 acres of forest, grassland or any other regionally or locally important habitat. Habitat type & information source: _____ _____	E1b	□	□
i. Proposed action (commercial, industrial or recreational projects, only) involves use of herbicides or pesticides.	D2q	□	□
j. Other impacts: _____ _____		□	□

8. Impact on Agricultural Resources

The proposed action may impact agricultural resources. (See Part 1. E.3.a. and b.) ☑ NO ☐ YES

If "Yes", answer questions a - h. If "No", move on to Section 9.

	Relevant Part I Question(s)	**No, or small impact may occur**	**Moderate to large impact may occur**
a. The proposed action may impact soil classified within soil group 1 through 4 of the NYS Land Classification System.	E2c, E3b	□	□
b. The proposed action may sever, cross or otherwise limit access to agricultural land (includes cropland, hayfields, pasture, vineyard, orchard, etc).	E1a, Elb	□	□
c. The proposed action may result in the excavation or compaction of the soil profile of active agricultural land.	E3b	□	□
d. The proposed action may irreversibly convert agricultural land to non-agricultural uses, either more than 2.5 acres if located in an Agricultural District, or more than 10 acres if not within an Agricultural District.	E1b, E3a	□	□
e. The proposed action may disrupt or prevent installation of an agricultural land management system.	El a, E1b	□	□
f. The proposed action may result, directly or indirectly, in increased development potential or pressure on farmland.	C2c, C3, D2c, D2d	□	□
g. The proposed project is not consistent with the adopted municipal Farmland Protection Plan.	C2c	□	□
h. Other impacts: _____		□	□

9. Impact on Aesthetic Resources

The land use of the proposed action are obviously different from, or are in sharp contrast to, current land use patterns between the proposed project and a scenic or aesthetic resource. (Part 1. E.1.a, E.1.b, E.3.h.)

☑ NO ☐ YES

If "Yes", answer questions a - g. If "No", go to Section 10.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. Proposed action may be visible from any officially designated federal, state, or local scenic or aesthetic resource.	E3h	☐	☐
b. The proposed action may result in the obstruction, elimination or significant screening of one or more officially designated scenic views.	E3h, C2b	☐	☐
c. The proposed action may be visible from publicly accessible vantage points: i. Seasonally (e.g., screened by summer foliage, but visible during other seasons) ii. Year round	E3h	 ☐ ☐	 ☐ ☐
d. The situation or activity in which viewers are engaged while viewing the proposed action is: i. Routine travel by residents, including travel to and from work ii. Recreational or tourism based activities	E3h E2q, E1c	 ☐ ☐	 ☐ ☐
e. The proposed action may cause a diminishment of the public enjoyment and appreciation of the designated aesthetic resource.	E3h	☐	☐
f. There are similar projects visible within the following distance of the proposed project: 0-1/2 mile ½ -3 mile 3-5 mile 5+ mile	D1a, E1a, D1f, D1g	☐	☐
g. Other impacts: _____ _____		☐	☐

10. Impact on Historic and Archeological Resources

The proposed action may occur in or adjacent to a historic or archaeological resource. (Part 1. E.3.e, f. and g.)

☑ NO ☐ YES

If "Yes", answer questions a - e. If "No", go to Section 11.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may occur wholly or partially within, or substantially contiguous to, any buildings, archaeological site or district which is listed on the National or State Register of Historical Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places.	E3e	☐	☐
b. The proposed action may occur wholly or partially within, or substantially contiguous to, an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory.	E3f	☐	☐
c. The proposed action may occur wholly or partially within, or substantially contiguous to, an archaeological site not included on the NY SHPO inventory. Source: _____	E3g	☐	☐

d. Other impacts: _____ _____		□	□
e. If any of the above (a-d) are answered "Moderate to large impact may occur", continue with the following questions to help support conclusions in Part 3:			
i. The proposed action may result in the destruction or alteration of all or part of the site or property.	E3e, E3g, E3f	□	□
ii. The proposed action may result in the alteration of the property's setting or integrity.	E3e, E3f, E3g, E1a, E1b	□	□
iii. The proposed action may result in the introduction of visual elements which are out of character with the site or property, or may alter its setting.	E3e, E3f, E3g, E3h, C2, C3	□	□

11. Impact on Open Space and Recreation

The proposed action may result in a loss of recreational opportunities or a reduction of an open space resource as designated in any adopted municipal open space plan.
(See Part 1. C.2.c, E.1.c., E.2.q.)
If "Yes", answer questions a - e. If "No", go to Section 12.

☑ NO ☐ YES

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may result in an impairment of natural functions, or "ecosystem services", provided by an undeveloped area, including but not limited to stormwater storage, nutrient cycling, wildlife habitat.	D2e, E1b E2h, E2m, E2o, E2n, E2p	□	□
b. The proposed action may result in the loss of a current or future recreational resource.	C2a, E1c, C2c, E2q	□	□
c. The proposed action may eliminate open space or recreational resource in an area with few such resources.	C2a, C2c E1c, E2q	□	□
d. The proposed action may result in loss of an area now used informally by the community as an open space resource.	C2c, E1c	□	□
e. Other impacts: _____ _____		□	□

12. Impact on Critical Environmental Areas

The proposed action may be located within or adjacent to a critical environmental area (CEA). (See Part 1. E.3.d)
If "Yes", answer questions a - c. If "No", go to Section 13.

☑ NO ☐ YES

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may result in a reduction in the quantity of the resource or characteristic which was the basis for designation of the CEA.	E3d	□	□
b. The proposed action may result in a reduction in the quality of the resource or characteristic which was the basis for designation of the CEA.	E3d	□	□
c. Other impacts: _____ _____		□	□

13. Impact on Transportation

The proposed action may result in a change to existing transportation systems. ☑ NO ☐ YES
(See Part 1. D.2.j)
If "Yes", answer questions a - f. If "No", go to Section 14.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. Projected traffic increase may exceed capacity of existing road network.	D2j	☐	☐
b. The proposed action may result in the construction of paved parking area for 500 or more vehicles.	D2j	☐	☐
c. The proposed action will degrade existing transit access.	D2j	☐	☐
d. The proposed action will degrade existing pedestrian or bicycle accommodations.	D2j	☐	☐
e. The proposed action may alter the present pattern of movement of people or goods.	D2j	☐	☐
f. Other impacts: _____ _____		☐	☐

14. Impact on Energy

The proposed action may cause an increase in the use of any form of energy. ☑ NO ☐ YES
(See Part 1. D.2.k)
If "Yes", answer questions a - e. If "No", go to Section 15.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action will require a new, or an upgrade to an existing, substation.	D2k	☐	☐
b. The proposed action will require the creation or extension of an energy transmission or supply system to serve more than 50 single or two-family residences or to serve a commercial or industrial use.	D1f, D1q, D2k	☐	☐
c. The proposed action may utilize more than 2,500 MWhrs per year of electricity.	D2k	☐	☐
d. The proposed action may involve heating and/or cooling of more than 100,000 square feet of building area when completed.	D1g	☐	☐
e. Other Impacts: _____ _____			

15. Impact on Noise, Odor, and Light

The proposed action may result in an increase in noise, odors, or outdoor lighting. ☑ NO ☐ YES
(See Part 1. D.2.m., n., and o.)
If "Yes", answer questions a - f. If "No", go to Section 16.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may produce sound above noise levels established by local regulation.	D2m	☐	☐
b. The proposed action may result in blasting within 1,500 feet of any residence, hospital, school, licensed day care center, or nursing home.	D2m, E1d	☐	☐
c. The proposed action may result in routine odors for more than one hour per day.	D2o	☐	☐

d. The proposed action may result in light shining onto adjoining properties.	D2n	☐	☐
e. The proposed action may result in lighting creating sky-glow brighter than existing area conditions.	D2n, E1a	☐	☐
f. Other impacts: _____ _____		☐	☐

16. Impact on Human Health

The proposed action may have an impact on human health from exposure to new or existing sources of contaminants. (See Part 1.D.2.q., E.1. d. f. g. and h.) ☑ NO ☐ YES

If "Yes", answer questions a - m. If "No", go to Section 17.

	Relevant Part I Question(s)	No,or small impact may cccur	Moderate to large impact may occur
a. The proposed action is located within 1500 feet of a school, hospital, licensed day care center, group home, nursing home or retirement community.	E1d	☐	☐
b. The site of the proposed action is currently undergoing remediation.	E1g, E1h	☐	☐
c. There is a completed emergency spill remediation, or a completed environmental site remediation on, or adjacent to, the site of the proposed action.	E1g, E1h	☐	☐
d. The site of the action is subject to an institutional control limiting the use of the property (e.g., easement or deed restriction).	E1g, E1h	☐	☐
e. The proposed action may affect institutional control measures that were put in place to ensure that the site remains protective of the environment and human health.	E1g, E1h	☐	☐
f. The proposed action has adequate control measures in place to ensure that future generation, treatment and/or disposal of hazardous wastes will be protective of the environment and human health.	D2t	☐	☐
g. The proposed action involves construction or modification of a solid waste management facility.	D2q, E1f	☐	☐
h. The proposed action may result in the unearthing of solid or hazardous waste.	D2q, E1f	☐	☐
i. The proposed action may result in an increase in the rate of disposal, or processing, of solid waste.	D2r, D2s	☐	☐
j. The proposed action may result in excavation or other disturbance within 2000 feet of a site used for the disposal of solid or hazardous waste.	E1f, E1g E1h	☐	☐
k. The proposed action may result in the migration of explosive gases from a landfill site to adjacent off site structures.	E1f, E1g	☐	☐
l. The proposed action may result in the release of contaminated leachate from the project site.	D2s, E1f, D2r	☐	☐
m. Other impacts: _____ _____			

17. Consistency with Community Plans

The proposed action is not consistent with adopted land use plans. ☑ NO ☐ YES

(See Part 1. C.1, C.2. and C.3.)

If "Yes", answer questions a - h. If "No", go to Section 18.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action's land use components may be different from, or in sharp contrast to, current surrounding land use pattern(s).	C2, C3, D1a E1a, E1b	☐	☐
b. The proposed action will cause the permanent population of the city, town or village in which the project is located to grow by more than 5%.	C2	☐	☐
c. The proposed action is inconsistent with local land use plans or zoning regulations.	C2, C2, C3	☐	☐
d. The proposed action is inconsistent with any County plans, or other regional land use plans.	C2, C2	☐	☐
e. The proposed action may cause a change in the density of development that is not supported by existing infrastructure or is distant from existing infrastructure.	C3, D1c, D1d, D1f, D1d, Elb	☐	☐
f. The proposed action is located in an area characterized by low density development that will require new or expanded public infrastructure.	C4, D2c, D2d D2j	☐	☐
g. The proposed action may induce secondary development impacts (e.g., residential or commercial development not included in the proposed action)	C2a	☐	☐
h. Other: _____ _____		☐	☐

18. Consistency with Community Character

The proposed project is inconsistent with the existing community character. ☑ NO ☐ YES

(See Part 1. C.2, C.3, D.2, E.3)

If "Yes", answer questions a - g. If "No", proceed to Part 3.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may replace or eliminate existing facilities, structures, or areas of historic importance to the community.	E3e, E3f, E3g	☐	☐
b. The proposed action may create a demand for additional community services (e.g. schools, police and fire)	C4	☐	☐
c. The proposed action may displace affordable or low-income housing in an area where there is a shortage of such housing.	C2, C3, D1f D1g, E1a	☐	☐
d. The proposed action may interfere with the use or enjoyment of officially recognized or designated public resources.	C2, E3	☐	☐
e. The proposed action is inconsistent with the predominant architectural scale and character.	C2, C3	☐	☐
f. Proposed action is inconsistent with the character of the existing natural landscape.	C2, C3 E1a, E1b E2g, E2h	☐	☐
g. Other impacts: _____ _____		☐	☐

PRINT FULL FORM

APPENDIX C EMISSIONS CALCULATIONS INCLUDING FUGITIVE EMISSIONS

345 Woodcliff Drive
2nd Floor
Fairport, NY 14450

T +1 585 387 0510

erm.com

MEMO

TO	Lisa M. Czechowicz, Regional Permit Administrator
FROM	ERM Consulting & Engineering, Inc.
DATE	15 September 2025
REFERENCE	0771139
SUBJECT	The Goodyear Tire & Rubber Company - Niagara Falls Plant Air Emissions Calculation Methodology; DEC ID No. 9-2911-00036

This memorandum summarizes the calculation methodologies employed by The Goodyear Tire & Rubber Company to estimate air emissions from its Niagara Falls manufacturing facility. Due the varied nature of the production operations, several calculation methods were relied upon to develop a representative, facility-wide air emissions profile, including emissions test reports, mass balance calculations, US EPA emission factors, US EPA air emissions estimating software, and US EPA-approved emissions calculating software applications.

The following sections of this memo provide a summary of the methodologies used for each emission unit at the Facility.

1. EMISSION UNIT U-000N3

The drum flaker, remelt tank, centrifuge, and product tank are vented through a wet scrubber. Emission factors are from stack testing conducted in 2022 ("Emission Test Report for the Tri-Mer Scrubber and Elimination Tank 2" prepared for Goodyear by GHD, Tables 4.1-4.4, 15 February 2003). Designs are in-progress for a regenerative thermal oxidizer (RTO) control unit in addition to the wet scrubber. Once the RTO is installed, Elimination Tank 2 emissions will also be routed through the RTO and wet scrubber. The RTO will provide at least 90% control efficiency of VOCs and HAPs.

2. EMISSION UNIT U-32034

When the centrifuge is down, the Sparkler filter is used instead. The Sparkler filter removes neutralized catalyst from the Nailax product. The filter is steam purged once every 2 batches. After steam purging, the filter vessel is opened, and the filter paper is removed. The filter cake on the paper contains 7-13% sodium carbonate, 10-30% iron oxide, 10-30% Nailax, and 30-60% sodium chloride (see “Nailax Filtercake” MSDS). The Nailax in the filtercake is conservatively assumed to emit vapors according to the composition of Nailax (see “Nailax Product, Molten”) when it is first removed from the filter vessel and before being submerged in a water-filled waste material lugger. This step takes about 15 minutes (so, 15 minutes of emissions). Emissions are

vented into the room and eventually into the atmosphere via a hood rated at 11,300 SCFM and situated above the waste lugger that is located within the room.

An example calculation for o-toluidine emissions from this process is shown below:

$$EF_{OT}\left[\frac{lbs}{hr}\right] = \frac{lbs\ of\ Nailax\ in\ each\ filter\ cake}{batch} x\ \%\ of\ OT\ in\ Nailax\ x \frac{No.\ of\ batches}{Filter\ opening} \div hours\ of\ emissions$$

This method provides an extremely conservative approach to the amount of VOC emissions from the Sparkler filter.

Nailax and DPA contained in the filter cake are solid particulates at room temperature. While some particulates may be emitted while the filter cake is cooling, they are estimated to conservatively be 0.1%. AS discussed below, the dust collector used for Emission Unit U-000N4 collects PM from the final product that is formed from molten Nailax, similar to what would be left in the sparkler filter cake. This dust collector accumulates a maximum of 12 drums a year, with each drum collecting up to 450 pounds of dust. If all this dust is conservatively assumed to be Nailax PM, this would equate to just 0.045% of Nailax being released as PM as it cools from molten to solid, as shown below.

$$12\ drums * 450 \frac{lbs}{drum} = 5{,}400\ lbs\ PM$$

$$\frac{5{,}400\ lbs\ PM}{12{,}000{,}000\ lbs\ Nailax\ produced} = 0.045\%\ Nailax\ emitted$$

3. EMISSION UNIT 0-ANIST

Two, 15,900-gallon aniline storage tanks equipped with conservation vents. Working and breathing losses were calculated using US EPA TANKS 5.1 software.

4. EMISSION UNIT 0-RECYC

Three, 10,800-gallon storage tanks that hold Recycle material – a mix of o-xylene, aniline, o-toluidine, phenol, HQ, DPA, and Nailax. Composition of the recycle stream was obtained from the most recent month available (August 2025), from on-site testing laboratory at Goodyear. Working and breathing losses were calculated using US EPA TANKS 5.1software.

5. EMISSION UNIT 0-TOLST

Two 15,928-gallon and one 15,321-gallon ortho-toluidine storage tank, all three of which are equipped with conservation vents and controlled with activated carbon. Working and breathing losses were calculated using US EPA TANKS 5.1 software.

6. EMISSION UNIT U-000D1

Elimination Tank No. 1 serves the product holding tank vents and emissions from the pastille unit. Emissions were calculated using Mitchell Scientific, Inc.'s Emission Master® software.

The software calculates HAP and/or VOC vent emissions from batch and continuous processes using computerized EPA equations in a process modeling environment. Available process step models within the software include filling, purging, heating, vacuum, depressurization, gas evolution, solids drying and storage tank. Interactive chemical databases enable one to model multi-phase liquid mixtures. Emission Master® supports several vapor pressure models including Antoine, Clapeyron and Riedel equations. Equation coefficients may be calculated from experimental or referenced vapor pressure data for many of the models.

In 2026, Elimination Tank #1 will be routed to the same new scrubber and new RTO as Elimination #2. Future PTE and Future Actual emissions were calculated with a conservative assumption of 90% control of PM by the wet scrubber, and 90% control of VOCs and HAPs by the RTO.

7. EMISSION UNIT U-000N2

Emission factors for packaging operations are based on the control efficiency of the baghouse (99%) and the amount of material collected per baghouse drum. Each filled drum holds 450 pounds of dust. Therefore, the total PM emitted in a year is calculated as follows:

$$PM\left[\frac{lbs}{year}\right] = \frac{drums}{year} x \frac{lbs}{drum} x\,(1 - 0.99)$$

8. EMISSION UNIT U-000N4

Emission factors of particulates for the vibratory conveyor and bucket elevator baghouse are based on the control efficiency of the baghouse (99%) and the amount of material collected. Each filled drum holds 450 pounds of dust. Therefore, the total PM emitted in a year is calculated as follows:

$$PM\left[\frac{lbs}{year}\right] = \frac{drums}{year} x \frac{lbs}{drum}\, x\,(1 - 0.99)$$

95% of the PM that is emitted is Nailax product and the remaining 5% is DPA.

9. EMISSION UNIT U-32009

Emission factors for the sump holding tank were derived from US EPA TANKS 5.1 software for working losses only. The tank is located indoors with minimal temperature variation that prevents breathing losses.

10. EMISSION UNIT U-3393A

Hydroquinone (HQ) is dumped from bags into a chute which drops the powder into a premix tank. HQ dust from this process is collected by a dust collection system with 99% control efficiency. The collected dust is re-used and 1% is emitted.

$$PM\left[\frac{lbs}{year}\right] = \frac{lbs\ collected}{year} x\,(1 - 0.99)$$

Typically, about 2,000 pounds of dust is collected in a year from this process, with a maximum of 4,500 pounds collected in a year.

11. EMISSION UNIT U-F0101

This emission unit consists of one 10,400-gallon o-xylene storage tank. Working and breathing losses were calculated using US EPA TANKS 5.1 software.

12. EMISSION UNIT W-STWTR

This unit has two emission points, F1862 and 0C2EO. F1862 is associated with two tube and shell condensers (0HSX1 and 0HSX2) which control emissions of o-xylene from the solvent extraction/distillation equipment, xylene tank 3103, xylene tank 3104, recovery tank 3107, and decant tank 3113.

0C2EO is associated with the Calgon carbon cannister system that controls o-xylene from the packed air stripper.

Emissions of o-xylene were tested in 2005 and reported in *"Emissions Test Program Conducted in Support of MON MACT Compliance Determinations July 2005".*

13. FUGITIVES

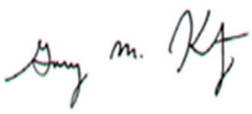
Fugitive emissions were calculated using the Correlation Approach found in the US EPA *Protocol for Equipment Leak Emission Estimates*. See the memo titled "Fugitive Emissions for Equipment Components in Light & Heavy Liquid Service", dated August 29, 2025 for details on this approach.

14. IN SUMMARY

In addition to this summary memorandum, the calculations included with the ASF Permit modification and renewal application provide notations for the bases of the calculations used for the facility wide emissions.

