State of Washington Department of Ecology

DRAFT Notice of Construction Approval Order

| | |
|---|---|
| In the matter of: a modified air contaminant source at Packaging Corporation of America | Approval Order No. DE 02AQIS-3588, Modification 1 |

**Description of Project**

Packaging Corporation of America, herein referred to as the Permittee, is a kraft and recycled pulp and paper mill located at 31827 US-12, Wallula, Washington, in Walla Walla County. The Permittee is classified as a major source.

Ecology originally issued this Notice of Construction Order (NOC) to the Permittee on May 8, 2002. The original issuance of this NOC approved the installation of a multilevel combustion air system to the No.3 Recovery Furnace, which increased the firing capacity of the No.3 Recovery Furnace. The original issuance of the NOC also approved upgrades to the Hog Fuel Boiler combustion and pollution control systems, increases steaming capacity. Further information regarding Ecology's original review of the proposed project is available in the "Historical Findings" section of this document, and the Fact Sheet (technical support document) that Ecology created in conjunction with the May 8, 2002 issuance of this order. The text from the 2002 fact sheet is also available as an appendix to the technical support document for the 2025 modification of this Order.

**Description of Modification of this Order**

On September 22, 2022 the Permittee requested that Ecology modify this NOC. Changes in the modified NOC do not change the scope of the original project or approve additional emissions above what was approved in the May 8, 2002 issuance of this order. Aside from administrative changes, the changes in the modified NOC only consist of changes in monitoring and compliance demonstration requirements. Ecology also removed one-time requirements that have already been satisfied, or requirements which, while still applicable to PCA, are documented in PCA's air operating permit and are inappropriate to be included in an NOC. For a detailed description of changes made to the modified NOC, review the technical support document that Ecology wrote in conjunction with the modification of this NOC.

**Legal Authority**

The Washington Department of Ecology (Ecology) issues this state regulatory order no. DE 02AQIS-3588 pursuant to its general authority under WAC 173-400-010 and the New Source Review (NSR) regulations in WAC 173-400-110.

**Historical Findings**

Based upon the complete Prevention of Significant Deterioration/Notice of Construction Application submitted by Packaging Corporation of America and Boise Cascade Corporation

(hereto referred as "The Permittee") and the technical analysis performed by Ecology, Ecology found the following in the May 8, 2002 issuance of this Notice of Construction Order:

1. The Permittee is proposing to modify its integrated bleached kraft pulp and paper mill at Wallula, Washington (Wallula mill). The Wallula mill is a major stationary source that has the potential to emit more than 100 tons per year of several pollutants. With the exception of particulate matters with an aerodynamic diameter less than 10 microns (PM10), the site of the proposed modification is within an area which is in attainment for all pollutants regulated by state and national ambient air quality standards. The area is designated as serious nonattainment area for PM10.
2. The proposed modifications of the Wallula mill will increase the No. 3 Recovery Furnace firing rate capacity from the current nominal sustained firing capacity of 2.9 MM lbs BLS/day to a new nominal sustained firing capacity of 3.4 million pounds per day of black liquor solids (MM lbs BLS/day) on an as-fired basis. The Permittee also plans various improvements to the Hog Fuel Boiler's pollution control systems, including upgrading the boiler's fuel and combustion air delivery systems and replacing an existing post- combustion wet scrubber with a new dry Electrostatic Precipitator (ESP)[1]. In addition, the Permittee proposes to make process and environmental improvements in its chemical recovery area, including changes at the slaker and evaporators. These modifications and improvements may be conducted concurrently or sequentially, and approvals for funding by The Permittee management are separate and distinct.
3. A NSR application considering attainment, nonattainment, and toxic air pollutants was submitted on August 29, 2001. After receipt of additional materials in 2001 dated September 28; October 5; November 5, 16, 21, 26, 27, and 30; December 12; and in 2002 on January 23 and February 1, 5, and 6, the application was determined to be complete on February 12, 2002.
4. The "net significant increase" emissions of Oxides of Nitrogen (NOx), Carbon Monoxide (CO), Volatile Organic Compounds (VOCs), and Total Reduced Sulfur (TRS) are subject to PSD review and are considered separately from this order.
5. Lowest achievable emission rate (LAER) as required under WAC 173-400-112 will be used to limit PM10 emissions which will be emitted by the modified No. 3 Recovery Furnace. The proposed modifications will subject the Hog Fuel Boiler to neither BACT nor LAER for PM10, since PM10 emissions will be limited to past actual levels. There will be no increase in PM10 emissions from the Hog Fuel Boiler as a result of the project.
6. Toxic best available control technology (T-BACT) as required under WAC 173-460-060 and identified in The Permittee's August 29, 2001, application will be used for the control of all toxic air pollutants which will be emitted by the No. 3 Recovery Furnace and Hog Fuel Boiler.

