



Oregon

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March 24, 2025

Georgia-Pacific Toledo LLC
1400 SE Butler Bridge Road
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Sent via email only

Ann Vorderbrueggen,

Georgia-Pacific Toledo LLC (GP Toledo) was called into the Cleaner Air Oregon (CAO) program on March 1, 2022, and submitted an Emissions Inventory (Inventory) on May 31, 2022. In accordance with Oregon Administrative Rule [\(OAR\) 340-245-0030\(2\)](#), DEQ issued a written request on February 6, 2024, requiring additional information and a revised Inventory to be submitted. GP Toledo submitted a revised Inventory and requested information on August 5, 2024. Additional requested information was also submitted on May 6, 2024, and August 22, 2024. DEQ responses to WWTP submittals is being provided separately.

DEQ has reviewed the Inventory and identified additional updates that are needed before approval. In accordance with [OAR 340-245-0030\(4\)\(b\)](#), DEQ is providing GP Toledo with a revised deadline for submittal of a revised Inventory.

1. Additional source testing is required to determine emissions from the Advanced Materials Recycling System (AMRS), Toxic Emission Unit (TEU) EU144. Please perform source testing of the AMRS by July 24, 2025.
 - a. EPA Method TO-15 must be used to screen for all reportable TACs listed in OAR 340-247-8010 Table 1 that are detectable using this method. For those TACs detected, DEQ may require additional source testing to obtain site-specific emissions factors using EPA Method 18 or other stationary source test methods.
 - b. EPA Method 23 must be used to sample for the following toxic air contaminants (TACs).
 - i. Polycyclic aromatic hydrocarbons (PAHs); and
 - ii. Chlorobenzene (CASRN 108-90-7) and chlorophenol (CASRN 95-57-8).
 - c. EPA Method 26A must be used to sample for the following TACs:
 - i. Bromine (CASRN 7726-95-6);
 - ii. Chlorine (CASRN 7782-50-5);
 - iii. Hydrogen bromide (CASRN 10035-10-6);
 - iv. Hydrogen chloride (CASRN 7647-01-0); and
 - v. Hydrogen fluoride (CASRN 7664-39-3).
 - d. Bay Area Air Quality Management District Source Test Procedure ST-1B, or similar method upon DEQ approval, must be used to sample for ammonia (CASRN 7664-41-7).
 - e. Consistent with Section 2.3 of DEQ's Source Sampling Manual¹, GP Toledo must provide the source test plan, through [Your DEQ Online](#), at least 45 days before conducting the source test. Please review Sections 2.7 and 2.8 of the Source Sampling