Sincerely,

David T. Murtha, QEP, CVI, TWIC
Consulting Director



Gary M. Keating
Partner-In-Charge

Table C-1.1: Potential-to-Emit (PTE) Facility-Wide Emission Summary

Contaminant	CAS#	PTE, lbs/year															
		Exempt Combustion	U-000N3	U-32034	0-ANIST	0-RECYC	0-TOLST	U-000D1	U-000N2	U-000N4	U-32009	U-3393A	U-F0101	W-STWTR	Fugitives	Total, lbs/year	Total, tons/year
CO	630-08-0	9,666.92														9,666.92	4.83
NOx	NY210-00-0	11,508.24														11,508.24	5.75
SO_2	7446-09-5	69.05														69.05	0.03
PM	NY075-00-0	874.63	232.88						576.00	54.00						1,737.50	0.87
Diphenylamine	122-39-4		331.20	0.84		0.001		0.12		2.57						334.73	0.17
Lead	7439-92-1															-	-
VOCs	NY998-00-0	632.95	9,791.70	10.75	0.27	13.66	2.85	1,590.26		2.57	0.95		7.76	6,219.60	96.29	18,369.61	9.18
HCl	7647-01-0							1,085.00								1,085.00	0.54
Nailax	68953-84-4			17.71		0.0003				51.30						69.01	0.03
Combustion HAPs	--	217.56														217.56	0.11
Aniline	62-53-3		466.65	2.11	0.27	3.78E-01		117.88			0.45				4.41	592.15	0.30
Hydroquinone	123-31-9					1.59E-05		0.06			0.003	45.00				45.06	0.02
Phenol	108-95-2		63.07	1.05		0.17		18.50			0.35				1.77	84.92	0.04
o-Toluidine	95-53-4		432.36	6.33		0.24	2.85	76.96			0.14				19.24	538.12	0.27
o-Xylene	95-47-6		8,930.78	0.42		12.87		1,376.92					7.76	6,219.60	70.78	16,619.13	8.31
Total HAPs	*NY100-00-0*	217.56	9,892.86	9.91	0.27	13.66	2.85	1,590.32			0.95	45.00	7.76	6,219.60	96.20	18,096.94	9.05

Table C-1.2: Actual Facility-Wide Emission Summary

Contaminant	CAS #	Actual, lbs/year														
		Exempt Combustion	U-000N3	U-32034	0-ANIST	0-RECYC	0-TOLST	U-000D1	U-000N2	U-000N4	U-32009	U-3393A	U-F0101	W-STWTR	Fugitives	Total, lbs/year	Total, tons/year
CO	630-08-0	4,174.13														4,174.13	2.09
NOx	NY210-00-0	4,969.20														4,969.20	2.48
SO_2	7446-09-5	29.82														29.82	0.01
PM	NY075-00-0	377.66	105.44						57.60	45.00						585.69	0.29
Diphenylamine	122-39-4			0.05		5.10E-04		0.07		2.14						2.26	0.00
Lead	7439-92-1															-	-
VOCs	NY998-00-0	273.31	-	0.62	0.27	0.31	2.85	943.99					7.76	5,964.00	96.29	7,289.40	3.64
HCl	7647-01-0							644.06								644.06	0.32
Nailax	68953-84-4			1.12		2.06E-04				42.75						43.87	0.02
Combustion HAPs	--	93.94														93.94	0.05
Aniline	62-53-3		243.67	0.13	0.27	0.31		69.98			0.25				4.41	319.02	0.16
Hydroquinone	123-31-9					1.30E-05		0.04			0.002	19.80				19.84	0.01
Phenol	108-95-2		11.25	0.07		0.14		10.98			0.20				1.77	24.40	0.01
o-Toluidine	95-53-4		210.87	0.40		0.20	2.85	45.68			0.08				19.24	279.32	0.14
o-Xylene	95-47-6		4,763.32	0.03		10.52		817.35					7.76	5,964.00	70.78	11,633.76	5.82
Total HAPs	*NY100-00-0*	93.94	5,229.11	0.62	0.27	11.16	2.85	944.03	-	-	0.53	19.80	7.76	5,964.00	96.20	12,370.27	6.19

Table C-1.3: Emission Rate Potential (ERP) Facility-Wide Emission Summary

Contaminant	CAS #	ERP, lb/hr														
		Exempt Combustion	U-000N3	U-32034	0-ANIST	0-RECYC	0-TOLST	U-000D1	U-000N2	U-000N4	U-32009	U-3393A	U-F0101	W-STWTR	Fugitives	Total, lbs/hr
CO	630-08-0	1.10														1.10
NOx	NY210-00-0	1.31														1.31
PM-10	NY075-00-5	0.10														0.10
PM-2.5	NY075-02-5	0.10														0.10
Diphenylamine	122-39-4		0.06	0.01				1.34E-04								0.07
Lead	7439-92-1															-
VOCs	NY998-00-0	-	-	0.08	0.13	0.00	0.01	1.40					1.62	0.71	1.10E-02	3.96
HCl	7647-01-0							1.72E+00								1.72
Nailax	68953-84-4			0.15												0.15
Combustion HAPs	--	2.48E-02														0.02
Aniline	62-53-3		0.06	0.02	0.13	3.52E-05		0.05			5.17E-05				5.03E-04	0.26
Hydroquinone	123-31-9					1.49E-09		5.19E-05			3.58E-07	5.14E-03				0.01
Phenol	108-95-2		0.00	0.01		1.56E-05		0.02			4.02E-05				2.02E-04	0.03
o-Toluidine	95-53-4		0.07	0.05		2.24E-05	0.01	0.03			1.65E-05				2.20E-03	0.16
o-Xylene	95-47-6		1.03	0.004		1.20E-03		1.30					1.62	0.71	8.08E-03	4.67
Total HAPs	*NY100-00-0*	2.48E-02	1.16	0.08	0.13	0.00	0.01	1.40	-	-	0.00	0.01	1.62	0.71	1.10E-02	5.16

Source: Drum flaker, remelt tank, centrifuge

Description: The drum flaker, remelt tank, centrifuge, and product tank are vented through a wet scrubber. Emission factors are from stack testing conducted in 2022. Designs are in-progress for a regenerative thermal oxidizer (RTO) control unit in addition to the wet scrubber. Once the RTO is installed, Elimination Tank 1 and Elimination Tank 2 emissions will also be routed through the RTO and wet scrubber. The RTO will provide at least 90% control efficiency of VOCs and HAPs.

Table C-2.1: Emission Unit U-000N3 Emission Factors

	Wet scrubber outlet		Elimination Tank 2 outlet		Future RTO Emissions	
Pollutant	lb/hr[1]	lb/batch	lb/hr[1]	lb/batch	lb/hr[1]	lb/batch
PM	0.045	0.0675	-	-	0.045	0.0675
o-Toluidine	0.048	0.072	0.0210	0.0630	0.0069	0.0135
Diphenylamine	0.064	0.096	-	-	0.0064	0.0096
Aniline	0.014	0.021	0.0450	0.1350	0.0059	0.0156
o-Xylene	0.033	0.0495	1.0000	3.0000	0.1033	0.3050
Phenol	-	-	0.0024	0.0072	0.0002	0.0007

	Hours per Batch	Potential Batches per Year
Wet Scrubber	1.5	3,450
Elimination Tank 2	3	Actual Batches per Year
		1,562

	Potential Hours per Year	Actual Hours per Year
Wet Scrubber	5,175	2,343
Elimination Tank 2	8,760	4,686

[1] *From "Emission Test Report for the Tri-Mer Scrubber and Elimination Tank 2" prepared for Goodyear by GHD, Tables 4.1-4.4, 15 February 2023*

Table C-2.2: Emission Unit U-000N3 ERP Calculations

Pollutant	Wet scrubber outlet[2] lb/hr	Elimination Tank 2 outlet lb/hr
PM	0.45	-
o-Toluidine	0.048	0.0210
Diphenylamine	0.064	-
Aniline	0.014	0.0450
o-Xylene	0.033	1.0000
Phenol	-	0.0024

[2] *The wet scrubber only controls PM emissions at 90% efficiency, so all other emissions remain the same for PTE calculations.*

Table C-2.3: Emission Unit U-000N3 PTE Calculations

Pollutant	Wet scrubber outlet lb/yr	Elimination Tank 2 outlet lb/yr	Future RTO lb/yr
PM	232.88	-	232.88
o-Toluidine	248.40	184	43.24
Diphenylamine	331.20	-	33.12
Aniline	72.45	394	46.67
o-Xylene	170.78	8,760	893.08
Phenol	-	63	6.31

Table C-2.4: Emission Unit U-000N3 Actual Emissions Calculations

Pollutant	Wet scrubber outlet lb/yr	Elimination Tank 2 outlet lb/yr	Future RTO lb/yr
PM	105.44	-	105.44
o-Toluidine	112.46	98	21.09
Diphenylamine	149.95	-	15.00
Aniline	32.80	211	24.37
o-Xylene	77.32	4,686	476.33
Phenol	-	11	1.12

Source: Sparkler filter

Description: Antioxidant batches are degassed and then filtered (Sparkler filter) to remove the neutralized catalyst. Filter is cleaned periodically and fumes are removed by a ventilation system (EP 32034). The filter is used for Nailax when the centrifuge is down.

Table C-3.1: Nailax product (molten) specifications

	Molecular Weight	lb/gal	w/w %	Normalized	moles/100 lbs	Mole Fraction
Aniline	93.1	8.529	0.010%	0.011%	0.0001	0.0003
DPA	169.2	8.340	4.000%	4.543%	0.0269	0.0715
Nailax	274.0	8.340	84.000%	95.404%	0.3482	0.9271
Phenol	94.1	8.920	0.005%	0.006%	0.0001	0.0001
o-Toluidine	107.2	8.410	0.030%	0.034%	0.0003	0.0008
o-Xylene	106.2	7.345	0.002%	0.002%	0.00002	0.0001
	Total		88%	100%	0.3756	1

Table C-3.2: Emission Unit U-32034 Emission Factor Calculations

lbs of cake per ton filtered	80
lbs filtered per batch	7,800
lbs of cake generated per batch	312
Given that each cake is 25% Nailax: [1]	
lbs of Nailax in the filter cake, per batch	78
Component Amount Example:	
lbs of o-Toluidine in the filter cake, per batch	0.03

$$\frac{lbs\ cake}{batch} = \frac{\text{lbs cake}}{\text{ton filtered}} \div 2{,}000\,\frac{\text{lbs}}{\text{ton}} \times \frac{\text{lbs filtered}}{\text{batch}}$$

	Aniline	DPA	Nailax	Phenol	o-Toluidine	o-Xylene
lbs per batch of Nailax filtered: [2]	0.01	3.54	74.41	0.004	0.03	0.002
% emitted: [3]	100%	0.10%	0.10%	100%	100%	100%

Table C-3.3: Emission Unit U-32034 ERP Calculations

Number of batches per filter opening: 2

Hours of emissions per filter opening[4]: 1

	Aniline	DPA	Nailax	Phenol	o-Toluidine	o-Xylene
ERP, lbs/hour:	0.018	0.007	0.149	0.009	0.053	0.004
EF, lbs/batch:	0.01	0.004	0.07	0.004	0.03	0.002

[1] *Filter cake SDS provided by Goodyear*

[2] *Assumes that all of each component is emitted fully, and the filter is opened every 2 batches:*

[3] *All VOCs are assumed to be fully emitted. DPA and Nailax are particulates at room temperature. A negligible amount is emitted as the filter cake cools down to room temperature.*

[4] *Emissions happen for less than 1 hour. Per 6 NYCRR Part 200.1(u), the ERP is calculated using 1 hour.*

Table C-3.4: Emission Unit U-32034 PTE Calculations

Potential Batches per Year: 238

PTE	Aniline	DPA	Nailax	Phenol	o-Toluidine	o-Xylene
lbs/year	2.11	0.84	17.71	1.05	6.33	0.42

Table C-3.5: Emission Unit U-32034 Actual Emissions Calculations

Actual Batches per Year: 15

	Aniline	DPA	Nailax	Phenol	o-Toluidine	o-Xylene
lbs/year	0.13	0.05	1.12	0.07	0.40	0.03

Source: Two aniline storage tanks
Description: Two 15,900-gallon aniline storage tanks equipped with conservation vents. Working and breathing losses were determined using EPA TANKS 5.1.

Table C-4.1: Emission Unit 0-ANIST Actual Emissions (Tank F-1009)

F-1009	*TANKS Results*
Working Losses (lb/yr)	1.582
Standing Losses (lb/yr)	1.069

Table C-4.2: Emission Unit 0-ANIST ERP Calculations (Tank F-1009)

Working Losses (lb/yr)	1.582
Standing Losses (lb/yr)	1.069
Total Annual Emissions (lb/yr)	2.65
Filling Hours	40.00
ERP (lb/hr)	0.066

Table C-4.3: Emission Unit 0-ANIST Emission Factor Calculations (Tank F-1009)

Carbon Cannister Control	95%
Working Losses (lb/yr)	0.08
Standing Losses (lb/yr)	0.05
Total Annual Emissions (lb/yr)	0.13

Grand Total Annual Emissions (lb/yr)	0.27

Table C-4.4: Emission Unit 0-ANIST Actual Emissions (Tank F-1106)

F-1106	*TANKS Results*
Working Losses (lb/yr)	1.582
Standing Losses (lb/yr)	1.069

Table C-4.5: Emission Unit 0-ANIST ERP Calculations (Tank F-1106)

Working Losses (lb/yr)	1.58
Standing Losses (lb/yr)	1.07
Total Annual Emissions (lb/yr)	2.65
Filling Hours	40.00
ERP (lb/hr)	0.066

Table C-4.6: Emission Unit 0-ANIST Emission Factor Calculations (Tank F-1106)

Carbon Cannister Control	95%
Working Losses (lb/yr)	0.08
Standing Losses (lb/yr)	0.05
Total Annual Emissions (lb/yr)	0.13

Source: Three reycle tanks

Description: Three 10,800 gallons recycle tanks equipped with conservation vents. Working and breathing losses were determined using EPA TANKS 5.1.

Table C-5.1: Average Composition of Recycle Stream[1]

	Weight %	Mole Fraction
O-Xylene	33.09%	32.20%
Aniline	13.28%	14.73%
Phenol	13.12%	14.40%
O-Toluidine	22.49%	21.68%
Hydroquinone	0.61%	0.58%
Diphenylamine	6.96%	4.25%
Nailax	2.93%	1.05%

[1] *Most recent recycle stream analysis from Goodyear in August 2025*

Table C-5.2: Emission Unit 0-RECYC Actual Emissions

F-1103, F-1104, F0107	*TANKS Results* Actual Annual Total Losses (lbs/yr)
O-Xylene	10.520
Aniline	0.309
Phenol	0.137
O-Toluidine	0.196
Hydroquinone	1.30E-05
Diphenylamine	5.10E-04
Nailax	2.06E-04

Table C-5.2: Emission Unit 0-RECYC ERP Calculations

F-1103, F-1104, F0107	ERP (lbs/hr)
O-Xylene	1.20E-03
Aniline	3.52E-05
Phenol	1.56E-05
O-Toluidine	2.24E-05
Hydroquinone	1.49E-09
Diphenylamine	5.82E-08
Nailax	2.36E-08

Table C-5.3: Emission Unit 0-RECYC PTE Calculations

F-1103, F-1104, F0107	PTE Annual Total Losses (lbs/yr)
O-Xylene	12.873
Aniline	0.378
Phenol	0.168
O-Toluidine	0.240
Hydroquinone	1.59E-05
Diphenylamine	6.23E-04
Nailax	2.53E-04

Source: Three ortho-toluidine storage tanks
Description: Two, 15,928-gallon and one 15,321-gallon ortho-toluidine storage tanks equipped with conservation vents and controlled with activated carbon. Working and breathing losses were determined using EPA TANKS 5.1.

Table C-6.1: Emission Unit 0-TOLST Actual Emissions (Tank F-1108)

F-1108	*TANKS Results*	
Working Losses (lb/yr)	0.63	
Standing Losses (lb/yr)	0.431	
o-toluidine Density (lb/gal)	8.328	
o-toluidine Received (lb/yr)	1,757,645	*Avg throughput of past 5 years*

Table C-6.2: Emission Unit 0-TOLST ERP Calculations (Tank F-1108)

Working Losses (lb/yr)	0.63	
Standing Losses (lb/yr)	0.43	
Total Annual Emissions (lb/yr)	1.06	
Filling Hours	374	
ERP (lb/hr)	0.003	*374 hours of filling annually*

Table C-6.3: Emission Unit 0-TOLST Emission Factor Calc. (Tank F-1108)

Control Efficiency*	0%	* *No control system*
Working Losses (lb/yr)	0.63	
Standing Losses (lb/yr)	0.43	
Total Annual Emissions (lb/yr)	1.06	

Grand Total Annual Emissions (lb/yr)	2.85

Table C-6.4: Emission Unit 0-TOLST Actual Emissions (Tank F-1110)

F-1110	*TANKS Results*
Working Losses (lb/yr)	0.631
Standing Losses (lb/yr)	0.432
o-toluidine Density (lb/gal)	8.328
o-toluidine Received (lb/yr)	1,757,645

Table C-6.5: Emission Unit 0-TOLST ERP Calculations (Tank F-1110)

Working Losses (lb/yr)	0.63
Standing Losses (lb/yr)	0.43
Total Annual Emissions (lb/yr)	1.06
Filling Hours	374
ERP (lb/hr)	0.003

Table C-6.6: Emission Unit 0-TOLST Emission Factor Calc. (Tank F-1110)

Control Efficiency*	0%	* *No control system*
Working Losses (lb/yr)	0.63	
Standing Losses (lb/yr)	0.43	
Total Annual Emissions (lb/yr)	1.06	

Table C-6.7: Emission Unit 0-TOLST Actual Emissions (Tank F-1112)

F-1112	*TANKS Results*
Working Losses (lb/yr)	0.332
Standing Losses (lb/yr)	0.397

o-toluidine Density (lb/gal)	8.328
o-toluidine Received (lb/yr)	1,757,645

Table C-6.8: Emission Unit 0-TOLST ERP Calculations (Tank F-1112)

Working Losses (lb/yr)	0.33
Standing Losses (lb/yr)	0.40
Total Annual Emissions (lb/yr)	0.73
Filling Hours	374
ERP (lb/hr)	0.002

Table C-6.9: Emission Unit 0-TOLST Emission Factor Calc. (Tank F-1112)

Control Efficiency*	0%	* *No control system*
Working Losses (lb/yr)	0.33	
Standing Losses (lb/yr)	0.40	
Total Annual Emissions (lb/yr)	0.73	

Source: Elimination Tank No. 1

Description: The Elimination Tank No. 1 system provides overflow protection and additional condensing prior to emission to the atmosphere. The system captures liquid and vapor overflow from the antioxidant production process. In the future, this system will be routed through the same wet scrubber and RTO controls as Elimination Tank 2. Emission Unit U-000D1 will be removed at that point.