[1] Note: The Permittee later installed a WET ESP after the May 8, 2002 issuance of NOC 3588.

7. Allowable PM10 emissions from the proposed modification are offset by Emissions Reductions Credits granted by Ecology in October 1993.
8. The Permittee shall surrender that portion of its Emissions Reductions Credits needed to offset PM10 emission increases from the proposed project (189 tons per year) upon start-up of the modified No. 3 Recovery Furnace, or October 31, 2003, whichever occurs first.
9. The combined impacts of the emission reduction through conversion of farm and underdeveloped land to tree farms and the proposed project would yield a net reduction of PM10 emissions in the area.
10. The proposed modifications will not significantly impact visibility in any Class I areas. The proposed modifications meet the requirements of 40 CFR 52.28.
11. The proposed modifications will cause no noticeable effect on industrial, commercial, or residential growth in the Wallula area.
12. The proposed modification will not cause a violation of any ambient air quality standard. Emissions increases from the project do not result in modeled impacts in excess of the Acceptable Source Impact Level for any toxic air pollutant listed under WAC 173-460-150 and 160.

**Approval Conditions**

1. **Emissions Limits and Related Monitoring and Reporting Requirements for No. 3 Recovery Furnace**: Upon the completion of construction and start-up of No. 3 Recovery Furnace with multi-level combustion air equipment and associated controls and equipment modifications, the Permittee shall comply with the emissions limitations, monitoring, and reporting requirements listed in Table 1 for the No. 3 Recovery Furnace. Monitoring is only required when the emission unit is operating.

**Table 1. Emissions Limits and Monitoring and Reporting Requirements for the No. 3 Recovery Furnace**

| Condition Number | Parameter | Limit & Averaging Period (shall not exceed) | Monitoring & Reporting | Basis for Limit/ Applicable Requirements |
|---|---|---|---|---|
| 1.1 | Particulate ($PM/PM_{10}$) | 0.027 gr/dscf @8% O2, hourly average.<br>0.021 gr/dscf @8% O2, rolling annual average | EPA Method 5 is the reference test method. Sample must consist of three 1-hour test using EPA Method 5 or a test method approved in writing by Ecology. PCA shall conduct stack testing at least annually.<br>PCA shall record levels of precipitator voltage and current during particulate compliance source testing for informational purposes only. | WAC 173-400-112 (Lowest Achievable Emission Rate-- state nonattainment new source review) |

| Condition Number | Parameter | Limit & Averaging Period (shall not exceed) | Monitoring & Reporting | Basis for Limit/ Applicable Requirements |
|---|---|---|---|---|
| 1.2 | Opacity/ Visible Emissions | When firing exclusively fuel oil, average 20% opacity for more than 6 consecutive minutes in any 60-minute period, except for one 6-minute period per hour of not more than 27 percent opacity. | The Permittee shall install, calibrate, maintain and operate a continuous monitoring system to monitor opacity from the No. 3 Recovery Furnace. Report excursions to Ecology monthly. | Order DE 02AQIS03588 |

2. **Emissions Limits and Related Monitoring and Reporting Requirements for Hog Fuel Boiler:** Upon the completion of construction and start-up of the Hog Fuel Boiler with over-fire combustion air equipment and associated controls and equipment modifications, the Permittee shall comply with the emissions limitations, monitoring, and reporting requirements listed in Table 2 for the Hog Fuel Boiler. Monitoring is required only when the emission unit is operating.