¹ <https://www.oregon.gov/deq/FilterDocs/SSMI.pdf>

- Manual when proposing a minimum sample volume for each test method. Please consult with DEQ prior to submittal of the test plan if you have any concerns regarding sample volumes and/or analytical detection limits.
- f. Work with DEQ to determine representative testing conditions; this may require multiple batch scenarios.
 - g. Source test results are due to DEQ, through [Your DEQ Online](#), within 60 days of test completion and must include the information required in Appendix A of the Source Sampling Manual.
2. Additional source testing is required to determine emissions from the No. 1 and No. 2 Recovery Boiler (BLS), TEUs EU14-B and EU16-B. Please perform source testing of the TEUs EU14-B, EU16-B by July 24, 2025.
- a. EPA Method 23 must be used to sample for the following TACs:
 - i. Polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans Table 23-1; and
 - ii. Polycyclic aromatic hydrocarbons Table 23-2.
 - b. EPA Method 29 must be used to sample for all reportable metal TACs listed in OAR 340-247-8010 Table 1.
 - c. EPA SW-846 Method 0061, or similar method upon DEQ approval, must be used to sample for hexavalent chromium (CASRN 18540-29-9), or the permittee may assume all chromium measured from Method 29 testing is hexavalent chromium.
 - d. EPA Method SW-846 Method 0031, or similar method upon DEQ approval, must be used to sample for all reportable TACs listed in OAR 340-247-8010 Table 1.
 - e. NCASI Method 105.01, or similar method upon DEQ approval, must be used to sample for:
 - i. Acrolein (CASRN 107-02-8);
 - ii. Acetaldehyde (CASRN 75-07-0);
 - iii. Formaldehyde (CASRN 50-0-0);
 - iv. Propionaldehyde (CASRN 123-38-6);
 - v. Methanol (CASRN 67-56-1); and
 - vi. Phenol (CASRN 108-95-2).
 - f. EPA Method 26A must be used to sample for the following TACs:
 - i. Bromine (CASRN 7726-95-6);
 - ii. Chlorine (CASRN 7782-50-5);
 - iii. Hydrogen bromide (CASRN 10035-10-6);
 - iv. Hydrogen chloride (CASRN 7647-01-0); and
 - v. Hydrogen fluoride (CASRN 7664-39-3).
3. Additional source testing is required to determine emissions from the No. 1, No. 2, and No. 3 Lime Kilns, EU1, EU2, and EU3. Please perform source testing of the TEUs EU1, EU2, and EU3 by July 24, 2025.
- a. EPA Method 23 must be used to sample for the full list of PAHs in Table 23-2
 - b. EPA Method 29 must be used to sample for all reportable metals TACs listed in OAR 340-247-8010 Table 1.
 - c. EPA SW-846 Method 0061, or similar method upon DEQ approval, must be used to sample for hexavalent chromium (CASRN 18540-29-9), or the permittee may assume all chromium measured from Method 29 testing is hexavalent chromium.

- d. NCASI Method 105.01, or similar method upon DEQ approval, must be used to sample for:
 - i. Acrolein (CASRN 107-02-8);
 - ii. Acetaldehyde (CASRN 75-07-0);
 - iii. Formaldehyde (CASRN 50-0-0);
 - iv. Propionaldehyde (CASRN 123-38-6);
 - v. Methanol (CASRN 67-56-1); and
 - vi. Phenol (CASRN 108-95-2).
4. Consistent with section 2.3 of the [DEQ Source Sampling Manual](#), GP Toledo must provide the source test plans at least 30 days before conducting the source tests. Please review sections 2.7 and 2.8 of the sampling manual when proposing a minimum sample volume for each test method. Please consult with DEQ prior to submittal of the test plan if you have any concerns regarding sample volumes and/or analytical detection limits.
5. Source test results are due to DEQ within 60 days after the test is completed and must include the information required in Appendix A of the Source Sampling Manual.
6. EPA Method 1633A, or similar method upon DEQ approval, must be used to sample AMRS wastewater discharge for PFAS compounds. Results of this analysis may direct further testing of PFAS in air emissions from the AMRS. Submit to DEQ sampling plan(s) for the liquid sampling of the AMRS wastewater discharge by May 26, 2025. The sampling plan(s) must be developed in accordance with current DEQ guidelines and in accordance with 40 CFR 136.

Please submit the information specified below, through [Your DEQ Online](#), by June 24, 2025.

7. Review and correct activity information entered in Columns H through M of Worksheet 2 of the AQ520 form as it appears to be inputted incorrectly. Annual activity information should be provided in Column H for 2021 actual and Column I for Requested PTE (RPTE). Maximum daily activity information should be provided in Column K for 2021 actual and Column L for requested PTE. Since GP Toledo has indicated they want to be permitted on RPTE, Columns J and M for Capacity can be left blank. Examples of apparently mis-entered activity information include:
 - a. For TEUs with hourly units, 24 hours is entered for the actual activity for both annual (Column H) and maximum daily (Column K) reporting.
 - b. Similarly, “requested PTE” for both annual and maximum daily activity information is listed as 8,760 hours for TEUs with hourly units.
8. Stack or Fugitive ID in Column E of Worksheet 2 of the Inventory should identify where the TEU exhausts. If multiple TEUs exhaust to a common stack, use the same stack ID in Column E for each of these TEUs. Additionally, if a single TEU exhausts to multiple emission points, all the stacks should be listed in Column E along with the percentage of emissions directed to each stack.
 - a. For example, the following TEUs are listed as emitting to the “main stack” on the Block Flow Diagram and should have a common stack ID listed in Column E of Worksheet 2:
 - i. EU1;
 - ii. EU2;
 - iii. EU3;
 - iv. EU5_1;
 - v. EU8;