Table C-7.1: Emission Unit U-000D1 Emission Master Results

Compound	Activities Emitting	Emissions Uncontrolled (lbs)	Process Cycle Average[1] (lb/hr)	Compound Emission Hours	Compound Emission Average[2] (lb/hr)	Max Rate (lb/hr) Within 1 hour
Air	132	234.827711	7.82	30.86	7.61	70.17
Aniline	45	0.404208057	0.01	13.87	0.03	0.05
Diphenylamine	21	0.000408781	1.36E-05	5.83	7.01E-05	0.00
Ferrous chloride	67	0	0	20.66	0	0
Hydrogen Chloride	19	3.720286663	0.12	5.58	0.67	1.72
Hydroquinone	33	0.000206896	6.89E-06	11.67	1.77E-05	5.19E-05
Iron trichloride	67	0	0	20.66	0	0
o-Toluidine	51	0.263867143	0.00878	14.87	0.02	0.03
o-Xylene	70	4.721251264	0.16	21.08	0.22	1.30
Phenol	21	0.063440407	0.00	5.83	0.01	0.02
Polymer	52	0	0	15.24	0	0
Soda Ash	37	0	0	5.25	0	0
Water	30	0.808257657	0.03	6.33	0.13	0.37

[1] *Process Cycle Average = Compound emission quantity / Total process cycle time in hours.*

[2] *Compound Emission Average = Compound emission quantity / Compound emission time in hours.*

Table C-7.2: Emission unit U-000D1 Actual Emissions

1560 Batches per year
10 Hours per Batch
15600 Hours Total for 3 lines concurrently
5200 Hours per Line

Compound	Actual (lb/yr)	Future Actual (lb/yr)[1]
Aniline	69.98	7.00
Diphenylamine	0.07	0.01
Ferrous chloride	-	-
Hydrogen Chloride	644.06	64.41
Hydroquinone	0.04	0.004
Iron trichloride	-	-
o-Toluidine	45.68	4.57
o-Xylene	817.35	81.74
Phenol	10.98	1.10
Polymer	-	-
Soda Ash	-	-

[1] *Future emissions include 90% PM control by the wet scrubber, and 90% VOC/HAP control by the RTO.*

Table C-7.3: Emission Unit U-000D1 ERP Calculations

Compound	ERP (lb/hr)	Future ERP (lb/hr)
Aniline	0.048	4.82E-03
Diphenylamine	1.34E-04	1.34E-05
Ferrous chloride	-	-
Hydrogen Chloride	1.72E+00	0.17
Hydroquinone	5.19E-05	5.19E-06
Iron trichloride	-	-
o-Toluidine	0.033	3.25E-03
o-Xylene	1.30	0.13
Phenol	0.020	2.04E-03
Polymer	-	-
Soda Ash	-	-

[2] *Future emissions include 90% PM control by the wet scrubber, and 90% VOC/HAP control by the RTO.*

Table C-7.4: Emission Unit U-000D1 PTE Calculations

8760 Hours per line

Compound	PTE (lb/yr)	Future PTE (lb/yr)
Aniline	117.88	11.79
Diphenylamine	0.12	0.01
Ferrous chloride	-	-
Hydrogen Chloride	1,085.00	108.50
Hydroquinone	0.06	0.01
Iron trichloride	-	-
o-Toluidine	76.96	7.70
o-Xylene	1,376.92	137.69
Phenol	18.50	1.85
Polymer	-	-
Soda Ash	-	-

[3] *Future emissions include 90% PM control by the wet scrubber, and 90% VOC/HAP control by the RTO.*

Table C-7.5: Emission Unit U-000D1 Emission Master Results by Step[1]

Step Number	Vessel	Air	Aniline	Diphenylamine	Ferrous chloride	Hydrogen Chloride	Hydroquinone	Iron trichloride	o-Toluidine	o-Xylene	Phenol	Polymer	Soda Ash	Water
1	#1 Premix	2.0349							0.0018					
2	#1 Premix	1.6706	0.0026						0.001					
3	#1 Premix	2.3911	0.0212						0.0137					
4	#1 Premix	1.3044	0.018				9.67E-06		0.0117					
5	#1 Premix	0	0				0		0					
6	#1 Premix	0.1925	0.0025				3.19E-06		0.0016					
7	#1 Premix	2.0989	0.0354	1.00E-04			4.32E-05		0.0242	0.9506	0.0202			0.0975
8	#1 Reactor	0.2446			0	0.0571		0						0.0039
9	#1 Reactor	6.7938	0.0012	7.50E-09	0	0.5302	3.53E-10	0	5.00E-04	0.3501	1.00E-04			0.0255
9	#1 Premix	0												
10	#1 Premix	2.0349							0.0018					
11	#1 Premix	1.6706	0.0026						0.001					
12	#1 Premix	2.3911	0.0212						0.0137					
13	#1 Premix	1.3044	0.018				9.67E-06		0.0117					
14	#1 Premix	0	0				0		0					
15	#1 Premix	0.1925	0.0025				3.19E-06		0.0016					
16	#1 Reactor	5.0919	0.0094	6.87E-10	0	0.0791	3.81E-09	0	0.0034	0.0839	2.18E-05			0.0093
16	#1 Premix	0												
17	#1 Premix	2.0349							0.0018					
18	#1 Premix	1.6706	0.0026						0.001					
19	#1 Premix	2.3911	0.0212						0.0137					
20	#1 Premix	1.3044	0.018				9.67E-06		0.0117					
21	#1 Premix	0	0				0		0					
22	#1 Premix	0.1925	0.0025				3.19E-06		0.0016					
23	#1 Premix	2.0989	0.0354	1.00E-04			4.32E-05		0.0242	0.9506	0.0202			0.0975
24	#2 Reactor	0.2446			0	0.0571		0						0.0039
25	#2 Reactor	6.7938	0.0012	7.50E-09	0	0.5302	3.53E-10	0	5.00E-04	0.3501	1.00E-04			0.0255
25	#1 Premix	0												
26	#1 Premix	2.0349							0.0018					
27	#1 Premix	1.6706	0.0026						0.001					
28	#1 Premix	2.3911	0.0212						0.0137					
29	#1 Premix	1.3044	0.018				9.67E-06		0.0117					
30	#1 Premix	0	0				0		0					
31	#1 Premix	0.1925	0.0025				3.19E-06		0.0016					
32	#2 Reactor	5.0919	0.0094	6.87E-10	0	0.0791	3.81E-09	0	0.0034	0.0839	2.18E-05			0.0093
32	#1 Premix	0												
33	#1 Premix	2.0349							0.0018					
34	#1 Premix	1.6706	0.0026						0.001					
35	#1 Premix	2.3911	0.0212						0.0137					
36	#1 Premix	1.3044	0.018				9.67E-06		0.0117					
37	#1 Premix	0	0				0		0					
38	#1 Premix	0.1925	0.0025				3.19E-06		0.0016					
39	#1 Premix	2.0989	0.0354	1.00E-04			4.32E-05		0.0242	0.9506	0.0202			0.0975
40	#3 Reactor	0.2446			0	0.0571		0						0.0039
41	#3 Reactor	6.7938	0.0012	7.50E-09	0	0.5302	3.53E-10	0	5.00E-04	0.3501	1.00E-04			0.0255
41	#1 Premix	0												
42	#1 Premix	2.0349							0.0018					
43	#1 Premix	1.6706	0.0026						0.001					
44	#1 Premix	2.3911	0.0212						0.0137					
45	#1 Premix	1.3044	0.018				9.67E-06		0.0117					
46	#1 Premix	0	0				0		0					
47	#1 Premix	0.1925	0.0025				3.19E-06		0.0016					
48	#3 Reactor	5.0919	0.0094	6.87E-10	0	0.0791	3.81E-09	0	0.0034	0.0839	2.18E-05			0.0093
48	#1 Premix	0												
49	#1 Reactor	0	0	0	0	0	0	0	0	0	0			0

50	#2 Reactor	0	0	0	0	0	0	0	0	0	0			0
51	#3 Reactor	0	0	0	0	0	0	0	0	0	0			0
52	#1 Reactor	0	0	0	0	0	0	0	0	0	0			0
53	#2 Reactor	0	0	0	0	0	0	0	0	0	0			0
54	#3 Reactor	0	0	0	0	0	0	0	0	0	0			0
55	#1 Reactor	6.9471		2.45E-09	0	0.1801		0		0.0017	3.67E-05	0		0.033
56	#2 Reactor	21.8673		2.53E-08	0	0.7373		0		0.0045	2.00E-04	0		0.1036
57	#3 Reactor	35.8294		4.11E-08	0	0.7358		0		0.0073	4.00E-04	0		0.1683
58	#1 Decant Tank	0.7589		2.22E-06		0.0677					5.00E-04			0.0216
58	#1 Reactor	0			0			0		0		0		
59	#2 Decant Tank	0.7756		2.34E-06							5.00E-04			0.0199
59	#2 Reactor	0			0			0		0		0		
60	#3 Decant Tank	0.7523		2.42E-06							6.00E-04			0.0188
60	#3 Reactor	0			0			0		0		0		
61	#1 Reactor	9.2902			0			0		0.075		0		
62	#2 Reactor	5.1841			0			0		0.0419		0		
63	#3 Reactor	7.7569			0			0		0.0627		0		
64	#1 Reactor	0			0			0		0		0		
65	#2 Reactor	0			0			0		0		0		
66	#3 Reactor	0			0			0		0		0		
67	#1 Degasser	6.8828												
68	#2 Degasser	6.8828												
69	#3 Reactor	0			0			0		0		0		
70	#1 Degasser	0			0			0		0		0		
70	#1 Reactor	0												
71	#2 Degasser	0			0			0		0		0		
71	#2 Reactor	0												
72	#1 Degasser	0			0			0		0		0		
73	#2 Degasser	0			0			0		0		0		
74	#3 Reactor	0			0			0		0		0		
75	#1 Degasser	0			0			0		0		0		
76	#2 Degasser	0			0			0		0		0		
77	#3 Reactor	2.6051			0			0		0.0233		0		
78	Neutralization Tank	0.0715											0	
79	Neutralization Tank	0.7857											0	0.0114
80	#1 Degasser	0			0			0		0		0	0	
80	Neutralization Tank	0												0
81	Neutralization Tank	0.0715											0	
82	Neutralization Tank	0.7857											0	0.0114
83	#2 Degasser	0			0			0		0		0	0	
83	Neutralization Tank	0												0
84	Neutralization Tank	0.0715											0	
85	Neutralization Tank	0.7857											0	0.0114
86	#3 Reactor	0			0			0		0		0	0	
86	Neutralization Tank	0												0
87	#1 Degasser	0			0			0		0		0	0	
88	#2 Degasser	0			0			0		0		0	0	
89	#3 Reactor	0			0			0		0		0	0	
90	#1 Degasser	0			0			0		0		0	0	
91	#2 Degasser	0			0			0		0		0	0	
92	#3 Reactor	0			0			0		0		0	0	
93	#1 Degasser	0			0			0		0		0	0	
94	#2 Degasser	0			0			0		0		0	0	
95	#3 Reactor	0			0			0		0		0	0	
96	#1 Degasser	0			0			0		0		0	0	
97	#2 Degasser	0			0			0		0		0	0	
98	#3 Reactor	0			0			0		0		0	0	
99	#1 Degasser	0			0			0		0		0	0	

100	#2 Degasser	0			0			0		0		0	0	
101	#3 Reactor	0			0			0		0		0	0	
102	#1 Degasser									0				
103	#2 Degasser									0				
104	#3 Reactor									0				
105	#1 Degasser	0			0			0		0		0	0	
106	#2 Degasser	0			0			0		0		0	0	
107	#3 Reactor	0			0			0		0		0	0	
108	#1 Degasser	0			0			0		0		0	0	
109	#2 Degasser	0			0			0		0		0	0	
110	#3 Reactor	0			0			0		0		0	0	
111	#1 Degasser	0			0			0		0		0	0	
112	#2 Degasser	0			0			0		0		0	0	
113	#3 Reactor	0			0			0		0		0	0	
114	#1 Holding Tank	6.4037			0			0		0.0585		0	0	
114	#1 Degasser	0												
115	#1 Holding Tank	6.4037			0			0		0.0585		0	0	
115	#2 Degasser	0												
116	#1 Holding Tank	6.4037			0			0		0.0585		0	0	
116	#3 Reactor	0												
117	#1 Elimination Tank	19.2638			0			0		0.1759		0	0	
117	#1 Holding Tank	0												

[1] *Values listed are in pounds per 1 cycle, where 1 cycle is 3 batches being produced simultaneously.*

Source: Antioxidant packaging
Description: Emission factors for drumming and packaging operations are sourced from a mass balance for PM.

Table C-8.1: Emission Unit U-000N2 Actual PM Emissions

Baghouse collection efficiency	99%
Drum usage (drum/year)[1]	24
Drum weight (lb/drum)	240
Actual PM Emissions (lb/yr)	57.60

$$PM\ \left[\frac{lbs}{year}\right] = \frac{drums}{year} * \frac{lbs}{drum} * (1 - collection\ efficiency)$$

Table C-8.2: Emission Unit U-000N2 ERP Calculations

Drum usage (drum/year)	24
Drum weight (lb/drum)	240
ERP PM Emissions (lb/hr)	0.658

Table C-8.3: Emission Unit U-000N2 PTE Calculations

Baghouse collection efficiency	99%
Drum usage (drum/year)[2]	240
Drum weight (lb/drum)	240
PTE PM Emissions (lb/yr)	576.00

[1] *2 drums/month are collected from the baghouse, per Johnny at Goodyear*

[2] *Up to 10 drums/month were collected from the baghouse in a previous year*

Source: Conveyor movement of antioxidant product
Description: Product dust is exhausted through a 90-foot vibratory conveyor and bucket elevator equipped with a pulse jet type dust c

Table C-9.1: Baghouse Operation Specifications

Baghouse control efficiency	99%
Drums filled per year (Actual)	10
Maximum drums filled per year (PTE)	12
Lbs. of dust per drum	450

Table C-9.2: Emission Unit U-000N4 Actual PM Emissions

Actual PM Emitted [lbs/year]	45
% Nailax	95%
% DPA	5%
Actual Nailax (PM) Emitted [lbs/year]	42.75
Actual DPA (PM) Emitted [lbs/year]	2.14

Table C-9.3: Emission Unit U-000N4 ERP PM Emissions

ERP [lbs/hour]	6.16E-03
ERP Nailax (PM) [lbs/hr]	5.86E-03
ERP DPA (PM) [lbs/hr]	3.08E-04

Table C-9.4: Emission Unit U-000N4 PTE PM Emissions

Potential PM Emitted [lbs/year]	54
% Nailax	95%
% DPA	5%
Actual Nailax (PM) Emitted [lbs/year]	51.3
Actual DPA (PM) Emitted [lbs/year]	2.57

Source: Sump holding tank and wastewater tank
Description: Emission factors for the sump holding tank are from EPA TANKS 5.1, with working losses only. Tank is indoors with minimal temperature variation that prevents breathi

Table C-10.1: Wastewater Composition

		ppm[1]	mole fraction
o-Xylene[2]		74.2	0.000
Aniline		7623.1	0.008
Phenol		7476.5	0.007
o-Toluidine		4434.3	0.004
Hydroquinone		5882.4	0.006
Water	-		0.975

Table C-10.2: Emission Unit U-32009 Actual Emissions

	TANKS Results[3] Annual Working Losses
Aniline (lb/yr)	0.2517
Phenol (lb/yr)	0.1955
o-Toluidine (lb/yr)	0.0803
Hydroquinone (lb/yr)	0.0017

Table C-10.3: Emission Unit U-32009 ERP Calculations

Aniline (lb/hr)	5.172E-05
Phenol (lb/hr)	4.017E-05
o-Toluidine (lb/hr)	1.650E-05
Hydroquinone (lb/hr)	3.577E-07

Table C-10.4: Emission Unit U-32009 PTE Calculations[4]

Aniline (lb/yr)	0.4531
Phenol (lb/yr)	0.3519
o-Toluidine (lb/yr)	0.1445
Hydroquinone (lb/yr)	0.0031

[1] *Compositions from Waste Water Analysis Report from 8/21/2025 from GY*

[2] *The software used to calculate storage tank emissions, US EPA'S TANKS 5.1, only allows mole fractions to be input to the hundreths' place. Since the mole fraction of o-Xylene in the mixture rounds to 0 to the closest hundreths' place, it is being ommitted in these calculations.*

[3] *Based on average actual througputs in the most recent 5 years.*

[4] *Based on maximum potential throughput at maximum operating capacity.*

Source: Hydroquinon (HQ) discharge

Description:

Hydroquinone (HQ) is discharged from bags through a chute into a premix tank. HQ dust is collected by a dust collection system with 99% control efficiency and routed back to premix.

Table C-11.1: Baghouse Operating Specifications

Baghouse control efficiency	99%
Actual captured dust [lb/yr]	1,980
Potential captured dust [lb/yr]	4500

Table C-11.2: Emission Unit U-3393A Emissions

Actual HQ emissions [lb/yr]	19.8
PTE HQ emissions [lb/yr]	45
ERP HQ Emissions [lb/hour]	5.14E-03

Source: o-xylene storage tank
Description: One 10,400-gallon o-xylene storage tank. Working and breathing losses were determined using EPA TANKS 5.1.

Table C-12.1: Emission Unit U-F0101 Actual Emissions

	TANKS Results	
Working Losses (lb/yr)	7.76	
Standing Losses (lb/yr)	9.13E-04	
o-xylene Density (lb/gal)	7.35	
o-xylene Received (lb/yr)	67,822	*Based on the average throughput of the past 5 years.*

Table C-12.2: Emission Unit U-F0101 ERP Calculations

	Emission Rate Potential (ERP) Calculations	
Working Losses (lb/yr)	7.762958	
Standing Losses (lb/yr)	9.13E-04	
Total Annual Emissions (lb/yr)	7.76	
Filling hours	4.80	
ERP (lb/hr)	1.617	*Based on approximately 4.8 hours of unloading per year.*

Table C-12.3: Emission Unit U-F0101 Emission Factor Calculations

	Emission Factor Calculation
Working Losses (lb/yr)	7.76
Standing Losses (lb/yr)	9.13E-04
Total Annual Emissions (lb/yr)	7.76

Source:	2 tube and shell condensers (0HSX1, 0HSX2) which control the solvent extraction/distillation equipment, xylene tank 3103, xylene tank 3104, recovery tank 3107, and decant tank 3113.
Description:	Solvents are used to extract organics from a storage tank.