**Table 2. Emissions Limits and Monitoring and Reporting Requirements for the Hog Fuel Boiler**

| Condition Number | Parameter | Limit & Averaging Period (shall not exceed) | Monitoring & Reporting | Basis for Limit/ Applicable Requirement(s) |
|---|---|---|---|---|
| 2.1 | Particulate ($PM/PM_{10}$) | 0.026 gr/dscf @ 7% $O_2$, average of three 1-hour tests. | EPA Method 5 is the reference test method. Sample must consist of three 1-hour tests using EPA Method 5 or a test method approved in writing by Ecology. PCA shall conduct stack testing at least annually. | WAC 173-400-114(2) |

| **Condition Number** | **Parameter** | **Limit & Averaging Period** (shall not exceed) | **Monitoring & Reporting** | **Basis for Limit/ Applicable Requirement(s)** |
|---|---|---|---|---|
| 2.2 | Particulate ($PM/PM_{10}$) | 77 tons/year, 12-month rolling annual average | EPA Method 5 is the reference test method. Annual average value is calculated using actual emissions from the most recent stack test results from Condition 2.1 above and using the methods in Appendix A. | WAC 173-400-112(5) State BACT avoidance limit. Limits $PM/PM_{10}$ to past actual emissions. |
| 2.3 | $SO_2$ * (from the combustion of LVHCs) | 102 tons/year, 12-month rolling annual average | The Permittee shall record time of combustion of low-volume high-concentration (LVHC) non-condensable gases (NCGs) and evaluate compliance per Appendix A of this order. | BACT limit |
| 2.4 | Operation | Minimum operating condition for bypassing ESP when firing natural gas exclusively | Maintain ESP bypass valves in closed conditions during wood waste firing. Monitor and record the positions of ESP bypass valves at all times. Report monthly all bypass periods and the type of fuel fired during bypass period. | Order DE 02AQIS-3588 |

*This $SO_2$ requirement is not already covered by the PSD approval order because the proposed project is not subject to PSD review due to no overall $SO_2$ emissions increase.

3. **Start-up Notification**: Not less than 30 days prior to the initial start-up of the modified No. 3 Recovery Furnace and Hog Fuel Boiler, the Permittee shall notify Ecology in writing of its intent to commence operation of the modified unit.

4. **No. 3 Recovery Furnace Fuel Delivery and Combustion Air Optimization:**

    a. Not later than 90 days after the initial start-up of the modified No. 3 Recovery Furnace, the Permittee shall notify Ecology if further modifications to its fuel delivery and combustion air system will be performed, including but not limited to relocation of liquor firing guns and adjustment of the combustion air system.

    b. The Permittee shall submit to Ecology a plan not later than 180 days after initial notification of any necessary optimization modifications, including a schedule for start-up in the optimized mode.

    c. During the period following the 90-day initial start-up, the No. 3 Recovery Furnace shall operate in compliance with Conditions 1.1 and 1.2.

    d. The Permittee shall notify Ecology at least 30 days in advance of the start up of the optimized No. 3 Recovery Furnace.

5. **Hog Fuel Boiler Fuel Delivery and Combustion Air Optimization:**

    a. Not later than the first 90 days after the initial start-up of the modified Hog Fuel Boiler, the Permittee shall notify Ecology if further modifications to combustion air system will be performed, including but not limited to adjustment of overfire air, underfire air, auger, and modulating air locations.

    b. The Permittee shall submit to Ecology a plan not later than 180 days after initial notification of any necessary optimization modifications.

    c. During the period following the 90-day initial start-up, the Hog Fuel Boiler shall operate in compliance with the emission limits in Conditions 2.1 through 2.4.

    d. The Permittee shall notify Ecology at least 30 days in advance of the start up of the optimized Hog Fuel Boiler.