- vi. EU14; and,
 - vii. EU16.
- b. The following TEUs are shown with multiple stack emission points on the Block Flow Diagram. All stack IDs should be included in Column E, along with the percentage of emissions going to each stack:
- i. EU11: stacks EU11_E and EU11_W shown on Figure 2;
 - ii. EU80: stacks EU80_1 and EU80_2 shown on Figure 1;
 - iii. EU81: stacks EU81_1 and EU81_2 shown on Figure 1;
 - iv. EU103-A: stacks EU103_A1 through EU103_A6 shown on Figure 1;
 - v. EU103-B: stacks EU103_B2 and EU103_B3 shown on Figure 1;
 - vi. EU105/106: stacks EU105A, EU105B, EU105C, EU106B, EU106C, EU106D, EU106E, EU106F, EU106G, EU106H shown on Figure 1;
 - vii. EU107/108: stacks EU107A, EU107B, EU107C, EU107D, EU108A, EU108B, EU108C, EU108D, EU108E shown on Figure 1; and
 - viii. EU109/110: stacks EU109A, EU109B, EU109C, EU109D, EU109E, EU110A, EU110B, EU110C, EU110D, EU110E shown on Figure 1.
9. Make the following updates to the Block Flow Diagram (Process Flow Diagram):
- a. Add the following TEUs: EU102-B2, EU102-B3, EU102-C1, EU102-C2, and EU102-C3.
 - b. Modify the Lime Silos (EU102-D) to indicate there are only two lime silos (102-D2 and 102-D3) as indicated in the Inventory. If there are three lime silos as currently shown on the Block Flow Diagram, update the Inventory to reflect this.
 - c. Update the TEU label for the “Kraft Digesters Nos. 1-11” to match the TEU ID used in the Inventory (EU126-A). Currently this is identified as EU126.
 - d. Relabel “HD4 Pulp Storage (EU113 or EU117)” to “HD4 Pulp Storage (EU113-1)”.
 - e. Relabel “HD5 Kraft Pulp Storage (EU113)” to “HD5 Kraft Pulp Storage (EU113-2)”.
10. Exempt TEUs:
- a. As requested, GP Toledo listed exempt TEUs in the Inventory. Please provide justification that the following TEUs do not materially contribute to risk and therefore meet the requirements to be considered exempt per [OAR 340-245-0060\(3\)\(a\)](#) using methods specified in the Cleaner Air Oregon Exempt TEU Reporting² documentation:
 - i. EU101-D: Weak Wash Tank;
 - ii. EU103-C: No. 3 White Liquor Clarifier; and
 - iii. EU103-D: No. 4 White Liquor Clarifier.
 - b. Maintenance Chemical Usage:
 - i. Based on usage rates and chemical composition information provided, the maintenance chemical usage exceeds thresholds provided in the Cleaner Air Oregon Exempt TEU Reporting² document and must be added to the Inventory. Alternatively, a subset of the maintenance chemicals may be approved as an exempt TEU by DEQ if GP Toledo provides supporting documentation showing that usage rates of this subset of chemicals does not materially contribute to risk. DEQ has identified the following products which contain contaminants that exceed exempt thresholds for TACs at the requested PTE usage rates listed in the information provided by GP Toledo:
 - 1. 640 Reducer #54;

² <https://www.oregon.gov/deq/aq/cao/Documents/ExemptTEUReporting-Appendices.pdf>