Table C-13.1: Emission Unit W-STWTR Stack Test Results for EP F1862[1]

Sample Point 27 o-xylene average [lb/hr]	0.2
Sample Point 28 o-xylene average [lb/hr]	0.01
Total o-xylene emissions [lb/hr]	0.21

[1] *Sourced from the "Emissions Test Program Conducted in Support of MON MACT Compliance Determinations July 2005" Table 2-8 C2 Building Condenser Summary Results*

Table C-13.2: Emission Unit W-STWTR Emission Calculations for EP F1862

Actual operating hours [hrs/yr]	8,400
Potential operating hours [hrs/yr]	8,760
Actual o-xylene emissions [lbs/yr]	1,764
PTE o-xylene [lbs/yr]	1,840
ERP o-xylene [lbs/hr]	0.21

Table C-13.3: Emission Unit W-STWTR Test Results for EP 0C2EO[2]

Sample Point 25 o-xylene average [lb/hr]	0.2
Sample Point 26 o-xylene average [lb/hr]	0.3
Total o-xylene emissions [lb/hr]	0.5

[2] *Sourced from the "Emissions Test Program Conducted in Support of MON MACT Compliance Determinations July 2005" Table 2-8 C2 Building Condenser Summary Results*

Table C-13.4: Emission Unit W-STWTR Emission Calculations for EP 0C2EO

Actual operating hours [hrs/yr]	8,400
Potential operating hours [hrs/yr]	8,760
Actual o-xylene emissions [lbs/yr]	4,200
PTE o-xylene [lbs/yr]	4,380

Tank ID	F-0604
Tank Type	Vertical Fixed Roof Tank
Description	Reactor Flush Sump Tank
City, State	Niagara Falls, NY
Company	Goodyear Chemical
Meteorological Location	Buffalo, NY
Tank Shape	Cylinder
Shell Height (ft)	12.8
Shell Diameter (ft)	11.5
Maximum Liquid Height (ft)	12.8
Average Liquid Height (ft)	6.4
Is Tank Heated?	Heated
Typical Maximum Liquid Bulk Temperature in Heating Cycle (°R)	662.67
Typical Average Liquid Bulk Temperature in Heating Cycle (°R)	662.67
Typical Minimum Liquid Bulk Temperature in Heating Cycle (°R)	662.67
Number of Heating Cycles per Year	150
Roof Type	Dome
Vacuum Setting (psig)	0
Pressure Setting (psig)	0
Vapor Space Pressure at Normal Operating Conditions (psig)	0.168
Is Tank Insulated?	Fully Insulated
Tank Dome Roof Radius (ft)	5.75
Is Tank Equipped with a Control Device?	No Control Device
Liquid Bulk Temperature Calculation Method	
Liquid Bulk Temperature (°R)	
Tank Bottom Type	flat
Liquid Heel Type at Tank Minimum	none
Shell Color/Shade	White
Shell Condition	New
Roof Color/Shade	White
Roof Condition	New

Routine Losses

Chemical Name	Annual Total Losses (lb/yr)
Total	0.952643527
Aniline	0.453087845
Phenol	0.351914867
o-Toluidine	0.144507079
Hydroquinone	0.003133736

Annual Standing Losses (lb/yr)	0
Annual Working Losses (lb/yr)	0.952643527

Tank ID	F-0604actual
Tank Type	Vertical Fixed Roof Tank
Description	Reactor Flush Sump Tank with real throughputs
City, State	Niagara Falls, NY
Company	Goodyear Chemical
Meteorological Location	Buffalo, NY
Tank Shape	Cylinder
Shell Height (ft)	12.8
Shell Diameter (ft)	11.5
Maximum Liquid Height (ft)	12.8
Average Liquid Height (ft)	6.4
Is Tank Heated?	Heated
Typical Maximum Liquid Bulk Temperature in Heating Cycle (°R)	662.67
Typical Average Liquid Bulk Temperature in Heating Cycle (°R)	662.67
Typical Minimum Liquid Bulk Temperature in Heating Cycle (°R)	662.67
Number of Heating Cycles per Year	150
Roof Type	Dome
Vacuum Setting (psig)	0
Pressure Setting (psig)	0
Vapor Space Pressure at Normal Operating Conditions (psig)	0.168
Is Tank Insulated?	Fully Insulated
Tank Dome Roof Radius (ft)	5.75
Is Tank Equipped with a Control Device?	No Control Device
Liquid Bulk Temperature Calculation Method	
Liquid Bulk Temperature (°R)	
Tank Bottom Type	flat
Liquid Heel Type at Tank Minimum	none
Shell Color/Shade	White
Shell Condition	New
Roof Color/Shade	White
Roof Condition	New

Routine Losses

Chemical Name	Annual Total Losses (lb/yr)
Total	0.529246404
Aniline	0.251715469
Phenol	0.195508259
o-Toluidine	0.080281711
Hydroquinone	0.001740964

Annual Standing Losses (lb/yr)	0
Annual Working Losses (lb/yr)	0.529246404

Tank ID	F-1106
Tank Type	Vertical Fixed Roof Tank
Description	Aniline Bulk Storage Tank
City, State	Niagara Falls, NY
Company	Goodyear Chemical
Meteorological Location	Buffalo, NY
Tank Shape	Cylinder
Shell Height (ft)	22.8
Shell Diameter (ft)	10.5
Maximum Liquid Height (ft)	22.8
Average Liquid Height (ft)	17
Is Tank Heated?	Heated
Typical Maximum Liquid Bulk Temperature in Heating Cycle (°R)	539.67
Typical Average Liquid Bulk Temperature in Heating Cycle (°R)	534.67
Typical Minimum Liquid Bulk Temperature in Heating Cycle (°R)	529.67
Number of Heating Cycles per Year	150
Roof Type	Dome
Vacuum Setting (psig)	0
Pressure Setting (psig)	0
Vapor Space Pressure at Normal Operating Conditions (psig)	0.012
Is Tank Insulated?	Fully Insulated
Tank Dome Roof Radius (ft)	5.25
Is Tank Equipped with a Control Device?	No Control Device
Liquid Bulk Temperature Calculation Method	
Liquid Bulk Temperature (°R)	
Tank Bottom Type	flat
Liquid Heel Type at Tank Minimum	none
Shell Color/Shade	White
Shell Condition	New
Roof Color/Shade	White
Roof Condition	New

Routine Losses

Chemical Name	Annual Total Losses (lb/yr)
Aniline	20.64695069

Annual Standing Losses (lb/yr)	0.421112476
Annual Working Losses (lb/yr)	20.22583821

Tank ID	F-1009
Tank Type	Vertical Fixed Roof Tank
Description	Aniline Bulk Storage Tank
City, State	Niagara Falls, NY
Company	Goodyear Chemical
Meteorological Location	Buffalo, NY
Tank Shape	Cylinder
Shell Height (ft)	23.7
Shell Diameter (ft)	10.5
Maximum Liquid Height (ft)	23.7
Average Liquid Height (ft)	18
Is Tank Heated?	
Typical Maximum Liquid Bulk Temperature in Heating Cycle (°R)	
Typical Average Liquid Bulk Temperature in Heating Cycle (°R)	
Typical Minimum Liquid Bulk Temperature in Heating Cycle (°R)	
Number of Heating Cycles per Year	
Roof Type	Dome
Vacuum Setting (psig)	0
Pressure Setting (psig)	0
Vapor Space Pressure at Normal Operating Conditions (psig)	0.012
Is Tank Insulated?	Not Insulated
Tank Dome Roof Radius (ft)	5.25
Is Tank Equipped with a Control Device?	No Control Device
Liquid Bulk Temperature Calculation Method	User Input
Liquid Bulk Temperature (°R)	534.67
Tank Bottom Type	flat
Liquid Heel Type at Tank Minimum	none
Shell Color/Shade	White
Shell Condition	New
Roof Color/Shade	White
Roof Condition	New

Routine Losses

Chemical Name	Annual Total Losses (lb/yr)
Aniline	14.34781162

Annual Standing Losses (lb/yr)	1.068715158
Annual Working Losses (lb/yr)	13.27909646

Tank ID	F-1103
Tank Type	Vertical Fixed Roof Tank
Description	Recycle Bulk Storage Tank
City, State	Niagara Falls, NY
Company	Goodyear Chemical
Meteorological Location	Buffalo, NY
Tank Shape	Cylinder
Shell Height (ft)	22
Shell Diameter (ft)	9
Maximum Liquid Height (ft)	22
Average Liquid Height (ft)	11
Is Tank Heated?	
Typical Maximum Liquid Bulk Temperature in Heating Cycle (°R)	
Typical Average Liquid Bulk Temperature in Heating Cycle (°R)	
Typical Minimum Liquid Bulk Temperature in Heating Cycle (°R)	
Number of Heating Cycles per Year	
Roof Type	Dome
Vacuum Setting (psig)	-0.03
Pressure Setting (psig)	0.03
Vapor Space Pressure at Normal Operating Conditions (psig)	0.015
Is Tank Insulated?	Not Insulated
Tank Dome Roof Radius (ft)	4.5
Is Tank Equipped with a Control Device?	No Control Device
Liquid Bulk Temperature Calculation Method	User Input
Liquid Bulk Temperature (°R)	508.93
Tank Bottom Type	flat
Liquid Heel Type at Tank Minimum	none
Shell Color/Shade	White
Shell Condition	New
Roof Color/Shade	White
Roof Condition	New

Routine Losses

Chemical Name	Annual Total Losses (lb/yr)
Total	5.451005774
Aniline	0.12589605
Diphenylamine	0.000207764
Hydroquinone	5.30521E-06
Nailax	8.41904E-05
o-Toluidine	0.079929173
Phenol	0.055859174
Xylene (o) (1,2-dimethyl benzene)	4.291095586

Water	0.897928531
Annual Standing Losses (lb/yr)	3.491624571
Annual Working Losses (lb/yr)	1.959381203

Tank ID	F-1103actual
Tank Type	Vertical Fixed Roof Tank
Description	Recycle Bulk Storage Tank with real throughputs
City, State	Niagara Falls, NY
Company	Goodyear Chemical
Meteorological Location	Buffalo, NY
Tank Shape	Cylinder
Shell Height (ft)	22
Shell Diameter (ft)	9
Maximum Liquid Height (ft)	22
Average Liquid Height (ft)	11
Is Tank Heated?	
Typical Maximum Liquid Bulk Temperature in Heating Cycle (°R)	
Typical Average Liquid Bulk Temperature in Heating Cycle (°R)	
Typical Minimum Liquid Bulk Temperature in Heating Cycle (°R)	
Number of Heating Cycles per Year	
Roof Type	Dome
Vacuum Setting (psig)	-0.03
Pressure Setting (psig)	0.03
Vapor Space Pressure at Normal Operating Conditions (psig)	0.015
Is Tank Insulated?	Not Insulated
Tank Dome Roof Radius (ft)	4.5
Is Tank Equipped with a Control Device?	No Control Device
Liquid Bulk Temperature Calculation Method	User Input
Liquid Bulk Temperature (°R)	508.93
Tank Bottom Type	flat
Liquid Heel Type at Tank Minimum	none
Shell Color/Shade	White
Shell Condition	New
Roof Color/Shade	White
Roof Condition	New

Routine Losses

Chemical Name	Annual Total Losses (lb/yr)
Total	4.454673761
Aniline	0.102884835
Diphenylamine	0.000169789
Hydroquinone	4.33553E-06
Nailax	6.88021E-05
o-Toluidine	0.06531976
Phenol	0.045649263

Xylene (o) (1,2-dimethyl benzene)	3.506771356
Water	0.733805619
Annual Standing Losses (lb/yr)	3.491624571
Annual Working Losses (lb/yr)	0.96304919

Tank ID	F-1104
Tank Type	Vertical Fixed Roof Tank
Description	Recycle Bulk Storage Tank
City, State	Niagara Falls, NY
Company	Goodyear Chemical
Meteorological Location	Buffalo, NY
Tank Shape	Cylinder
Shell Height (ft)	22
Shell Diameter (ft)	9
Maximum Liquid Height (ft)	22
Average Liquid Height (ft)	11
Is Tank Heated?	
Typical Maximum Liquid Bulk Temperature in Heating Cycle (°R)	
Typical Average Liquid Bulk Temperature in Heating Cycle (°R)	
Typical Minimum Liquid Bulk Temperature in Heating Cycle (°R)	
Number of Heating Cycles per Year	
Roof Type	Dome
Vacuum Setting (psig)	-0.03
Pressure Setting (psig)	0.03
Vapor Space Pressure at Normal Operating Conditions (psig)	0.015
Is Tank Insulated?	Not Insulated
Tank Dome Roof Radius (ft)	4.5
Is Tank Equipped with a Control Device?	No Control Device
Liquid Bulk Temperature Calculation Method	User Input
Liquid Bulk Temperature (°R)	508.93
Tank Bottom Type	flat
Liquid Heel Type at Tank Minimum	none
Shell Color/Shade	White
Shell Condition	New
Roof Color/Shade	White
Roof Condition	New

Routine Losses

Chemical Name	Annual Total Losses (lb/yr)
Total	5.451005774
Aniline	0.12589605
Diphenylamine	0.000207764
Hydroquinone	5.30521E-06
Nailax	8.41904E-05
o-Toluidine	0.079929173
Phenol	0.055859174
Xylene (o) (1,2-dimethyl benzene)	4.291095586

Water	0.897928531
Annual Standing Losses (lb/yr)	3.491624571
Annual Working Losses (lb/yr)	1.959381203

Tank ID	F-1104actual
Tank Type	Vertical Fixed Roof Tank
Description	Recycle Bulk Storage Tank with real throughputs
City, State	Niagara Falls, NY
Company	Goodyear Chemical
Meteorological Location	Buffalo, NY
Tank Shape	Cylinder
Shell Height (ft)	22
Shell Diameter (ft)	9
Maximum Liquid Height (ft)	22
Average Liquid Height (ft)	11
Is Tank Heated?	
Typical Maximum Liquid Bulk Temperature in Heating Cycle (°R)	
Typical Average Liquid Bulk Temperature in Heating Cycle (°R)	
Typical Minimum Liquid Bulk Temperature in Heating Cycle (°R)	
Number of Heating Cycles per Year	
Roof Type	Dome
Vacuum Setting (psig)	-0.03
Pressure Setting (psig)	0.03
Vapor Space Pressure at Normal Operating Conditions (psig)	0.015
Is Tank Insulated?	Not Insulated
Tank Dome Roof Radius (ft)	4.5
Is Tank Equipped with a Control Device?	No Control Device
Liquid Bulk Temperature Calculation Method	User Input
Liquid Bulk Temperature (°R)	508.93
Tank Bottom Type	flat
Liquid Heel Type at Tank Minimum	none
Shell Color/Shade	White
Shell Condition	New
Roof Color/Shade	White
Roof Condition	New

Routine Losses

Chemical Name	Annual Total Losses (lb/yr)
Total	4.454673761
Aniline	0.102884835
Diphenylamine	0.000169789
Hydroquinone	4.33553E-06
Nailax	6.88021E-05
o-Toluidine	0.06531976
Phenol	0.045649263

Xylene (o) (1,2-dimethyl benzene)	3.506771356
Water	0.733805619
Annual Standing Losses (lb/yr)	3.491624571
Annual Working Losses (lb/yr)	0.96304919

Tank ID	F-1107
Tank Type	Vertical Fixed Roof Tank
Description	Recycle Bulk Storage Tank
City, State	Niagara Falls, NY
Company	Goodyear Chemical
Meteorological Location	Buffalo, NY
Tank Shape	Cylinder
Shell Height (ft)	22
Shell Diameter (ft)	9
Maximum Liquid Height (ft)	22
Average Liquid Height (ft)	11
Is Tank Heated?	
Typical Maximum Liquid Bulk Temperature in Heating Cycle (°R)	
Typical Average Liquid Bulk Temperature in Heating Cycle (°R)	
Typical Minimum Liquid Bulk Temperature in Heating Cycle (°R)	
Number of Heating Cycles per Year	
Roof Type	Dome
Vacuum Setting (psig)	-0.03
Pressure Setting (psig)	0.03
Vapor Space Pressure at Normal Operating Conditions (psig)	0.015
Is Tank Insulated?	Not Insulated
Tank Dome Roof Radius (ft)	4.5
Is Tank Equipped with a Control Device?	No Control Device
Liquid Bulk Temperature Calculation Method	User Input
Liquid Bulk Temperature (°R)	508.93
Tank Bottom Type	flat
Liquid Heel Type at Tank Minimum	none
Shell Color/Shade	White
Shell Condition	New
Roof Color/Shade	White
Roof Condition	New

Routine Losses

Chemical Name	Annual Total Losses (lb/yr)
Recycle	5.451005774
Aniline	0.12589605
Diphenylamine	0.000207764
Hydroquinone	5.30521E-06
Nailax	8.41904E-05
o-Toluidine	0.079929173
Phenol	0.055859174
Xylene (o) (1,2-dimethyl benzene)	4.291095586

Water	0.897928531
Annual Standing Losses (lb/yr)	3.491624571
Annual Working Losses (lb/yr)	1.959381203

Tank ID	F-1107actual
Tank Type	Vertical Fixed Roof Tank
Description	Recycle Bulk Storage Tank with real throughputs
City, State	Niagara Falls, NY
Company	Goodyear Chemical
Meteorological Location	Buffalo, NY
Tank Shape	Cylinder
Shell Height (ft)	22
Shell Diameter (ft)	9
Maximum Liquid Height (ft)	22
Average Liquid Height (ft)	11
Is Tank Heated?	
Typical Maximum Liquid Bulk Temperature in Heating Cycle (°R)	
Typical Average Liquid Bulk Temperature in Heating Cycle (°R)	
Typical Minimum Liquid Bulk Temperature in Heating Cycle (°R)	
Number of Heating Cycles per Year	
Roof Type	Dome
Vacuum Setting (psig)	-0.03
Pressure Setting (psig)	0.03
Vapor Space Pressure at Normal Operating Conditions (psig)	0.015
Is Tank Insulated?	Not Insulated
Tank Dome Roof Radius (ft)	4.5
Is Tank Equipped with a Control Device?	No Control Device
Liquid Bulk Temperature Calculation Method	User Input
Liquid Bulk Temperature (°R)	508.93
Tank Bottom Type	flat
Liquid Heel Type at Tank Minimum	none
Shell Color/Shade	White
Shell Condition	New
Roof Color/Shade	White
Roof Condition	New

Routine Losses

Chemical Name	Annual Total Losses (lb/yr)
Total	4.454673761
Aniline	0.102884835
Diphenylamine	0.000169789
Hydroquinone	4.33553E-06
Nailax	6.88021E-05
o-Toluidine	0.06531976
Phenol	0.045649263

Xylene (o) (1,2-dimethyl benzene)	3.506771356
Water	0.733805619
Annual Standing Losses (lb/yr)	3.491624571
Annual Working Losses (lb/yr)	0.96304919

Tank ID	F-1108
Tank Type	Vertical Fixed Roof Tank
Description	o-Toluidine Bulk Storage Tank
City, State	Niagara Falls, NY
Company	Goodyear Chemical
Meteorological Location	Buffalo, NY
Tank Shape	Cylinder
Shell Height (ft)	22.8
Shell Diameter (ft)	10.5
Maximum Liquid Height (ft)	22.8
Average Liquid Height (ft)	17
Is Tank Heated?	
Typical Maximum Liquid Bulk Temperature in Heating Cycle (°R)	
Typical Average Liquid Bulk Temperature in Heating Cycle (°R)	
Typical Minimum Liquid Bulk Temperature in Heating Cycle (°R)	
Number of Heating Cycles per Year	
Roof Type	Dome
Vacuum Setting (psig)	0
Pressure Setting (psig)	0
Vapor Space Pressure at Normal Operating Conditions (psig)	0.004
Is Tank Insulated?	Not Insulated
Tank Dome Roof Radius (ft)	5.25
Is Tank Equipped with a Control Device?	No Control Device
Liquid Bulk Temperature Calculation Method	User Input
Liquid Bulk Temperature (°R)	529.67
Tank Bottom Type	flat
Liquid Heel Type at Tank Minimum	none
Shell Color/Shade	White
Shell Condition	New
Roof Color/Shade	White
Roof Condition	New

Routine Losses

Chemical Name	Annual Total Losses (lb/yr)
o-Toluidine	5.069931102

Annual Standing Losses (lb/yr)	0.431190203
Annual Working Losses (lb/yr)	4.638740899

Tank ID	F-1110
Tank Type	Vertical Fixed Roof Tank
Description	o-Toluidine Bulk Storage Tank
City, State	Niagara Falls, NY
Company	Goodyear Chemical
Meteorological Location	Buffalo, NY
Tank Shape	Cylinder
Shell Height (ft)	22.8
Shell Diameter (ft)	10.5
Maximum Liquid Height (ft)	22.8
Average Liquid Height (ft)	17
Is Tank Heated?	
Typical Maximum Liquid Bulk Temperature in Heating Cycle (°R)	
Typical Average Liquid Bulk Temperature in Heating Cycle (°R)	
Typical Minimum Liquid Bulk Temperature in Heating Cycle (°R)	
Number of Heating Cycles per Year	
Roof Type	Dome
Vacuum Setting (psig)	0
Pressure Setting (psig)	0
Vapor Space Pressure at Normal Operating Conditions (psig)	0.004
Is Tank Insulated?	Not Insulated
Tank Dome Roof Radius (ft)	5.25
Is Tank Equipped with a Control Device?	No Control Device
Liquid Bulk Temperature Calculation Method	User Input
Liquid Bulk Temperature (°R)	529.7
Tank Bottom Type	flat
Liquid Heel Type at Tank Minimum	none
Shell Color/Shade	White
Shell Condition	New
Roof Color/Shade	White
Roof Condition	New

Routine Losses

Chemical Name	Annual Total Losses (lb/yr)
o-Toluidine	5.074121196

Annual Standing Losses (lb/yr)	0.431534112
Annual Working Losses (lb/yr)	4.642587084

Tank ID	F-1112
Tank Type	Vertical Fixed Roof Tank
Description	o-Toluidine Bulk Storage Tank
City, State	Niagara Falls, NY
Company	Goodyear Chemical
Meteorological Location	Buffalo, NY
Tank Shape	Cylinder
Shell Height (ft)	23.7
Shell Diameter (ft)	10.5
Maximum Liquid Height (ft)	23.7
Average Liquid Height (ft)	9
Is Tank Heated?	
Typical Maximum Liquid Bulk Temperature in Heating Cycle (°R)	
Typical Average Liquid Bulk Temperature in Heating Cycle (°R)	
Typical Minimum Liquid Bulk Temperature in Heating Cycle (°R)	
Number of Heating Cycles per Year	
Roof Type	Dome
Vacuum Setting (psig)	-0.03
Pressure Setting (psig)	0.03
Vapor Space Pressure at Normal Operating Conditions (psig)	0.002
Is Tank Insulated?	Not Insulated
Tank Dome Roof Radius (ft)	5.25
Is Tank Equipped with a Control Device?	No Control Device
Liquid Bulk Temperature Calculation Method	User Input
Liquid Bulk Temperature (°R)	507.37
Tank Bottom Type	flat
Liquid Heel Type at Tank Minimum	none
Shell Color/Shade	White
Shell Condition	New
Roof Color/Shade	White
Roof Condition	New