6. **Initial Performance Tests:**

    a. Initial performance tests shall be conducted in accordance with the appropriate methods set forth in 40 CFR, Part 60, Appendix A as amended through July 1, 2001. Each performance test shall consist of three separate runs using the applicable test method, or Ecology's approved alternative equivalent method, with the overall test result to be an arithmetic mean of the results of the three test runs, in accordance with 40 CFR 60.8 (f). Initial performance tests are to be performed once only for the start-up of each emission unit subject to this determination.

    b. The Permittee shall provide written notice to Ecology not less than 30 days prior to the scheduled performance test. Such notification shall include a detailed description of the intended performance test plan(s).

c. Not later than 180 days after achieving normal operations following completion and start-up of the modification to the No. 3 Recovery Furnace, the No. 3 Recovery Furnace shall complete initial performance tests to demonstrate compliance with the PM10 limit identified in Condition 1.1.

d. If the Permittee notifies Ecology that the No. 3 Recovery Furnace will be optimized as per Item 4 above, the Initial Performance Tests for No. 3 Recovery Furnace may be postponed until not later than 180 days after the start up of the optimized unit, according to the schedule given in Approval Condition 4, above.

e. Not later than 180 days after achieving normal operations following completion and start-up of the modification to the Hog Fuel Boiler, the Hog Fuel Boiler shall complete initial performance tests to demonstrate compliance with the limit for PM10 subject to Reference Test method demonstrations identified in Condition 2.1.

f. If the Permittee notifies Ecology that the Hog Fuel Boiler will be optimized as per Item 5 above, the Initial Performance Tests for Hog Fuel Boiler may be postponed until not later than 180 days after the start up of the optimized unit, according to the schedule given in Approval Condition 5, above.

7. **Reporting**: Each occurrence of monitoring emission or alternative parameters, where applicable, in excess of the limits set above shall be reported at least monthly within fifteen days of the end of each calendar month including the parameters listed below in a format approved in advance by Ecology which may include but not necessarily limited to the following:

   a. The time of occurrence.

   b. Magnitude of the emission or process parameters excess.

   c. The duration of the excess.

   d. The probable cause.

   e. Any corrective actions taken or planned.

   f. Any other agency contacted.

8. **O&M manuals**: At all times, including periods of abnormal operation and upset, the Permittee shall, to the extent practicable, operate and maintain emissions units with modifications covered by this permit that have the potential to affect emissions to the atmosphere, along with associated air pollution control equipment, in a manner consistent with good air pollution control practice. For said units, Operations and Maintenance (O&M) manuals shall be prepared, reviewed annually, and updated as needed. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to Ecology which may include, but is not limited to, monitoring results, opacity observations, inspections of the source, and reviews to determine that the mill is following its O&M procedures.

9. **Deadline**: This approval shall become invalid if the program of construction is discontinued for a period of eighteen (18) months after receipt of final approval, or if construction of the facility is discontinued for a period of eighteen (18) months, unless Ecology extends the 18 month period upon a satisfactory showing that an extension is justified, pursuant to 40 CFR 52.21(r)(2) and applicable EPA guidance. Emission limits from individual units shall become effective only after completion of construction and start-up of the modified emission units.
10. **Enforcement**: Any activity which is undertaken by the Permittee, in a manner which is inconsistent with the application and this determination, shall be subject to Ecology enforcement under applicable regulations. Nothing in this determination shall be construed so as to relieve the Permittee of its obligations under any state, local, or federal laws or regulations.

## Your Right to Appeal

You have a right to appeal this NOC Approval Order to the Pollution Control Hearings Board (PCHB) within 30 days of the date of receipt of this NOC Approval Order. The appeal process is governed by Chapter 43.21B RCW and Chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal you must do all of the following within 30 days of the date of receipt of this NOC Approval Order:

- File your appeal and a copy of this NOC Approval Order with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this NOC Approval Order on Ecology in paper form - by mail or in person (see addresses below). E-mail is not accepted.

You must also comply with other applicable requirements in Chapter 43.21B RCW and Chapter 371-08 WAC.