2. SILVER-BRITE® Aluminum Paint;
 3. Industrial Enamel VOC Pure White;
 4. Industrial Enamel VOC Safety Orange;
 5. Interior Flat Latex Wall Paint Extra White;
 6. KEM KROMIK® Metal Primer White;
 7. SILVER-BRITE® Aluminum Paint HiHeat Resisting;
 8. PHENICON® HS Flake Filled High Solids Epoxy Reddish Gray; and
 9. MACROPOXY® 646 Fast Cure Epoxy (Part A) Ultradeep Base.
- ii. Traction N More (Part A and Part B): The safety data sheet (SDS) provides both percent by weight and percent by volume. Use percent by weight in the Inventory.
 - iii. Provide the Environmental Data Sheet (EDS) for the following materials. Section 15 of the Safety Data Sheet (SDS) for these materials refers to the EDS for SARA 313 reporting requirements.
 1. POLANE® Reducer-94;
 2. Great Finishes® Wood Stain Oil-Based Golden Oak;
 3. Sherline Stripeing paint;
 4. PROMAR Alkyd Zone Marking Paint;
 5. DUPLI-COLOR Engine Enamel with Ceramic;
 6. SUPERPAINT Interior Flat Latex Wall Paint;
 7. SILVER-BRITE Aluminum Paint;
 8. Acrylic Enamel;
 9. A-100 Exterior Flat Latex Paint;
 10. Reducer #54;
 11. SILVER-BRITE Aluminum Paint;
 12. Industrial Enamel VOC;
 13. Industrial Enamel pure white;
 14. Industrial enamel safety orange;
 15. Industrial enamel tower gray;
 16. DUPLI-COLOR Acrylic Lacquer Aerosol Paint;
 17. KEM KROMIK Metal Primer; and
 18. KRYLON Fusion Gloss.
- c. Provide the following information regarding the welding operations to confirm if this can be designated an exempt TEU:
 - i. Provide a cross-walk to identify which products (and SDSs) are used for which welding activity.
 - ii. Calculate welding emissions using the San Diego Air Pollution Control District (SDAPCD) welding calculation method.³ For those TACs which are listed on a product SDS but not included in AP-42 Table 12.19-2, estimate emissions using the method outlined in Section 1.1.2 of the SDAPCD Welding Operations guidance.
 - iii. Use the hexavalent chromium (CASRN 18540-29-9) conversion rate of 55% for all SMAW.
 - d. Include emissions of TACs from products used in the Industrial Cooling Towers to the Inventory or provide justification for classifying the cooling towers as exempt TEUs. The following products used in the cooling towers contain TACs per the provided SDSs:

³ <https://www.sdapcd.org/content/dam/sdapcd/documents/permits/emissions-calculation/welding/APCD-Welding-Operations.pdf>

- i. 2D TRASAR
 - 1. Phosphoric acid (CASRN 7664-38-2); and
 - 2. Sulfuric acid (CASRN 7664-93-9).
 - ii. Stabrex ST70:
 - 1. Sodium hydroxide (CASRN 1310-73-2)
 - e. As previously requested, (DEQ item 2.c.i.2, dated February 6, 2024) provide throughput information for the diesel, lubricants, and oil tanks at the facility to confirm if these tanks are exempt TEUs per [OAR 340-245-0060\(3\)\(a\)](#) using methods specified in the Cleaner Air Oregon Exempt TEU Reporting² documentation.
11. Add landfill emissions and emissions from materials deposited on the unpaved roads at the landfill to the Inventory. Use emission factors from AP-42 Section 2.4 for landfill gas emissions. Alternatively, GP Toledo may propose site or waste material specific emission factors with supporting justification.
12. AMRS (EU144):
- a. GP Toledo must account for fugitive emissions from AMRS. This must include fugitive emissions at the end of the autoclave process cycle and during material routing via conveyor through the additional, post-autoclave process. Visible emissions from both these processes were observed by DEQ during a site walk on September 21, 2023.
 - b. Provide a process flow diagram for AMRS including all expected points of fugitive and non-fugitive emissions, air pollution control devices, and points of wastewater sampling.
 - c. Provide information on the source of water for the AMRS including if the source is fresh water or process water. If process water is used, provide any available analytical data on the process water. Emissions from process water, if used, must be accounted for in the Inventory.
13. Lime Mud Handling System (EU102): According to the 2023 Annual Hazardous Substance Report provided by GP Toledo, lime mud contains quartz. Include TAC emissions from quartz as respirable crystalline silica (CASRN 7782-49-2) from lime mud handling.
14. Include fugitive emissions from the following TEUs or activities:
- a. OCC Pulping Plants (EU80 and EU81);
 - b. Paper Machines 1, 2, and 3 (EUs 105/106, 107/108, 109/110);
 - c. Open storage tanks and chests;
 - d. Leaks in the LVHC lines; and
 - e. Batch digester.
15. Thank you for the additional information provided regarding the venting from the LVHC Combined Header, Blow Heat Accumulator, Foul Condensate, Blow Heat Evaporator, and Turpentine System (EU126-A, EU126-B, EU126-C, EU126-D, and EU126-E). Please provide additional explanation regarding how the apportioned venting amounts are correlated to activity levels in the Inventory (tons ADTUBP for EU126-A, EU126-B, EU126-C, and EU126-D; and hours for EU126-E).
16. Provide all data (such as facility production data or source test reports) and calculations used in development of the hydrogen sulfide (CASRN 7783-06-4) emission factors for the following TEUs:
- a. EU1: No. 1 Lime Kiln;
 - b. EU2: No. 2 Lime Kiln;