Routine Losses

Chemical Name	Annual Total Losses (lb/yr)
o-Toluidine	2.906901291

Annual Standing Losses (lb/yr)	0.397408961
Annual Working Losses (lb/yr)	2.50949233

Tank ID	F-1101
Tank Type	Vertical Fixed Roof Tank
Description	o-Xylene Bulk Storage
City, State	Niagara Falls, NY
Company	Goodyear Chemical
Meteorological Location	Buffalo, NY
Tank Shape	Cylinder
Shell Height (ft)	22
Shell Diameter (ft)	9
Maximum Liquid Height (ft)	22
Average Liquid Height (ft)	13
Is Tank Heated?	
Typical Maximum Liquid Bulk Temperature in Heating Cycle (°R)	
Typical Average Liquid Bulk Temperature in Heating Cycle (°R)	
Typical Minimum Liquid Bulk Temperature in Heating Cycle (°R)	
Number of Heating Cycles per Year	
Roof Type	Dome
Vacuum Setting (psig)	-0.13
Pressure Setting (psig)	1
Vapor Space Pressure at Normal Operating Conditions (psig)	0.048
Is Tank Insulated?	Not Insulated
Tank Dome Roof Radius (ft)	4.5
Is Tank Equipped with a Control Device?	No Control Device
Liquid Bulk Temperature Calculation Method	User Input
Liquid Bulk Temperature (°R)	507.37
Tank Bottom Type	flat
Liquid Heel Type at Tank Minimum	none
Shell Color/Shade	White
Shell Condition	New
Roof Color/Shade	White
Roof Condition	New

Routine Losses

Chemical Name	Annual Total Losses (lb/yr)
Xylene (o) (1,2-dimethyl benzene)	7.762957714

Annual Standing Losses (lb/yr)	0
Annual Working Losses (lb/yr)	7.762957714

345 Woodcliff Drive
2nd Floor
Fairport, New York
14450

T +1 585 387 0510

erm.com

MEMO

TO	New York State Department of Environmental Conservation, Division of Air Resources, Region 9 Office
FROM	ERM Consulting & Engineering, Inc.
DATE	12 September 2025
REFERENCE	0771139
SUBJECT	Historic & Updated Fugitive Emissions Calculation Methodology for Equipment Components in Light & Heavy Liquid Service; DEC ID No. 9-2911-00036; Appendix C-16

BACKGROUND

The Goodyear Tire & Rubber Company ("Goodyear") has a comprehensive program (1) to ensure that piping and related equipment (e.g., tanks and components such as valves, flanges and connectors) ("Equipment") at its Niagara Falls Facility minimize any potential for leaks, and (2) to identify and correct any leaks of ortho-toluidine (O-T), aniline, ortho-xylene (o-xylene) and phenol (together the "target compounds") that may occur.

Measures to protect against leaks begin even before Equipment is used at the Facility. For all Equipment at the Facility that could contain the target compounds (not all Equipment does), our mechanical integrity program ensures that Equipment intended for use at the Facility is designed properly and recommended by engineering practice standards for the chemical industry. We also ensure that when constructed, the Equipment is compatible with the materials it will contain.

Additionally, before any Equipment is used for the first time, (1) all joints are visually inspected by a certified welding inspector, (2) a percentage of the welded joints on a single fabrication are randomly inspected by a third-party x-ray testing firm, and (3) a water hydro-pressure test is performed above the intended working pressure of the Equipment. This testing ensures that piping has the necessary integrity and will not leak before it is placed into service.

After Equipment is in use, certified third-party inspectors conduct inspections of the Equipment following industry standards and codes. The frequency of these inspections depends on the calculated remaining life of the equipment based on inspection results over time, manufacturers' recommendations, or the frequency required by the standard,

whichever is shorter.

Collectively, these recognized and generally accepted good engineering practices (RAGAGEP) (e.g., materials of construction, testing before and after use, and inspection) significantly limit the potential for any leaks from the piping and equipment.

Since the target compounds are used in the manufacturing process, low-level vapors are occasionally present in the Facility. To evaluate the potential for vapor leaks, Goodyear undertakes other activities. For example, during a recent process to refill the Facility's three connected o-toluidine tanks, measurements performed at each conservation vent indicated no o-toluidine emissions were present during unloading operations. Separately, in October 2024, Goodyear conducted a screening assessment of equipment components in "light liquid" service (such as, o-xylene) using a Forward-Looking Infrared Camera (FLIR). That measurement assessment found that only 3 of 2,159 equipment components had the "potential" to leak, representing a potential facility leak rate of less than 0.14%. These 3 equipment components were uncapped drain lines that, when investigated, were found to be not leaking. This assessment supports the conclusion that there is a high level of mechanical integrity for equipment components at the Facility.

In terms of operational activities and inspections, Goodyear performs daily audio, visual and olfactory (AVO) inspections of the process equipment components and takes corrective action if any leaks are observed. The AVO inspections entail visual inspections of the Facility operations to evaluate and detect any leaking components, including checks to ensure caps are present on open-ended lines. Facility operators note in their log sheets if they observe any leaks or other conditions requiring repair, including any leaks in tanks, lines, or pumps associated with the Goodyear tank farm. The area managers compile daily email reports that note any safety or environmental concerns observed, and Goodyear personnel (referred to as "Associates") are trained to identify and respond to any unusual odors and/or visual spills. Any leaking equipment is immediately shut down and replaced with temporary piping while the permanent piping is welded and then tested. Of the target compounds and as an example, o-toluidine is a liquid at room (ambient) temperature that becomes a gas at a temperature of approximately 392°F. Ortho-toluidine also has a low odor threshold that assists the operators in sensing and locating leaks. For these reasons, any liquid leaks would be visible and detectable through these inspection processes.

To further validate the integrity of Goodyear's fugitive emissions management systems, Alliance Technical Group was retained by Goodyear to conduct a facility-wide emissions measurement (more commonly referred to as a Leak Detection and Repair, "LDAR") program of equipment components in light and heavy liquid service across 6,148 that included the target compounds listed above. The results of that LDAR measurement program found no leaks whatsoever.

GOODYEAR'S FUGITIVE EMISSIONS CALCULATION METHODOLOGIES

This memorandum outlines the methodologies employed by the "Facility" to estimate fugitive emissions of the target compounds from process equipment components over time

for use in its annual reports to the US EPA's Section 313 – Toxic Release Inventory ("TRI") reporting obligations and now incorporates the recent LDAR measurement program of the equipment components in light and heavy liquid service at the Facility.

EPA's Fugitive Emissions Calculation Methods

The document from the US EPA titled *Protocol for Equipment Leak Emission Estimates* (EPA-453/R-95-017, November 1995) ("US EPA Protocol"), developed for the Synthetic Organic Chemical Manufacturing Industry (SOCMI), presents four methods for estimating emissions resulting from equipment leaks. These methods, listed from least to most refined, include:

1. Average Emission Factor Approach
2. Screening Ranges Approach
3. Correlation Approach
4. Unit Specific Correlation Approach

Goodyear's Historic Approach

Goodyear has historically estimated fugitive emissions of O-T using the "Screening Ranges Approach". This approach is a conservatively high estimation technique and assumes that all system components (valves, connectors, pump seals, agitator seals, compressor seals, pressure relief valves, etc.) are leaking 24 hours per day, 365 days per year (8,760 hours per year). This approach uses US EPA screening emission factors for heavy liquids (applicable to O-T) and assumes that leaks are producing emission concentrations at each component of up to 10,000 parts per million (ppm). More specifically, a summary document prepared by Goodyear provided the following description:

> *"Using emission factors in the US EPA document Protocol for Equipment Leak Emission Estimates (EPA-453/R-95-017, November 1995). The emission factors used by the Nagara Falls facility are provided in Table 2-5 SOCMI Screening Ranges Emission Factors. SOCMI is an acronym for the synthetic organic chemical manufacturing industry (SOCMI) that includes the operations at the Niagara Falls plant. These factors are applied to valves, connectors, pump seals, agitator seals, compressor seals, and pressure relief valves. There are emissions factors for equipment in gas, light-liquid, and heavy-liquid service. To calculate the fugitive emissions, the total number count of each type of equipment component is multiplied by the appropriate emission factor (presented in kg/hr/source) and the total number of hours in a year to arrive at a conservative annual emission rate.*
>
> *At the Niagara Falls plant, …O-T is characterized as a heavy-liquid. The US EPA factors assume some level of fugitive emissions occurring continuously from a component (regardless of whether emissions actually exist), but because methods are not available to readily detect O-T leaks from equipment*

components that have very low vapor pressure, the only method available to Goodyear to estimate O-T emissions is through application of the U.S. EPA emission factors to the components in O-T service.

Conversely, equipment components in light-liquid service can be monitored using an optical imaging thermal camera. The Niagara Falls plant contracts with an independent consultant to conduct an annual screening using a Forward-Looking Infrared (FLIR) camera. The FLIR camera provides a thermal image of the equipment component being screened in detecting leaks. This infrared thermal imaging screening technique is conducted on equipment components in o-xylene and recycle services to identify whether any equipment components are leaking and in need of repair. The screening conducted in October 2024 at the Niagara Falls facility identified three (3) potential leaks out of 3,700 equipment components screened, indicating a high level of mechanical integrity at the facility."

This "Screening Ranges Approach" used by Goodyear is convenient for gross and conservative estimation of O-T fugitive emissions for the purpose of coarse TRI reporting, but it produces a severe over estimation of actual O-T fugitive emissions for the following reasons:

1. O-T is a "heavy liquid" and at room temperature [assumed to be 72 degrees Fahrenheit (°F)] component leaks would be in liquid form and generally visible;
2. The extreme assumption that all components are leaking all the time (8,760 hours per year) is a gross misrepresentation. This is evidenced by the above-referenced October 2024 screening assessment of components in "light liquid" service which indicated that only 3 of 3,700 components were found to be leaking -- less than 0.1% of all components (not 100%);
3. Goodyear conducts daily audio, visual and olfactory (AVO) inspections and takes corrective action if any leaks are observed (O-T as a heavy liquid would be a visible leak); and
4. The assumption that a leak of O-T (if one were to occur) would produce a concentration in air up to 10,000 ppm is a gross overestimation. Using US EPA's Aeral Locations of Hazardous Atmospheres (ALOHA®) model for chemical spills indicates that an open pool of O-T at an indoor temperature of 72°F would produce a maximum concentration in air (the air saturation value) of approximately 280 ppm of O-T.

<u>More Accurate Fugitive Emissions Calculation Methodology Alternative</u>

To more accurately estimate fugitive emissions of the target compounds, Goodyear estimated fugitive emissions from equipment components by using the US EPA "Correlation Approach."

Through the correlation approach, Goodyear retained Alliance Technical Group to

conduct a Leak Detection and Repair (LDAR) assessment from June 23 to June 25, 2025 of all equipment components in light and heavy liquid service at the facility. The objective of this measurement assessment program was to deliver an accurate representation of the actual fugitive emissions of O-T, aniline, o-xylene, and phenol at the Facility for the Facility's use in its US EPA's Toxic Release Inventory (TRI) reporting and future air dispersion modeling efforts. The results from the LDAR assessment are outlined in Appendix C-17. The equipment components surveyed did not indicate any leaks during the measurement program. Although none of the components surveyed resulted in a measured screening value, emissions were estimated using the equations provided in Table 2-9 of the US EPA Protocol document (See below).

TABLE 2-9. SOCMI LEAK RATE/SCREENING VALUE CORRELATIONS

Equipment type	Correlation[a,b]
Gas valves	Leak rate (kg/hr) = 1.87E-06 × $(SV)^{0.873}$
Light liquid valves	Leak rate (kg/hr) = 6.41E-06 × $(SV)^{0.797}$
Light liquid pumps[c]	Leak rate (kg/hr) = 1.90E-05 × $(SV)^{0.824}$
Connectors	Leak rate (kg/hr) = 3.05E-06 × $(SV)^{0.885}$

[a]SV = Screening value in ppmv.

[b]These correlations predict total organic compound emission rates.

[c]The correlation for light liquid pumps can be applied to compressor seals, pressure relief valves, agitator seals, and heavy liquid pumps.

Although the facility-wide LDAR measurement program in June 2025 detected no leaking equipment components, the calculations relied upon the "default zero" emission rates specified in Table 2-11 of the US EPA Protocol document (See below).

TABLE 2-11. DEFAULT-ZERO VALUES: SOCMI PROCESS UNITS

Equipment type	Default-zero emission rate (kg/hr/source)[a]
Gas valve	6.6E-07
Light liquid valve	4.9E-07
Light liquid pump[b]	7.5E-06
Connectors	6.1E-07

[a]The default zero emission rates are for total organic compounds (including non-VOC's such as methane and ethane).

[b]The light liquid pump default zero value can be applied to compressors, pressure relief valves, agitators, and heavy liquid pumps.

The variables used in these calculations are summarized in Table 1 below. Table 2 illustrates the vapor mass fraction used to speciate the VOC emissions and computed emissions

Table 1. Default Zero, Correlation Multipliers and Correlation Exponents

	GV	LL Valve	Connector	Pump	PPV
Default Zero	6.60E-07	4.90D-07	6.10E-07	7.50E-06	7.50E
Correlation Multiplier	1.87E-06	6.41E-06	3.058E-06	1.90E-05	1.90E
Correlation Exponent	0.873	0.797	0.885	0.824	0.82

Table 2. Mass Fraction of Components of Total VOCs

Material in Service	Liquid Service Type	LL Valve	Connector	Pump	PPV
		Aniline	o-Toluidine	o-Xylene	Phenol
		62-53-3	95-53-4	95-47-6	108-95-2
Aniline	Heavy	1.00	0.00	0.00	0.00
o-Toluidine	Heavy	0.00	1.00	0.00	0.00
o-Toluidine/Aniline	Heavy	0.13	0.87	0.00	0.00
o-Toluidine/Xylic	Heavy	0.00	1.00	0.00	0.00
o-Xylene	Light	0.00	0.00	1.00	0.00
Premix	Heavy	0.04	0.90	0.04	0.00
Recycle	Light	0.02	0.16	0.80	0.03
Xylic (Non-HAP Organic)	Heavy	0.00	0.00	0.00	0.00

*Recycle composition is based on Goodyear file: Recycle Composition in #8 or #9 RHT Testing Log

**Premix composition is based on Goodyear file: TANKS Premix and Holding Tanks_0606.pdf

By employing this method, the mass fraction of total calculated fugitive emissions of the target VIOCs are provided in Table 3 below.

Table 3. Total Calculated Fugitive Emissions of Target VOCs

Target compound	Equipment Component Fugitive Emissions (lbs/year)
o-Toluidine	19.2
Aniline	4.41
o-Xylene	70.78
Phenol	1.77

Conclusion

The calculated results using the updated fugitive emissions calculation methodology discussed above, combined with the Facility's ongoing routine visual inspection program and procedures, and the Alliance LDAR measurement program demonstrate that the historic O-T fugitive emissions calculation methodology that assumed ever component in O-T service was leaking, that resulted in Goodyear grossly over-estimating the emissions at greater than 1,200 lbs./year are more accurately

estimated to be 19.2 lbs./year [for TRI reporting purposes only], while aniline, o-xylene, and phenol emissions from equipment components at the Niagara Falls Facility are also conservatively estimated to be insignificant, and together are not contributing significantly to facility-wide offsite air quality impacts.