## Address and Location Information

**Street Addresses:**

**Department of Ecology**
Attn: Appeals Processing Desk
300 Desmond Drive SE
Lacey, WA 98503

**Pollution Control Hearings Board**
1111 Israel Rd SW
STE 301
Tumwater, WA 98501

**Mailing Addresses:**

**Department of Ecology**
Attn: Appeals Processing Desk
PO Box 47608
Olympia, WA 98504-7608

**Pollution Control Hearings Board**
PO Box 40903
Olympia, WA 98504-0903

**E-mail Address:**

**Department of Ecology**
Not currently available (see WAC 371-08)

**Pollution Control Hearings Board**
Pchb-shbappeals@eluho.wa.gov

## Americans with Disabilities Act Information

### Accommodation Requests

To request ADA accommodation including materials in a format for the visually impaired, call Ecology at 360-407-7668 or visit https://ecology.wa.gov/accessibility. People with impaired hearing may call Washington Relay Service at 711. People with speech disability may call TTY at 877-833-6341.

Dated on this XX Day of <Month>, 202X.

**Prepared by:**

Emily Toffol, PE
Solid Waste Management Program
Department of Ecology
State of Washington

**Approved by:**

James DeMay, Section Manager
Solid Waste Management Program
Department of Ecology
State of Washington

**Appendix A – Algorithms for Emissions Calculations**

Conditions for PM/PM10 Compliance Determination

**PM/PM10 (mass per time)**

**= Concentration * Air Flow Rate * Unit Conversion Factor * Time Adjustment**

Where,

> **Concentration** is Reference Method (RM) dependent. For example, EPA RM 5 yields particulate emission in terms of grains per dry standard cubic foot (gr/dscf).
>
> **Air Flow Rate** must be representative of normal operations and is derived from the applicable RM in terms of dry standard cubic feet per minute.
>
> **Unit Conversion Factor** is case specific. For example, 1 pound = 7,000 grains
>
> **Time Adjustment** is case specific and is dependent on the flow rate time unit.

This value will then be averaged with the preceding year of the applicable calculated PM emission rates (monthly, quarterly, or other test frequency, whichever applicable) to determine the rolling annual average.

Conditions for $SO_2$ Compliance Determination at the Hogged Fuel Boiler

SO2 (tons per year) = Sum of SO2 emission in tons per month, for 12 months

SO2 (tons per month) = **Emission factor** * **Pulp production**

Where,

> **Pulp production** is the total amount of Kraft and neutral sulfite semi-chemical air-dried unbleached pulp the Permittee produced during the times when the Permittee also burned LVHCs in the hogged fuel boiler. The permittee must calculate this value for each month.
>
> The Permittee must use the **emission factor** of 3.57 lbs of $SO_2$ per air dried ton of unbleached pulp following the issuance of Modification 1 of this order. Within 365 days of the issuance of the modified order, submit to Ecology a test plan for approval, to calculate a site-specific emission factor. The test must include the collection of site-specific data through stack testing or other methods. Following Ecology approval of the test plan, begin the test within 60 days.
>
> Submit to Ecology the site-specific emission factor, for approval, within 60 days following the completion of the test.. Following Ecology approval of the site-specific emission factor, the Permittee must begin using the site-specific emission factor for calculations in the calendar month following approval.

**Appendix B – Glossary of Terms Used in This Approval Order**

Operating/in operation. In operation means engaged in activity related to the primary design function of the source. For example, a straight recovery furnace is in operation only when combusting black liquor, and a lime kiln is in operation only when feeding lime mud. Other operating scenarios are not permitted by this Order.

Rolling Annual Average. In defining the averaging period of a particular emissions limit, the rolling annual average means the average of the emissions readings of the previous year leading up to the reporting date. For a rolling annual average limit with an associated monthly reporting requirement the rolling annual average is a 12-month rolling average, calculated monthly. The need for this term is necessitated by the possibility of different reporting frequencies at a single emissions limit, based on the performance of the unit compared to the permit limit.

60-minute period. The period from the top of one hour to the top of the next hour (e.g., 07:00:00 to 07:59:59).