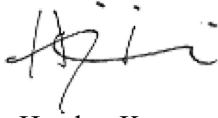
- c. EU3: No. 3 Lime Kiln;
 - d. EU14-B: No. 1 Recovery Boiler (BLS);
 - e. EU15: No. 1 Smelt Dissolving Tank;
 - f. EU16-B: No. 2 Recovery Boiler (BLS); and
 - g. EU17: No. 2 Smelt Dissolving Tank.
17. NG Boilers (EU11, EU13, EU14G, EU16G, EU18, and EU22):
- a. Provide the emission testing results from the natural gas fired boiler conducted at the Florida Mill, referenced in GP-Toledo's response to item 19.d in DEQ's letter dated February 6, 2024, for hydrochloric acid (CASRN 7647-01-0) and hydrogen fluoride (CASRN 7664-39-3) emissions estimates.
18. Turpentine Decanter (EU126-D): As requested by DEQ in our February 6, 2024 letter, provide supporting documentation for the methanol (CASRN 67-56-1) emission factor.
19. Engine TEUs (EU134 - EU143 and EU145): Update the units of the activity information provided in Worksheet 2 and/or the emission factors in Worksheet 3 to be on the same basis. Currently, activity units in Worksheet 2 are in hours while the emission factor is in pounds per thousand gallons (lb/Mgal). The units of the activity should match the denominator of the emission factor.
20. Add concentrator hot wells, concentrator seal tanks, and concentrator surface condensers to the Inventory using emission factors from Appendix D of NCASI TB1050.
21. Update the Inventory to be consistent with Notice of Constructions (NCs), including AQ104B Toxics Reporting Forms, submitted to the Western Region. This includes an NC to utilize 10% white liquor at the Semi Chem Mill.

DEQ is requesting that you submit additional information to complete your Inventory. If you think that any of that information is confidential, trade secret or otherwise exempt from disclosure, in whole or in part, you must comply with the requirements in [OAR 340-214-0130](#) to identify this information. This includes clearly marking each page of the writing with a request for exemption from disclosure and stating the specific statutory provision under which you claim exemption. Emissions data is not exempt from disclosure.

DEQ remains available to discuss this information request with you and answer any questions you may have. Failure to provide additional information, corrections, or updates to DEQ by the deadlines above may result in a violation of [OAR 340-245-0030\(1\)](#).

If you have any questions regarding this letter, please contact me directly (503-407-7596, heather.kuoppamaki@deq.oregon.gov), and I look forward to your continued assistance with this process.

Sincerely,

A handwritten signature in black ink, appearing to read 'H. Kuoppamaki', with a stylized flourish at the end.

Heather Kuoppamaki, P.E.
Cleaner Air Oregon Project Manager

Cc: Maria Zufall, Georgia-Pacific
Logan Vaughan, Georgia-Pacific
Sarah Hu, Georgia-Pacific
Micah Joel Leis, Georgia-Pacific
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