APPENDIX C-17
Fugitive Emissions (LDAR)
Measurement Survey Results

Category	Type	Phase	Material in Service	VOC (kg/hr)	VOC (lb/hr)	VOC (lb/yr)	Aniline (lb/yr)	o-Toluidine (lb/yr)	o-Xylene (lb/yr)	Phenol (lb/yr)
Agitator		LL	Aniline	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Connector	Screwed	LL	Aniline	6.34E-05	1.40E-04	1.23E+00	1.23E+00	0.00E+00	0.00E+00	0.00E+00
Connector	Flanged	LL	Aniline	4.27E-05	9.41E-05	8.25E-01	8.25E-01	0.00E+00	0.00E+00	0.00E+00
Pump		LL	Aniline	1.50E-05	3.31E-05	2.90E-01	2.90E-01	0.00E+00	0.00E+00	0.00E+00
Valve		LL	Aniline	2.30E-05	5.08E-05	4.45E-01	4.45E-01	0.00E+00	0.00E+00	0.00E+00
Valve		GV	Aniline	1.32E-06	2.91E-06	2.55E-02	2.55E-02	0.00E+00	0.00E+00	0.00E+00
Agitator		LL	O-Toluidine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Connector	Screwed	LL	O-Toluidine	6.34E-05	1.40E-04	1.23E+00	0.00E+00	1.23E+00	0.00E+00	0.00E+00
Connector	Flanged	LL	O-Toluidine	4.21E-05	9.28E-05	8.13E-01	0.00E+00	8.13E-01	0.00E+00	0.00E+00
Pump		LL	O-Toluidine	1.50E-05	3.31E-05	2.90E-01	0.00E+00	2.90E-01	0.00E+00	0.00E+00
Valve		LL	O-Toluidine	2.89E-05	6.37E-05	5.58E-01	0.00E+00	5.58E-01	0.00E+00	0.00E+00
Valve		GV	O-Toluidine	2.64E-06	5.82E-06	5.10E-02	0.00E+00	5.10E-02	0.00E+00	0.00E+00
Agitator		LL	Recycle/ Recycle Water O-Xylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Connector	Screwed	LL	Recycle/ Recycle Water O-Xylene	3.05E-05	6.72E-05	5.89E-01	0.00E+00	0.00E+00	5.89E-01	0.00E+00
Connector	Flanged	LL	Recycle/ Recycle Water O-Xylene	2.01E-05	4.44E-05	3.89E-01	0.00E+00	0.00E+00	3.89E-01	0.00E+00
Pump		LL	Recycle/ Recycle Water O-Xylene	7.50E-06	1.65E-05	1.45E-01	0.00E+00	0.00E+00	1.45E-01	0.00E+00
Valve		LL	Recycle/ Recycle Water O-Xylene	9.31E-06	2.05E-05	1.80E-01	0.00E+00	0.00E+00	1.80E-01	0.00E+00
Valve		GV	Recycle/ Recycle Water O-Xylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Agitator		LL	Recycle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Connector	Screwed	LL	Recycle	4.94E-05	1.09E-04	9.54E-01	1.44E-02	1.51E-01	7.64E-01	2.45E-02
Connector	Flanged	LL	Recycle	3.29E-05	7.26E-05	6.36E-01	9.60E-03	1.01E-01	5.09E-01	1.63E-02
Pump		LL	Recycle	1.50E-05	3.31E-05	2.90E-01	4.37E-03	4.58E-02	2.32E-01	7.43E-03
Valve		LL	Recycle	2.11E-05	4.65E-05	4.07E-01	6.14E-03	6.44E-02	3.26E-01	1.04E-02
Valve		LL	Recycle	2.00E-04	4.41E-04	3.86E+00	5.83E-02	6.11E-01	3.09E+00	9.91E-02
Valve		GV	Recycle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Valve		GV	Recycle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Agitator		LL	Premix	7.50E-06	1.65E-05	1.45E-01	6.27E-03	1.30E-01	6.48E-03	3.42E-04
Agitator		LL	Recycle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Agitator		LL	O-Xylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Agitator		LL	O-Toluidine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Agitator		LL	Aniline	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Connector	Screwed	LL	Premix	1.22E-05	2.69E-05	2.36E-01	1.02E-02	2.12E-01	1.05E-02	5.56E-04
Connector	Screwed	LL	Recycle	1.65E-05	3.63E-05	3.18E-01	4.80E-03	5.03E-02	2.55E-01	8.16E-03
Connector	Screwed	LL	O-Xylene	3.66E-06	8.07E-06	7.07E-02	0.00E+00	0.00E+00	7.07E-02	0.00E+00
Connector	Screwed	LL	O-Toluidine	4.27E-06	9.41E-06	8.25E-02	0.00E+00	8.25E-02	0.00E+00	0.00E+00
Connector	Screwed	LL	Aniline	4.27E-06	9.41E-06	8.25E-02	8.25E-02	0.00E+00	0.00E+00	0.00E+00
Connector	Flanged	LL	Premix	2.07E-05	4.57E-05	4.01E-01	1.73E-02	3.60E-01	1.79E-02	9.45E-04
Connector	Flanged	LL	Recycle	1.10E-05	2.42E-05	2.12E-01	3.20E-03	3.35E-02	1.70E-01	5.44E-03
Connector	Flanged	LL	O-Xylene	2.44E-06	5.38E-06	4.71E-02	0.00E+00	0.00E+00	4.71E-02	0.00E+00
Connector	Flanged	LL	O-Toluidine	2.44E-06	5.38E-06	4.71E-02	0.00E+00	4.71E-02	0.00E+00	0.00E+00
Connector	Flanged	LL	Aniline	2.44E-06	5.38E-06	4.71E-02	4.71E-02	0.00E+00	0.00E+00	0.00E+00
Pump		LL	Premix	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Pump		LL	Recycle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Pump		LL	O-Xylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Pump		LL	O-Toluidine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Pump		LL	Aniline	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Valve		LL	Premix	8.33E-06	1.84E-05	1.61E-01	6.96E-03	1.44E-01	7.19E-03	3.80E-04
Valve		LL	Recycle	3.43E-06	7.56E-06	6.62E-02	1.00E-03	1.05E-02	5.30E-02	1.70E-03
Valve		LL	O-Xylene	1.47E-06	3.24E-06	2.84E-02	0.00E+00	0.00E+00	2.84E-02	0.00E+00
Valve		LL	O-Toluidine	1.47E-06	3.24E-06	2.84E-02	0.00E+00	2.84E-02	0.00E+00	0.00E+00
Valve		LL	Aniline	1.47E-06	3.24E-06	2.84E-02	2.84E-02	0.00E+00	0.00E+00	0.00E+00
Valve		GV	Premix	3.30E-06	7.28E-06	6.37E-02	2.76E-03	5.72E-02	2.85E-03	1.50E-04
Valve		GV	Recycle	3.30E-06	7.28E-06	6.37E-02	9.62E-04	1.01E-02	5.10E-02	1.63E-03
Valve		GV	O-Xylene	6.60E-07	1.46E-06	1.27E-02	0.00E+00	0.00E+00	1.27E-02	0.00E+00
Valve		GV	O-Toluidine	6.60E-07	1.46E-06	1.27E-02	0.00E+00	1.27E-02	0.00E+00	0.00E+00
Valve		GV	Aniline	6.60E-07	1.46E-06	1.27E-02	1.27E-02	0.00E+00	0.00E+00	0.00E+00
Agitator		LL	Premix	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Agitator		LL	Recycle	7.50E-06	1.65E-05	1.45E-01	2.19E-03	2.29E-02	1.16E-01	3.72E-03
Connector	Screwed	LL	Premix	6.10E-06	1.34E-05	1.18E-01	5.10E-03	1.06E-01	5.27E-03	2.78E-04
Connector	Screwed	LL	Recycle	7.56E-05	1.67E-04	1.46E+00	2.20E-02	2.31E-01	1.17E+00	3.75E-02
Connector	Flanged	LL	Premix	3.66E-06	8.07E-06	7.07E-02	3.06E-03	6.35E-02	3.16E-03	1.67E-04
Connector	Flanged	LL	Recycle	5.00E-05	1.10E-04	9.66E-01	1.46E-02	1.53E-01	7.74E-01	2.48E-02
Pump		LL	Premix	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Pump		LL	Recycle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Valve		LL	Premix	3.43E-06	7.56E-06	6.62E-02	2.87E-03	5.95E-02	2.96E-03	1.56E-04
Valve		LL	Recycle	2.99E-05	6.59E-05	5.77E-01	8.71E-03	9.13E-02	4.62E-01	1.48E-02
Valve		GV	Premix	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Valve		GV	Recycle	5.94E-06	1.31E-05	1.15E-01	1.73E-03	1.81E-02	9.19E-02	2.94E-03
Agitator		LL	Recycle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Connector	Screwed	LL	Recycle	3.84E-05	8.47E-05	7.42E-01	1.12E-02	1.17E-01	5.94E-01	1.90E-02
Connector	Flanged	LL	Recycle	2.56E-05	5.65E-05	4.95E-01	7.47E-03	7.83E-02	3.96E-01	1.27E-02
Pump		LL	Recycle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Valve		LL	Recycle	1.08E-05	2.38E-05	2.08E-01	3.14E-03	3.29E-02	1.67E-01	5.34E-03
Valve		GV	Recycle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Agitator		LL	Recycle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Connector	Screwed	LL	Recycle	9.27E-05	2.04E-04	1.79E+00	2.70E-02	2.83E-01	1.43E+00	4.59E-02
Connector	Flanged	LL	Recycle	6.16E-05	1.36E-04	1.19E+00	1.80E-02	1.88E-01	9.53E-01	3.05E-02
Pump		LL	Recycle	1.50E-05	3.31E-05	2.90E-01	4.37E-03	4.58E-02	2.32E-01	7.43E-03
Valve		LL	Recycle	2.89E-05	6.37E-05	5.58E-01	8.42E-03	8.83E-02	4.47E-01	1.43E-02
Valve		GV	Recycle	7.26E-06	1.60E-05	1.40E-01	2.12E-03	2.22E-02	1.12E-01	3.60E-03
Agitator		LL	Recycle	7.50E-06	1.65E-05	1.45E-01	2.19E-03	2.29E-02	1.16E-01	3.72E-03
Connector	Screwed	LL	Recycle	7.26E-05	1.60E-04	1.40E+00	2.12E-02	2.22E-01	1.12E+00	3.60E-02

Category	Type	Phase	Material in Service	VOC (kg/hr)	VOC (lb/hr)	VOC (lb/yr)	Aniline (lb/yr)	o-Toluidine (lb/yr)	o-Xylene (lb/yr)	Phenol (lb/yr)
Connector	Flanged	LL	Recycle	4.82E-05	1.06E-04	9.31E-01	1.40E-02	1.47E-01	7.45E-01	2.39E-02
Pump		LL	Recycle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Valve		LL	Recycle	2.01E-05	4.43E-05	3.88E-01	5.85E-03	6.14E-02	3.11E-01	9.95E-03
Valve		GV	Recycle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Agitator		LL	Recycle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Connector	Screwed	LL	Recycle	3.90E-05	8.61E-05	7.54E-01	1.14E-02	1.19E-01	6.04E-01	1.93E-02
Connector	Flanged	LL	Recycle	2.56E-05	5.65E-05	4.95E-01	7.47E-03	7.83E-02	3.96E-01	1.27E-02
Pump		LL	Recycle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Valve		LL	Recycle	9.80E-06	2.16E-05	1.89E-01	2.86E-03	2.99E-02	1.52E-01	4.85E-03
Valve		GV	Recycle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Agitator		LL	Premix	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Agitator		LL	Recycle	7.50E-06	1.65E-05	1.45E-01	2.19E-03	2.29E-02	1.16E-01	3.72E-03
Connector	Screwed	LL	Premix	1.40E-05	3.09E-05	2.71E-01	1.17E-02	2.43E-01	1.21E-02	6.39E-04
Connector	Screwed	LL	Recycle	3.54E-05	7.80E-05	6.83E-01	1.03E-02	1.08E-01	5.47E-01	1.75E-02
Connector	Flanged	LL	Premix	9.76E-06	2.15E-05	1.88E-01	8.15E-03	1.69E-01	8.43E-03	4.45E-04
Connector	Flanged	LL	Recycle	2.32E-05	5.11E-05	4.48E-01	6.76E-03	7.08E-02	3.58E-01	1.15E-02
Pump		LL	Premix	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Pump		LL	Recycle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Valve		LL	Premix	6.86E-06	1.51E-05	1.32E-01	5.73E-03	1.19E-01	5.92E-03	3.13E-04
Valve		LL	Recycle	1.52E-05	3.35E-05	2.93E-01	4.43E-03	4.64E-02	2.35E-01	7.53E-03
Valve		GV	Premix	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Valve		GV	Recycle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Agitator		LL	Recycle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Connector	Screwed	LL	Recycle	2.62E-05	5.78E-05	5.07E-01	7.64E-03	8.01E-02	4.06E-01	1.30E-02
Connector	Flanged	LL	Recycle	1.71E-05	3.77E-05	3.30E-01	4.98E-03	5.22E-02	2.64E-01	8.46E-03
Pump		LL	Recycle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Valve		LL	Recycle	1.13E-05	2.48E-05	2.18E-01	3.28E-03	3.44E-02	1.74E-01	5.58E-03
Valve		GV	Recycle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Agitator		LL	Recycle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Agitator		LL	O-Xylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Connector	Screwed	LL	Recycle	6.16E-05	1.36E-04	1.19E+00	1.80E-02	1.88E-01	9.53E-01	3.05E-02
Connector	Screwed	LL	O-Xylene	1.65E-05	3.63E-05	3.18E-01	0.00E+00	0.00E+00	3.18E-01	0.00E+00
Connector	Flanged	LL	Recycle	4.09E-05	9.01E-05	7.89E-01	1.19E-02	1.25E-01	6.32E-01	2.02E-02
Connector	Flanged	LL	O-Xylene	1.10E-05	2.42E-05	2.12E-01	0.00E+00	0.00E+00	2.12E-01	0.00E+00
Pump		LL	Recycle	1.50E-05	3.31E-05	2.90E-01	4.37E-03	4.58E-02	2.32E-01	7.43E-03
Pump		LL	O-Xylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Valve		LL	Recycle	2.16E-05	4.75E-05	4.16E-01	6.28E-03	6.59E-02	3.33E-01	1.07E-02
Valve		LL	O-Xylene	9.80E-07	2.16E-06	1.89E-02	0.00E+00	0.00E+00	1.89E-02	0.00E+00
Valve		GV	Recycle	1.98E-06	4.37E-06	3.82E-02	5.77E-04	6.05E-03	3.06E-02	9.81E-04
Valve		GV	O-Xylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Agitator		LL	Recycle	7.50E-06	1.65E-05	1.45E-01	2.19E-03	2.29E-02	1.16E-01	3.72E-03
Connector	Screwed	LL	Recycle	3.72E-05	8.20E-05	7.19E-01	1.08E-02	1.14E-01	5.75E-01	1.84E-02
Connector	Flanged	LL	Recycle	2.50E-05	5.51E-05	4.83E-01	7.29E-03	7.64E-02	3.87E-01	1.24E-02
Pump		LL	Recycle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Valve		LL	Recycle	1.37E-05	3.02E-05	2.65E-01	4.00E-03	4.19E-02	2.12E-01	6.80E-03
Valve		GV	Recycle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Agitator		LL	Recycle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Connector	Screwed	LL	Recycle	9.94E-05	2.19E-04	1.92E+00	2.90E-02	3.04E-01	1.54E+00	4.93E-02
Connector	Flanged	LL	Recycle	6.59E-05	1.45E-04	1.27E+00	1.92E-02	2.01E-01	1.02E+00	3.26E-02
Pump		LL	Recycle	4.50E-05	9.92E-05	8.69E-01	1.31E-02	1.37E-01	6.96E-01	2.23E-02
Valve		LL	Recycle	4.75E-05	1.05E-04	9.18E-01	1.39E-02	1.45E-01	7.35E-01	2.35E-02
Valve		GV	Recycle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Agitator		LL	Recycle/ Recycle Water	7.50E-06	1.65E-05	1.45E-01	2.19E-03	2.29E-02	1.16E-01	3.72E-03
Connector	Screwed	LL	Recycle/ Recycle Water	1.31E-04	2.88E-04	2.52E+00	3.80E-02	3.99E-01	2.02E+00	6.47E-02
Connector	Flanged	LL	Recycle/ Recycle Water	8.66E-05	1.91E-04	1.67E+00	2.52E-02	2.65E-01	1.34E+00	4.29E-02
Pump		LL	Recycle/ Recycle Water	1.50E-05	3.31E-05	2.90E-01	4.37E-03	4.58E-02	2.32E-01	7.43E-03
Valve		LL	Recycle/ Recycle Water	5.88E-05	1.30E-04	1.14E+00	1.71E-02	1.80E-01	9.09E-01	2.91E-02
Valve		GV	Recycle/ Recycle Water	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Agitator		LL	Recycle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Connector	Screwed	LL	Recycle	7.44E-05	1.64E-04	1.44E+00	2.17E-02	2.27E-01	1.15E+00	3.69E-02
Connector	Flanged	LL	Recycle	4.94E-05	1.09E-04	9.54E-01	1.44E-02	1.51E-01	7.64E-01	2.45E-02
Pump		LL	Recycle	1.50E-05	3.31E-05	2.90E-01	4.37E-03	4.58E-02	2.32E-01	7.43E-03
Valve		LL	Recycle	2.45E-05	5.40E-05	4.73E-01	7.14E-03	7.48E-02	3.79E-01	1.21E-02
Valve		GV	Recycle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Agitator		LL	Recycle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Agitator		LL	O-Xylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Connector	Screwed	LL	Recycle	1.10E-05	2.42E-05	2.12E-01	3.20E-03	3.35E-02	1.70E-01	5.44E-03
Connector	Screwed	LL	O-Xylene	6.71E-06	1.48E-05	1.30E-01	0.00E+00	0.00E+00	1.30E-01	0.00E+00
Connector	Flanged	LL	Recycle	7.32E-06	1.61E-05	1.41E-01	2.13E-03	2.24E-02	1.13E-01	3.63E-03
Connector	Flanged	LL	O-Xylene	4.27E-06	9.41E-06	8.25E-02	0.00E+00	0.00E+00	8.25E-02	0.00E+00
Pump		LL	Recycle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Pump		LL	O-Xylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Valve		LL	Recycle	4.41E-06	9.72E-06	8.52E-02	1.29E-03	1.35E-02	6.82E-02	2.18E-03
Valve		LL	O-Xylene	1.47E-06	3.24E-06	2.84E-02	0.00E+00	0.00E+00	2.84E-02	0.00E+00
Valve		GV	Recycle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Valve		GV	O-Xylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Agitator		LL	Recycle	1.50E-05	3.31E-05	2.90E-01	4.37E-03	4.58E-02	2.32E-01	7.43E-03
Connector	Screwed	LL	Recycle	1.02E-04	2.25E-04	1.97E+00	2.97E-02	3.11E-01	1.58E+00	5.05E-02
Connector	Screwed	LL	Recycle	4.33E-04	9.54E-04	8.35E+00	1.26E-01	1.32E+00	6.69E+00	2.14E-01
Connector	Flanged	LL	Recycle	6.83E-05	1.51E-04	1.32E+00	1.99E-02	2.09E-01	1.06E+00	3.38E-02
Pump		LL	Recycle	2.25E-05	4.96E-05	4.35E-01	6.56E-03	6.87E-02	3.48E-01	1.11E-02
Valve		LL	Recycle	3.28E-05	7.24E-05	6.34E-01	9.57E-03	1.00E-01	5.08E-01	1.63E-02

Category	Type	Phase	Material in Service	VOC (kg/hr)	VOC (lb/hr)	VOC (lb/yr)	Aniline (lb/yr)	o-Toluidine (lb/yr)	o-Xylene (lb/yr)	Phenol (lb/yr)
Valve		GV	Recycle	5.28E-06	1.16E-05	1.02E-01	1.54E-03	1.61E-02	8.17E-02	2.62E-03
Agitator		LL	Recycle/ Recycle Water	7.50E-06	1.65E-05	1.45E-01	2.19E-03	2.29E-02	1.16E-01	3.72E-03
Connector	Screwed	LL	Recycle/ Recycle Water	9.21E-05	2.03E-04	1.78E+00	2.68E-02	2.81E-01	1.42E+00	4.56E-02
Connector	Flanged	LL	Recycle/ Recycle Water	6.16E-05	1.36E-04	1.19E+00	1.80E-02	1.88E-01	9.53E-01	3.05E-02
Pump		LL	Recycle/ Recycle Water	7.50E-06	1.65E-05	1.45E-01	2.19E-03	2.29E-02	1.16E-01	3.72E-03
Valve		LL	Recycle/ Recycle Water	3.43E-05	7.56E-05	6.62E-01	1.00E-02	1.05E-01	5.30E-01	1.70E-02
Valve		GV	Recycle/ Recycle Water	6.60E-07	1.46E-06	1.27E-02	1.92E-04	2.02E-03	1.02E-02	3.27E-04
Agitator		LL	Recycle	7.50E-06	1.65E-05	1.45E-01	2.19E-03	2.29E-02	1.16E-01	3.72E-03
Connector	Screwed	LL	Recycle	3.48E-05	7.67E-05	6.71E-01	1.01E-02	1.06E-01	5.38E-01	1.72E-02
Connector	Flanged	LL	Recycle	2.32E-05	5.11E-05	4.48E-01	6.76E-03	7.08E-02	3.58E-01	1.15E-02
Pump		LL	Recycle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Valve		LL	Recycle	1.27E-05	2.81E-05	2.46E-01	3.71E-03	3.89E-02	1.97E-01	6.31E-03
Valve		GV	Recycle	2.64E-06	5.82E-06	5.10E-02	7.69E-04	8.06E-03	4.08E-02	1.31E-03
Agitator		LL	Recycle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Connector	Screwed	LL	Recycle	2.99E-05	6.59E-05	5.77E-01	8.71E-03	9.13E-02	4.62E-01	1.48E-02
Connector	Flanged	LL	Recycle	1.95E-05	4.30E-05	3.77E-01	5.69E-03	5.96E-02	3.02E-01	9.67E-03
Pump		LL	Recycle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Valve		LL	Recycle	8.82E-06	1.94E-05	1.70E-01	2.57E-03	2.69E-02	1.36E-01	4.37E-03
Valve		GV	Recycle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Agitator		LL	Recycle/ Recycle Water O-Xylene	7.50E-06	1.65E-05	1.45E-01	2.19E-03	2.29E-02	1.16E-01	3.72E-03
Connector	Screwed	LL	Recycle/ Recycle Water O-Xylene	4.64E-05	1.02E-04	8.95E-01	1.35E-02	1.42E-01	7.17E-01	2.30E-02
Connector	Flanged	LL	Recycle/ Recycle Water O-Xylene	3.05E-05	6.72E-05	5.89E-01	8.89E-03	9.32E-02	4.72E-01	1.51E-02
Pump		LL	Recycle/ Recycle Water O-Xylene	1.50E-05	3.31E-05	2.90E-01	4.37E-03	4.58E-02	2.32E-01	7.43E-03
Valve		LL	Recycle/ Recycle Water O-Xylene	2.06E-05	4.54E-05	3.97E-01	6.00E-03	6.29E-02	3.18E-01	1.02E-02
Valve		GV	Recycle/ Recycle Water O-Xylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Agitator		LL	O-Xylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Connector	Screwed	LL	O-Xylene	8.17E-05	1.80E-04	1.58E+00	0.00E+00	0.00E+00	1.58E+00	0.00E+00
Connector	Flanged	LL	O-Xylene	5.49E-05	1.21E-04	1.06E+00	0.00E+00	0.00E+00	1.06E+00	0.00E+00
Pump		LL	O-Xylene	2.25E-05	4.96E-05	4.35E-01	0.00E+00	0.00E+00	4.35E-01	0.00E+00
Valve		LL	O-Xylene	3.58E-05	7.89E-05	6.91E-01	0.00E+00	0.00E+00	6.91E-01	0.00E+00
Valve		GV	O-Xylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Agitator		LL	O-Xylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Connector	Screwed	LL	O-Xylene	9.70E-05	2.14E-04	1.87E+00	0.00E+00	0.00E+00	1.87E+00	0.00E+00
Connector	Flanged	LL	O-Xylene	6.47E-05	1.43E-04	1.25E+00	0.00E+00	0.00E+00	1.25E+00	0.00E+00
Pump		LL	O-Xylene	1.50E-05	3.31E-05	2.90E-01	0.00E+00	0.00E+00	2.90E-01	0.00E+00
Valve		LL	O-Xylene	3.77E-05	8.32E-05	7.29E-01	0.00E+00	0.00E+00	7.29E-01	0.00E+00
Valve		GV	O-Xylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Agitator		LL	O-Xylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Connector	Screwed	LL	O-Xylene	8.60E-05	1.90E-04	1.66E+00	0.00E+00	0.00E+00	1.66E+00	0.00E+00
Connector	Flanged	LL	O-Xylene	5.73E-05	1.26E-04	1.11E+00	0.00E+00	0.00E+00	1.11E+00	0.00E+00
Pump		LL	O-Xylene	1.50E-05	3.31E-05	2.90E-01	0.00E+00	0.00E+00	2.90E-01	0.00E+00
Valve		LL	O-Xylene	3.09E-05	6.81E-05	5.96E-01	0.00E+00	0.00E+00	5.96E-01	0.00E+00
Valve		GV	O-Xylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Agitator		LL	O-Xylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Connector	Screwed	LL	O-Xylene	3.78E-05	8.34E-05	7.30E-01	0.00E+00	0.00E+00	7.30E-01	0.00E+00
Connector	Flanged	LL	O-Xylene	2.56E-05	5.65E-05	4.95E-01	0.00E+00	0.00E+00	4.95E-01	0.00E+00
Pump		LL	O-Xylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Valve		LL	O-Xylene	1.47E-05	3.24E-05	2.84E-01	0.00E+00	0.00E+00	2.84E-01	0.00E+00
Valve		GV	O-Xylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Agitator		LL	Premix	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Agitator		LL	Recycle	7.50E-06	1.65E-05	1.45E-01	2.19E-03	2.29E-02	1.16E-01	3.72E-03
Connector	Screwed	LL	Premix	4.88E-06	1.08E-05	9.42E-02	4.08E-03	8.46E-02	4.21E-03	2.22E-04
Connector	Screwed	LL	Recycle	3.78E-05	8.34E-05	7.30E-01	1.10E-02	1.16E-01	5.85E-01	1.87E-02
Connector	Flanged	LL	Premix	3.05E-06	6.72E-06	5.89E-02	2.55E-03	5.29E-02	2.63E-03	1.39E-04
Connector	Flanged	LL	Recycle	2.56E-05	5.65E-05	4.95E-01	7.47E-03	7.83E-02	3.96E-01	1.27E-02
Pump		LL	Premix	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Pump		LL	Recycle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Valve		LL	Premix	1.96E-06	4.32E-06	3.79E-02	1.64E-03	3.40E-02	1.69E-03	8.93E-05
Valve		LL	Recycle	1.57E-05	3.46E-05	3.03E-01	4.57E-03	4.79E-02	2.42E-01	7.77E-03
Valve		GV	Premix	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Valve		GV	Recycle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Agitator		LL	Recycle/ Recycle Water	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Connector	Screwed	LL	Recycle/ Recycle Water	5.73E-05	1.26E-04	1.11E+00	1.67E-02	1.75E-01	8.87E-01	2.84E-02
Connector	Flanged	LL	Recycle/ Recycle Water	3.78E-05	8.34E-05	7.30E-01	1.10E-02	1.16E-01	5.85E-01	1.87E-02
Pump		LL	Recycle/ Recycle Water	1.50E-05	3.31E-05	2.90E-01	4.37E-03	4.58E-02	2.32E-01	7.43E-03
Valve		LL	Recycle/ Recycle Water	2.65E-05	5.83E-05	5.11E-01	7.71E-03	8.08E-02	4.09E-01	1.31E-02
Valve		GV	Recycle/ Recycle Water	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Agitator		LL	Recycle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Connector	Screwed	LL	Recycle	2.07E-05	4.57E-05	4.01E-01	6.04E-03	6.33E-02	3.21E-01	1.03E-02
Connector	Flanged	LL	Recycle	1.34E-05	2.96E-05	2.59E-01	3.91E-03	4.10E-02	2.08E-01	6.65E-03
Pump		LL	Recycle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Valve		LL	Recycle	8.82E-06	1.94E-05	1.70E-01	2.57E-03	2.69E-02	1.36E-01	4.37E-03
Valve		GV	Recycle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Agitator		LL	Premix	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Agitator		LL	Recycle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Agitator		LL	O-Xylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Agitator		LL	O-Toluidine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Agitator		LL	Aniline	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Connector	Screwed	LL	Premix	4.39E-05	9.68E-05	8.48E-01	3.67E-02	7.62E-01	3.79E-02	2.00E-03
Connector	Screwed	LL	Recycle	7.93E-06	1.75E-05	1.53E-01	2.31E-03	2.42E-02	1.23E-01	3.93E-03
Connector	Screwed	LL	O-Xylene	7.32E-06	1.61E-05	1.41E-01	0.00E+00	0.00E+00	1.41E-01	0.00E+00
Connector	Screwed	LL	O-Toluidine	3.66E-06	8.07E-06	7.07E-02	0.00E+00	7.07E-02	0.00E+00	0.00E+00

Category	Type	Phase	Material in Service	VOC (kg/hr)	VOC (lb/hr)	VOC (lb/yr)	Aniline (lb/yr)	o-Toluidine (lb/yr)	o-Xylene (lb/yr)	Phenol (lb/yr)
Connector	Screwed	LL	Aniline	3.66E-06	8.07E-06	7.07E-02	7.07E-02	0.00E+00	0.00E+00	0.00E+00
Connector	Flanged	LL	Premix	2.93E-05	6.46E-05	5.65E-01	2.45E-02	5.08E-01	2.53E-02	1.33E-03
Connector	Flanged	LL	Recycle	4.88E-06	1.08E-05	9.42E-02	1.42E-03	1.49E-02	7.55E-02	2.42E-03
Connector	Flanged	LL	O-Xylene	4.88E-06	1.08E-05	9.42E-02	0.00E+00	0.00E+00	9.42E-02	0.00E+00
Connector	Flanged	LL	O-Toluidine	2.44E-06	5.38E-06	4.71E-02	0.00E+00	4.71E-02	0.00E+00	0.00E+00
Connector	Flanged	LL	Aniline	2.44E-06	5.38E-06	4.71E-02	4.71E-02	0.00E+00	0.00E+00	0.00E+00
Pump		LL	Premix	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Pump		LL	Recycle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Pump		LL	O-Xylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Pump		LL	O-Toluidine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Pump		LL	Aniline	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Valve		LL	Premix	1.52E-05	3.35E-05	2.93E-01	1.27E-02	2.63E-01	1.31E-02	6.92E-04
Valve		LL	Recycle	2.94E-06	6.48E-06	5.68E-02	8.57E-04	8.98E-03	4.55E-02	1.46E-03
Valve		LL	O-Xylene	2.94E-06	6.48E-06	5.68E-02	0.00E+00	0.00E+00	5.68E-02	0.00E+00
Valve		LL	O-Toluidine	1.47E-06	3.24E-06	2.84E-02	0.00E+00	2.84E-02	0.00E+00	0.00E+00
Valve		LL	Aniline	1.47E-06	3.24E-06	2.84E-02	2.84E-02	0.00E+00	0.00E+00	0.00E+00
Valve		GV	Premix	3.30E-06	7.28E-06	6.37E-02	2.76E-03	5.72E-02	2.85E-03	1.50E-04
Valve		GV	Recycle	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Valve		GV	O-Xylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Valve		GV	O-Toluidine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Valve		GV	Aniline	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Agitator		LL	Premix	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Connector	Screwed	LL	Premix	3.66E-05	8.07E-05	7.07E-01	3.06E-02	6.35E-01	3.16E-02	1.67E-03
Connector	Flanged	LL	Premix	2.44E-05	5.38E-05	4.71E-01	2.04E-02	4.23E-01	2.11E-02	1.11E-03
Pump		LL	Premix	2.25E-05	4.96E-05	4.35E-01	1.88E-02	3.90E-01	1.94E-02	1.03E-03
Valve		LL	Premix	1.57E-05	3.46E-05	3.03E-01	1.31E-02	2.72E-01	1.35E-02	7.14E-04
Valve		GV	Premix	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
			Total	*4.99E-03*	*1.10E-02*	*96.29*	*4.41*	*19.24*	*70.78*	*1.77*

APPENDIX D REVISED AERMOD AIR QUALITY MODELING PROTOCOL

APPENDIX E PART 212 BACT – SPARKLING FILTER

Best Available Control Technology (BACT) Evaluation

Sparkler Filter VOC Emissions;

DEC ID No. 9-2911-00036

PREPARED FOR

The Goodyear Tire & Rubber Company

DATE
15 September 2025

REFERENCE
0771139.03

DOCUMENT DETAILS

The details entered below are automatically shown on the cover and the main page footer. PLEASE NOTE: This table must NOT be removed from this document.	
DOCUMENT TITLE	Best Available Control Technology (BACT) Evaluation
DOCUMENT SUBTITLE	Sparkler Filter VOC Emissions; DEC ID No. 9-2911-00036
PROJECT NUMBER	0771139.03
DATE	15 September 2025
VERSION (delete field if unneeded)	01
AUTHOR	Nancy Zhou; Richard Wohaska, PE; David Murtha, QEP
CLIENT NAME	The Goodyear Tire & Rubber Company

DOCUMENT HISTORY

				ERM APPROVAL TO ISSUE		
VERSION	REVISION	AUTHOR	REVIEWED BY	NAME	DATE	COMMENTS
DRAFT	000	N. Zhou R. Wohaska, PE	D. Murtha, QEP	G. Keating	09.03.2025	

SIGNATURE PAGE

Best Available Control Technology (BACT) Evaluation

Sparkler Filter VOC Emissions; DEC ID No. 9-2911-00036

0771139.03

Nancy Zhou
Senior Consultant, Engineer

Richard J. Wohaska, PE
Technical Director, Engineer

Gary M. Keating
Partner-in-Charge

ERM Consulting & Engineering, Inc.
345 Woodcliff Drive
2nd Floor
Fairport, New York 14450
T +1 585 387 0510

CONTENTS

ACRONYMS AND ABBREVIATIONS

Acronym	Description
ACGIH	American Congress of Governmental Industrial Hygienists
AGC	Annual Guideline Concentration
ASF	Air State Facility Permit
BACT	Best Available Control Technology
cfm	Cubic feet per minute
ERM	ERM Consulting & Engineering, Inc.
Goodyear	The Goodyear Tire & Rubber Company
KWh	kilowatt-hours
lbs	pounds
NSPS	New Source Performance Standards
NYSDEC	New York State Department of Environmental Conservation
NESHAP	National Emissions Standards for Hazardous Air Pollutants
PSD	Prevention of Significant Deterioration
RBLC	EPA's RACT/BACT/LAER Clearinghouse
RTO	Regenerative Thermal Oxidizer (*aka*, recuperative/regenerative incineration)
UV/AO	Ultraviolet/Activated Carbon Oxidation
VOC	Volatile Organic Compound

EXECUTIVE SUMMARY

The Goodyear Tire & Rubber Company ("Goodyear") owns and operates a manufacturing plant located at 5500 Goodyear Drive in the City of Niagara Falls, New York ("Goodyear Facility" or "Facility") that produces an antioxidant product used in the manufacturing of vehicle tires and other products. In 2010, Goodyear submitted documentation to the New York State Department of Environmental Conservation ("NYSDEC" or the "Department") of the Best Available Control Technology (BACT) analysis for feasibility of controlling air emissions of Volatile Organic Compounds (VOCs) from the Facility's Sparkler Filter. That BACT analysis found that control of VOCs emissions may be technically feasible; however, the capital and operational costs associated with air emissions control from the Sparkler Filter were not economically feasible, based on the limited number of batches allowed by permit condition. The Department's review of the Goodyear 2010 BACT submittal documentation concluded that "in consideration of the actual AGC impact and the restriction of 238 batches per year, no control will be accepted as BACT." (See ASF Permit Condition 2-7.2, Mod 2/Active).

Operation of the Sparkler Filter process has not changed since the 2010 BACT submittal, nor has the restriction on the limited number batches allowed per year; however, at the Department's request, Goodyear conducted an updated BACT analysis for the VOC emissions from the Sparkler Filter. The following sections in this document reflect an updated BACT evaluation for the Sparkler Filter for emissions of VOCs.

Consistent with the previous 2010 BACT determination, this updated BACT Analysis reached the same conclusion – that in consideration of the limited operation of the Sparkler Filter, the restriction of 238 batches per year, and the Facility's ability to comply with the Part 212 guideline concentrations, no further control is found to be necessary or acceptable as BACT.

1. REGULATORY BACKGROUND

Consistent with the Goodyear facility's Air State Facility permit and 6 NYCRR Part 212, where a source owner can demonstrate to the satisfaction of the commissioner that it will apply Best Available Control Technology (BACT), the commissioner may specify a less restrictive permissible emission rate, emission standard or degree of air cleaning for such source than is required by Part 212. This document serves as a BACT evaluation for the Sparkler Filter process for VOC emissions.

2. FACILITY DESCRIPTION

The Goodyear Facility located in Niagara Falls, New York manufactures an antioxidant that is primarily used in vehicle tire manufacturing. The antioxidant product provides the tires with long-term protection from oxygen and ozone deterioration. In 2024, Goodyear manufactured 12.2 million pounds of the antioxidant Nailax, also known as Polystay 100. Note that Goodyear previously manufactured two other products, Polystay 100AZ and Polystay 200, but the facility has since ceased manufacturing of these two products.

3. SOURCE DESCRIPTION

3.1 SPARKLER FILTER

Goodyear has three reactors that are used to manufacture Nailax. Aniline and o-toluidine react in the presence of a catalyst in an o-xylene solvent. After the reaction is complete, the unreacted material, product impurities, water, and o-xylene are removed through degassers. Once the Nailax is formed, it is transferred from the degasser to the Nailax holding tanks. From the holding tanks, water and impurities are removed from the Nailax product primarily through the Centrifuge system; however, when the Centrifuge system is unavailable (due to routine maintenance or repair activities) the Facility relies upon the Sparkler Filter. Sparkler filters, also known as horizontal plate filters, work by forcing liquid through a series of stacked horizontal plates with filter media, such as filter paper or cloth, in between each layer. Liquid Nailax is allowed to pass through the center of the plates while solids (impurities) get trapped on the media. Once passed through the Sparkler Filter, the Nailax is then process steam-purged within the enclosed Sparkler Filter and subsequently either through a flaker or a pastillation process to make a final product that is bagged and shipped to customers. The spent filter media that contains the impurities is removed from the Sparkler Filter by opening the top of the Sparkler Filter after every second batch and using an overhead hoist to lift the filter media out of the vessel and moving the filter cage into the cage receiving basket where the spent filter media is manually stripped from the filter cage frame and disposed in a water-filled lugger prior to offsite disposal at a properly permitted disposal facility. The filter cage is then fitted with a new filter paper media and the filter cage is placed back into the Sparkler Filter for the next set of batch production runs. This filter changeout period during which the Sparkler Filter is opened to the indoor air within the building is normally ten to fifteen minutes.

There currently is no VOC emissions control required for the Sparkler Filter. To equip the Sparkler Filter with an air pollution control system, a slotted, horizontally-oriented plenum would need to be fabricated and installed behind the Sparkler Filter (and the filter receiving basket) and

equipped with a blower to draw air emissions from the open top of the Sparkler Filter and vent the emissions to an appropriate control device. To provide sufficient face velocity across the open top of the Sparkler Filter and the adjacent filter cleaning basket, ERM relied on ACGIH Industrial Ventilation Manual, 29th edition to estimate the flow needed to capture potential emissions and direct them through the side draft hood. The calculated flow rate needed to capture emissions from the Sparkler Filter was estimated to be 15,150 cubic feet per minute (cfm). The preliminary conceptual design requirements for the emissions ventilation system are provided in Appendix A to this report and used in the technical and economic feasibility for this BACT analysis.

ERM estimated the potential air contaminant VOC emissions from the Sparkler Filter for the maximum 15-minute period while the unit is open to the indoor air for the maximum number of batches per year (238) listed as a restriction in the Facility's Air State Facility Permit. The total VOCs that could be emitted from the Sparkler Filter have been calculated to be 0.042 pounds per batch (lbs/batch), 9.9 pounds per year (lbs/year) or 0.005 tons per year (tpy), based on 238 batches per year. These emissions calculations are provided in Appendix A to this report and are used in the economic feasibility of the BACT analysis.

4. TOP-DOWN BACT ANALYSIS

The "Top-Down" BACT approach is the methodology associated with the BACT process as part of the Clean Air Act's Prevention of Significant Deterioration (PSD) program. The intent of this specific BACT associated with the Goodyear Sparkler Filter is to demonstrate compliance with 6 NYCRR Part 212, a State-BACT process. While this evaluation is not a part of a PSD application or being driven by federal requirements, the "Top-Down" BACT approach is used in this evaluation as a reference for the New York State BACT analysis process.

4.1 CONTROL TECHNOLOGY DETERMINATION METHODOLOGY

In this BACT analysis, Goodyear is using the U.S. Environmental Protection Agency's (USEPA's) top-down approach for determining the feasibility of control technology for the Sparkler Filter process emissions. This control technology evaluation approach is used to establish the BACT emission limitation, unless the applicant can demonstrate (and the permitting authority agrees) that it is not "achievable" due to technical infeasibility, cost effectiveness, or potentially having other adverse environmental or energy consequences. Following this top-down approach, should the top control technology alternative be eliminated, then the next most stringent level of control is then evaluated. This process continues until BACT is selected. The five steps in a top-down BACT evaluation can be summarized as follows:

- Step 1. Identify all possible control technologies;
- Step 2. Eliminate technically infeasible options;
- Step 3. Rank the technically feasible control technologies by control effectiveness;
- Step 4. Evaluate most effective controls and document results; and
- Step 5. Select BACT.

The following sections contain a description of the five (5) basic steps of this "top-down" approach.

4.1.1 STEP 1 – IDENTIFY ALL CONTROL OPTIONS

In this step, available control technologies with the practical potential for application to the emission source and regulated air contaminant(s) in question are identified. The selected control technologies vary widely depending on the process technology and contaminant being controlled. The application of demonstrated control technologies in other similar source categories to the emission unit in question may also be considered in this step.

The following resources are typically consulted when identifying potential technologies for criteria pollutants:

- EPA's RACT/BACT/LAER Clearinghouse (RBLC) database;
- NSPS, NESHAP, and BACT requirements for similar operations; and/or
- Engineering experience with similar control applications.

There is no specific methodology to identify the available emission control technologies and levels for a given emission source or air contaminant. The most common source of this information is EPA's RACT/BACT/LAER Clearinghouse (RBLC). Maintained by EPA, this searchable database of emissions control technology determinations is generally the best starting point for developing the required ranking of emissions control technologies and levels.

4.1.2 STEP 2 – ELIMINATE TECHNICALLY INFEASIBLE OPTIONS

In this step, "technically infeasible" control options from the list of "potentially available" control options are eliminated. A control option is "technically feasible" if it has been "demonstrated" or if it is both "available" and "applicable."

4.1.3 STEP 3 – RANK REMAINING CONTROL OPTIONS

All remaining technically feasible control options are ranked based on their overall control effectiveness for the pollutant under review. If there is only one remaining option or if all the remaining technologies could achieve equivalent control efficiencies, ranking based on control efficiency is not required. Collateral effects are usually not considered until step four of the five step top-down BACT analysis.

4.1.4 STEP 4 – EVALUATION OF MOST EFFECTIVE CONTROL OPTION

After identifying and ranking available and technically feasible control technologies, the economic, environmental, and energy impacts are evaluated to select the best control option. If collateral impacts do not disqualify the top-ranked option from consideration, it is selected as the basis for the BACT limit.

Alternatively, in the judgment of the permitting agency, if economic, environmental, or energy considerations impact the top control option, the next most stringent option is evaluated. This process continues until a control technology is identified. This step validates the suitability of the

top control option identified or provides a clear justification as to why the top control option should not be selected as BACT.

4.1.5 STEP 5 – SELECT BACT

In the final step, the BACT is determined for the emission source under review based on evaluations from the previous step.

5. SPARKLER FILTER VOC EMISSIONS CONTROL TECHNIQUES

This section focuses on the analysis of techniques to reduce VOC emissions from the Sparkler Filter.

5.1 STEP 1: IDENTIFY ALL POTENTIAL CONTROL OPTIONS

A RACT/BACT/LAER Clearinghouse review for VOC emission control for the Goodyear Sparkler Filter produced the following BACT determinations. Research into publicly available documentation identified control technologies that warranted further consideration. The technologies are identified as follows:

- Carbon Adsorption
- Ultraviolet/Activated Carbon (UV/AO) Oxidation
- Recuperative/Regeneration Oxidation
- Vapor Condensers

5.1.1 CARBON ADSORPTION

Adsorption is a process by which VOCs are retained on the surface of granular solids. The solid adsorbent particles are highly porous and have very large surface area-to-volume ratios. Gas molecules penetrate the pores of the adsorbent and contact the large surface area available for adsorption. Organic vapors retained on the adsorbent are thereafter desorbed with both the adsorbate and adsorbent recovered. The adsorption process occurs primarily through two mechanisms: physical adsorption, in which electrostatic or van der Waals forces attract and hold gas molecules to the adsorbent surface, and chemical adsorption, in which the gas molecules are chemically bonded to the adsorbent. On a smooth surface, physical adsorption produces a layer of gas molecules not more than several molecules thick; however, within the capillaries of a porous solid, surface adsorption is supplemented by capillary condensation. Chemical adsorption produces an adsorbed gas layer only one molecule thick.

5.1.2 ULTRAVIOLET/ACTIVATED CARBON OXIDATION (UV/AO)

This process uses ultraviolet (UV) light and activated oxygen/ozone to destroy VOCs. In some installations, a wet scrubber and carbon adsorption system are also employed. This combination of technologies may be capable of achieving VOC destruction and removal efficiency greater than 90 percent on a continuous basis in some applications (Shugarman, 1991).

There are three primary constituents of the typical UV/AO unit: activated oxygen, UV light and a water reactor. Activated oxygen is a term used to describe several oxygen-based oxidants. The primary constituent of AO is ozone, but also included are peroxides, oxygen radicals and hydroxyls. These compounds are generated by the UV light. Due to the short half-life of ozone, these compounds must be generated on-site. AO is a good oxidizer; in fact, it is 10 to 12 percent more reactive than ozone alone (Shugarman, 1991). Because the UV light can be tuned to a very narrow frequency, the oxidation reaction can be controlled to produce AO without by-product NOx.

The VOC emission stream passes through a photolytic reactor where the tuned UV light and injected oxidant begin to destroy the VOCs. Although the reactor designs are proprietary, important design considerations include the volume of air and concentration of VOCs in the exhaust stream. Following this stage, the gas flows through the water reactor. Ozonated water passes countercurrent to the up-flowing VOC-laden gas; soluble VOCs are absorbed and converted to CO_2 and water. A coalescer is used after this reactor to collect entrained water droplets. Finally, the gas is ducted to one of two carbon beds where remaining VOCs are adsorbed. Generally, 35 or 75 percent of the original VOCs have been removed prior to this stage (Shugarman, 1991), yielding 90% total VOC removal.

Each bed remains on-line for at least 24 hours (in some cases, the beds may remain on-line for three days) before they are regenerated. The beds are regenerated with the oxidant which converts the adsorbed VOCs to CO_2 and water. Thus, there is no VOC by-product for disposal. In addition, because the VOCs are not incinerated, by-products of combustion such as NOx, and CO are not produced.

Generation of activated oxygen by UV light has several advantages compared to other methods, such as corona discharge. UV light does not oxidize nitrogen in the ambient air, thereby eliminating the generation of NOx. In addition, because it operates at low temperatures, no water-cooling system is required. Maintenance and energy costs are minimal. Typically, the oxidative equivalent of one pound of ozone requires 3 to 5 kilowatt-hours (kWh) of energy.

5.1.3 RECUPERATIVE/REGENERATIVE OXIDATION

One potentially feasible technology for controlling virtually any dilute phase VOC emission is thermal oxidation. An efficient thermal oxidation design must provide adequate residence time for complete combustion, sufficiently high temperatures for VOC destruction, and adequate velocities to ensure proper mixing without quenching combustion.

In thermal oxidation, the VOC stream is delivered to a refractory-lined burner area by a blower. The combustible matter is thoroughly mixed with the burner flame in the upstream portion of the chamber and then passes through the remaining portion of the chamber where combustion is completed. Residence times of 0.5 to 1.0 seconds at temperatures ranging from 1,200 to 1,600°F are generally required for high destruction efficiency. Natural gas is typically used to maintain the required combustion temperature to combust the diluted mixtures.

Typical recuperative thermal oxidizers are equipped with a heat exchanger to recover thermal energy in the exhaust gas stream and use it to preheat the incoming VOC laden gas stream, thereby reducing the need for auxiliary natural gas for combustion. Thermal efficiencies up to 70

percent are possible with a standard recuperative heat exchanger. Regenerative thermal oxidizers use a ceramic heat exchange media, which can provide thermal efficiencies of up to 95 percent. To achieve this high thermal efficiency, hot exhaust gases are passed through the heat exchange media transferring thermal energy for storage. To reclaim this thermal energy, the flue gas inlet stream is directed through the heat exchange media chamber for preheating, and once combusted in a central combustion chamber, is passed through a different heat exchange media chamber to capture and store thermal energy for a subsequent preheating cycle. Aside from the ceramic media heat exchanger, regenerative systems operate in the same manner as recuperative thermal oxidizers.

Recuperative or regenerative thermal incinerators are particularly applicable to dilute VOC streams in which large quantities of air must be heated to control a low concentration of VOC, because the high level of heat recovery serves to reduce the operating costs significantly over once-through thermal incineration.

For purposes of this analysis, the required combustion temperature is assumed to be at least 1369°F (OAQPS, 1991). The VOC streams are so dilute they are assumed to contribute no appreciable heating value and therefore, the combustion temperature is attained solely from the combustion of natural gas. The heat recovery rate is assumed to be 70 percent for a recuperative oxidizer, and 95 percent for a regenerative oxidizer. The destruction efficiency of thermal oxidizers operating at design conditions is estimated to be 98 percent.

5.1.4 VAPOR CONDENSERS

Condensation of VOC emissions in a gas stream involves converting gaseous VOC vapors to a liquid for recovery and potential re-use. Most VOCs can be reduced to liquid form by sufficiently lowering its temperature.

When a hot vapor laden stream is cooled, the kinetic energy of the vapor is reduced. The "excitation" of the vapor's molecules is slowed down, allowing them to occupy less space and crowd together. Van der Waals forces attract the molecules where they more densely combine to form droplets of liquid. These droplets are easily collected via gravity, thus removing the condensed VOC from the gas stream.

Most condensers for VOC control incorporate non-contact heat exchangers to allow recovery of the VOC product and to avoid generation of a VOC contaminated wastewater stream.

The primary design parameter for application of a condensation system is the temperature to which the VOC stream must be cooled for condensation to take place. It should be noted that the entire air stream must be cooled to this condensation temperature. Thus, condensation may not be economically feasible for very dilute/high volume air streams. Condensers may employ a circulating water system using a cooling tower for heat rejection, various refrigeration cycles, or cryogenic cooling systems employing liquid nitrogen.

5.2 STEP 2: ELIMINATE TECHNICALLY INFEASIBLE OPTIONS

5.2.1 UV/AO OXIDATION

Ultraviolet/Activated Oxygen oxidation is not considered to represent a technically feasible VOC control technology for the Sparkler Filter based on the exhaust flow rate of the emissions source. Based on research into UV/AO, the optimal exhaust flow range is approximately 100 to 500 cubic meters per hour (~60 cfm to 300 cfm), with research pointing to reduced VOC control efficiency with exhaust flow rates outside of this range. The exhaust flow rate for the Sparkler Filter has been calculated to be 15,150 cfm. This technology has not been commercially proven to successfully treat a flow rate at this level with such a low VOC emission concentration, therefore rendering the UV/AO technology as a technically infeasible solution.

5.2.2 VAPOR CONDENSATION

Vapor condensation does not represent a technically feasible control technology for the Sparkler Filter due to the low concentration of VOCs present (0.04 lb/batch) in the exhaust stream along with the high exhaust flow rate (15,150 cfm). Typical minimum ranges for inlet concentrations ranges from 500-1000 ppmv.

5.3 STEP 3: RANK REMAINING CONTROL OPTIONS

When comparing the two remaining options of carbon adsorption and recuperative/regenerative oxidation, both methods have high potential control efficiencies greater than the minimum 90% control required by 6 NYCRR Part 212.

5.4 STEP 4: EVALUATION OF MOST EFFECTIVE CONTROL OPTION

5.4.1 RECUPERATIVE/REGENERATIVE OXIDIZER CONTROL

As previously stated in section 5.3 above, the recuperative/regenerative oxidation control option has been identified as the top-ranked control option for VOC emissions control. Based on costing information provided to Goodyear by a third party, the incremental capital investment associated with increasing the size of the planned installation of a regenerative thermal oxidizer (RTO) and the associated replacement Tri-Mer wet scrubber to accommodate the treatment/control of the VOC emissions from the limited operation of the Sparkler Filter is calculated to be $1,021,779 USD. Since the planned RTO is being designed to achieve greater than 90% VOC emissions control efficiency, the unit cost to capture and control the Sparkler Filter VOC emissions through the upsized RTO is calculated to be $229,124,144 per ton of VOC controlled. This unit cost per ton of VOC controlled does not include the incremental annual operating costs (i.e., additional natural gas and electricity use). By virtue of the incremental capital cost increase alone for treatment of VOC emissions from the Sparkler Filter, the upsizing of the planned RTO is not considered an economically feasible control option. See Appendix A for the cost analysis for the upgraded RTO capital costs.

5.4.2 CARBON ADSORPTION OPTION

With the elimination of recuperative/regenerative oxidation as the top-ranked VOC control option, the other technically feasible control option would be the installation and operation of a carbon adsorption system for the control of VOC emissions from the limited use Sparkler Filter.

Using the 15,150 cfm flow rate design requirements needed for the slotted, horizontally-oriented plenum, ductwork and exhaust fan, costs were developed for the capital and annual operating costs to install a carbon adsorption system. The capital cost for the installation of a two-unit carbon adsorption system was estimated to be $95,000 USD and the annual rental (operating) costs, as provided by Calgon Carbon Corporation, would $72,000 USD annually. From these vendor quotes, the total annualized costs for the installation and operation of a two-unit carbon adsorption system would be $81,676 USD, excluding utility costs. The capture and control system using carbon adsorption control results in a cost effectiveness value of $18,315,049 per ton of VOC emissions removed, assuming greater than 90% control. Therefore, the option for installation and operation of a carbon adsorption control of VOC emissions from the limited use of the Sparkler Filter process is not considered an economically feasible option. A breakdown of the cost estimates for the installation and operation of a carbon adsorption system can be found in Appendix A.

5.5 STEP 5. SELECT BACT/CONCLUSION

In the absence of either technically or economically feasible control options, the existing permit condition restricting the number of batches processed by the Sparkler Filter, and the ability to comply with the guidance values for the speciated VOC emissions from the Sparkler Filter process BACT for the Sparkler Filter operation at the Goodyear Facility is considered to be no further control.

APPENDIX A SPARKLER FILTER BACT ANALYSIS: EMISSIONS ESTIMATES AND CONTROL TECHNOLOGY COST ANALYSES

The Goodyear Tire and Rubber Company
Niagara Falls, New York
Sparkler Filter BACT Analysis

Emission Unit U-32034

Source: Sparkler Filter, 03034
Description: Antioxidant batches are degassed and then filtered (Sparkler filter) to remove the neutralized catalyst. The

Nailax Product, molten

		Analysis				
	Molecular Weight	lb/gal	w/w %	Normalized	moles/100 lbs	Mole Fraction
Aniline	93.1	8.529	0.010%	0.011%	0.0001	0.0003
DPA	169.2	8.340	4.000%	4.543%	0.0269	0.0715
Nailax	274.0	8.340	84.000%	95.404%	0.3482	0.9271
Phenol	94.1	8.920	0.005%	0.006%	0.0001	0.0001
o-Toluidine	107.2	8.410	0.030%	0.034%	0.0003	0.0008
o-Xylene	106.2	7.345	0.002%	0.002%	0.00002	0.0001
	Total		88%	100%	0.3756	1

Emission Factor Calculations

lbs of cake per ton filtered	80
lbs filtered per batch	7,800
lbs of cake generated per bat	312

$$\frac{lbs\ cake}{batch} = \frac{\text{lbs cake}}{\text{ton filtered}} \div 2{,}000\frac{\text{lbs}}{\text{ton}} \times \frac{\text{lbs filtered}}{\text{batch}}$$

Given that each cake is 25% Nailax: [1]

lbs of Nailax in the filter cake, per batch	78

Component Amount Example:

lbs of o-Toluidine in the filter cake, per batch	0.03

Assuming that all of each component is emitted fully, and the filter is opened every 2 batches:

	Aniline	DPA	Nailax	Phenol	o-Toluidine	o-Xylene
lbs per batch of Nailax filtered:	0.01	3.54	74.41	0.004	0.03	0.002
% emitted: [2]	100%	0.10%	0.10%	100%	100%	100%
Number of batches per filter opening:	2					
Hours of emissions per filter opening [3]:	1					
ERP, lbs/hour:	0.018	0.007	0.149	0.009	0.053	0.004
EF, lbs/batch:	0.01	0.004	0.07	0.004	0.03	0.002

[1] *Filter cake SDS provided by Goodyear*
[2] *All VOCs are assumed to be fully emitted. DPA and Nailax emissons are in solid form as*
[3] *Emissions occur for 15 minutes; however, per 6 NYCRR Part 200.1(u), the ERP is calculated using 1 hour.*

Actual Emission Calculations

Actual Batches per Year: 15

Actuals	Aniline	DPA	Nailax	Phenol	o-Toluidine	o-Xylene
lbs/year	0.13	0.05	1.12	0.07	0.40	0.03

Potential-to-Emit Calclulation

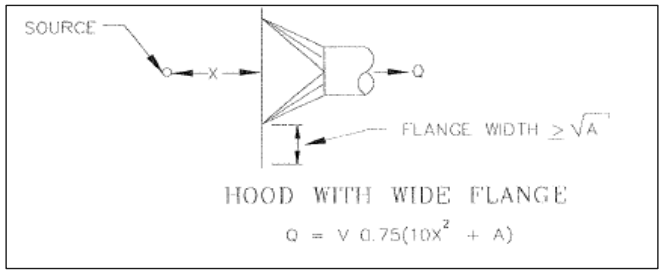
Potential Batches per Year: 238

Air Contaminant:	Aniline	DPA	Nailax	Phenol	o-Toluidine	o-Xylene
lbs/year:	2.11	0.84	17.71	1.05	6.33	0.42

The Goodyear Tire and Rubber Company
Niagara Falls, New York
Sparkler Filter Air Emissions Control Cost Analysis

Sparkler Filter Preliminary Capture and Control Evaluation
Date: 8/25/2025

Side Draft Hood Air Flow required to achieve capture from emission source determined by:
ACGIH Industrial Ventilation Manual (29th Edition)
Hood with wide flange - assumed behind sparkler filter
(Table 6-3)



Design Basis:

$Q = V * 0.75 * (10 X^2 + A)$

where:

Q =	15,150	Flow (cfm)
V =	100	Capture velocity at distance X (fpm)
X =	4	Distance from hood face to furthest point of emissions (ft)
L =	9.0	Length of hood (ft)
W =	4.7	Width of hood (ft)
A =	42	Hood face area, L * W (ft^2)

Emissions Estimate - PTE

VOC[1]

lb/batch:	0.05
lb/year:	9.9
ton/yr:	0.005

[1]PTE VOC emission rate used is from calculations shown below and in the 'PTE VOC Calculation' tab. Note that DPA and Nailax are excluded from the calculations since they are emitted at PM, not VOCs.

PTE

Potential Batches per Year: 238

PTE	Aniline	DPA	Nailax	Phenol	o-Toluidine	o-Xylene
lbs/year	2.11	0.84	17.71	1.05	6.33	0.42

Cost Recovery Factor - Capital Investment

Equipment Life =	20	yrs
Interest Rate =	8.0	%
Capital Recovery Factor (CRF) =	0.10	

The Goodyear Tire and Rubber Company
Niagara Falls, New York
Sparkler Filter Air Emissions Control Cost Analysis

Potential Technically Feasible Control Options

Option 1: Regenerative Thermal Oxidizer

Goodyear is planning to install a Replacement Wet Scrubber and new RTO for process emissions

			Units	Comments
Current RTO Design Flow =		9,300	SCFM	(Excludes sparkler filter)
Current RTO Equipment Cost =	$	1,300,000	USD	(Chemstress Quote)
Additional RTO Capacity Required =		15,150	SCFM	(Sparkler filter flow rate)
Total RTO Flow =		24,450	SCFM	(Includes the Wet Scrubber, RTO and Sparkler filter flow rates)
Revised RTO Equipment Cost (Adjusted) =	$	2,321,779	USD	(Assumes the six-tenths rule: a "Cost Engineering" rule that provides for an economy of scale to estimate the cost of industrial equipment. For APCD, the cost of equipment is mostly closely aligned to flow. However, the cost of equipment is not a linear relationship. Instead we employ the six-tenth's rule when we have a defined cost at a given flow rate to upscale the cost to a different flow.)
Additional Cost to Treat Sparkler Filter Emissions =	$	1,021,779	USD	

Cost Effectiveness - Regenerative Thermal Oxidizer

Based on Additional Cost to treat Sparkler Filter Emissions =	**$**	**229,124,144**	**$/ton**	Note: This figure does NOT include the incremental operating expense (OPEX)

Option 2: Carbon Adsoprtion

VAPOR-PAC-10 (Calgon Corp)

Flow Capacity per unit =		10,000	cfm
# of units required =		2	units
Carbon per unit =		12,500	lb
Total Carbon Available =		25,000	lb
Placement fee per unit =	$	47,500.00	USD
Monthly Rental Fee per unit =	$	3,000.00	USD
Placement fee per (Total) =	$	95,000.00	USD
Annual Rental Fee (total) =	$	72,000.00	USD
First Year Total Cost	$	167,000.00	USD

Carbon Use		**Units**	**Comments**
Assume: lb Carbon/lb VOC =	0.1	lb/lb	10% adsorption efficiency
Carbon required per year =	99	lb carbon/yr	
Time to Unit Replacement =	252	yrs	

Annualized Capital Cost =	$	9,675.96	USD
Total Annualized Cost =	$	81,675.96	USD

Cost Effectiveness - Carbon Adsorption

Based on Total Annualized Cost =	**$**	**18,315,049**	**$/ton**
Monthly Rental Fee ONLY =	**$**	**14,530,777**	**$/ton**

ERM HAS OVER 140 OFFICES ACROSS THE FOLLOWING COUNTRIES AND TERRITORIES WORLDWIDE

Argentina
Australia
Belgium
Brazil
Canada
China
Colombia
Denmark
France
Germany
Hong Kong
India
Indonesia
Ireland
Italy
Japan
Kazakhstan
Kenya
Malaysia
Mexico
Mozambique
Netherlands
New Zealand
Panama
Peru
Poland
Portugal
Romania
Singapore
South Africa
South Korea
Spain
Switzerland
Taiwan
Thailand
UAE
UK
US
Vietnam

ERM's Rochester, NY Office
345 Woodcliff Drive
2nd Floor
Fairport, New York 14450
T +1 585 387 0510

www.erm.com