Florida Department of Environmental Protection

Northwest District
160 W. Government Street, Suite 308
Pensacola, Florida 32502-5740

Rick Scott
Governor

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Secretary

Sent by Electronic Mail – Received Receipt Requested

PERMITTEE

Armstrong World Industries, Inc.
Post Office Box 1991
Pensacola, Florida 32591

Authorized Representative:
Mr. Russell E. Johnson, Plant Manager

Air Permit No. 0330006-020-AC
Permit Expires: April 19, 2018

Pensacola Plant
Title V Source Air Construction Permit
Boardmill Dryer Scrubber Replacement EU050

This is the final air construction permit, which authorizes replacement of the Boardmill Dryer scrubber and multicyclone with new high efficiency scrubbers and water droplet removal systems. The proposed work will be conducted at the Armstrong Pensacola Plant, which manufactures ceiling tile (Standard Industrial Classification No. 3999). The facility is located in Escambia County at 300 South Myrick Street in Pensacola, Florida. The UTM coordinates are Zone 16, 475.9 km East, and 3363.5 km North. As noted in the Final Determination provided with this final permit, no changes were made to the draft permit.

This final permit is organized by the following sections.

Section 1. General Information

Section 2. Administrative Requirements

Section 3. Emissions Unit Specific Conditions

Section 4. Appendices

Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of Section 4 of this permit.

This air pollution construction permit is issued under the provisions of: Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). The permittee is authorized to conduct the proposed work in accordance with the conditions of this permit. This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C., and is not subject to the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C., for the Prevention of Significant Deterioration (PSD) of Air Quality.

Upon issuance of this final permit, any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000) and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within 30 days after this order is filed with the clerk of the Department.

Executed in Pensacola, Florida

/s/

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J. Charles Harp
Program Administrator
Waste Management/Air Resources

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Final Air Permit package (including the Final Determination and Final Permit) was sent by electronic mail (or a link to these documents made available electronically on a publicly accessible server) with received receipt requested before the close of business on April 19, 2013 to the persons listed below.

Mr. Russell E. Johnson, Armstrong World Industries, REJohnson@armstrong.com
Ms. Kalyn Rogers, Armstrong World Industries, kerogers@armstrong.com
Mr. Kelly T. McCarthy, P.E., Gulf Coast Environmental and Engineering, Inc., kelly.mccarthy.ctr@mda.mil
Ms. Cynthia Arnold, Gulf Coast Environmental & Engineering, Inc., carnold@gcenv.com

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.

/s/

_____ April 19, 2013
Clerk Date

FACILITY AND PROJECT DESCRIPTION

Existing Facility

The Armstrong World Industries, Inc., Pensacola Plant manufactures acoustical ceiling tiles using mineral wool, perlite, starch, and paper as the main raw materials. In addition to those raw materials, the plant utilizes "broke" in the form of reclaimed process waste (trim material, dust, and scrap board) and recycled post consumer ceiling tiles. These materials are mixed with water to form a slurry that is then formed, dried, embossed, cut, painted and packaged into a variety of ceiling tile products. The facility includes a number of emissions units that can be grouped into five major categories: activities controlled by wet scrubbers; perlite expanding; board drying; activities controlled by baghouses; and activities not subject to specific emissions limits (unregulated, insignificant). The facility currently operates under Title V permit 0330006-018-AV, issued June 18, 2010.

Currently, the Boardmill Dryer (EU 050) is exhausted through two primary fans referred to as the North and South exhausts. The North exhaust is discharged to a Sly Impingement Scrubber (#53) and the South exhaust is discharged to a Sly Multicyclone collector (#54). These end-of-process control devices are designed to control particulate matter emissions from the Boardmill Dryer.

The existing facility consists of the following emissions units:

Facility ID No. 0330006

ID No.	Emission Unit Description
003	Dust sources controlled by Scrubber 3
009	Dust sources controlled by Scrubber 4
010	Dust sources controlled by Scrubber 6
011	Dust sources controlled by Scrubber 2
012	Dust sources controlled by Scrubber 7
014	Dust sources controlled by Scrubber 5
054	Dust sources controlled by Scrubber 9
056	Dust sources controlled by Scrubber 8
	Perlite Expanding
055	Dust and combustion byproducts from the perlite expanding and starch storage tank controlled by Scrubber 55
	Board Drying
050	Boardmill Dryer emissions controlled by Scrubber 53, Scrubber 54 and Wet End Seal
	Activities associated with ceiling tile manufacture controlled by baghouses
080	Dust sources associated with the PIF line controlled by baghouse 21
081	Dust sources associated with the PIF line controlled by baghouse 22
	Unregulated Emissions Units and/or Activities
075	Perlite, Clay, and Starch Receiving, Storage, and Transport
076	Natural gas fired Tile Drying
077	Paint lines and booths
078	Natural gas fired Comfort Heaters
079	Fugitive Emissions

Proposed Project

This project proposes to replace the Boardmill Dryer North exhaust scrubber and South exhaust multicyclone, which controls particulate matter (PM) from the board drying operation. Both of these existing air pollution control devices will be replaced with more efficient wet Venturi scrubber systems. The proposed Venturi system will include Venturi scrubbing and water droplet removal systems. Each new scrubber will receive approximately half of the Boardmill Dryer exhaust. The replacement scrubbers will be designated as Scrubber #53 and Scrubber #54.

Armstrong also proposes to reduce the potential-to-emit and permitted allowable emissions for PM from board drying to 9 lbs/hr (36.29 TPY), from the current 11 lbs/hr (44.35 TPY), to more accurately depict post-project potential emissions. Only PM emissions will be affected by this project. There are no physical or operational changes to the Boardmill Dryer natural gas-fired burners and emissions of CO, SO_2, NOx, VOC, and CO_2 are not impacted by installation of the enhanced end-of-process PM control equipment. Therefore, the Application, received February 7, 2013, included only an assessment of PM emissions. There are no changes to the Wet End Seal associated with this project.

The project will not increase the capacity of the Boardmill Dryer, and there are no changes in operating rates associated with the project. Emissions Unit 050 is not regulated under the New Source Performance Standards (NSPS) or National Emission Standards for Hazardous Air Pollutants (NESHAP).

Since Armstrong has a potential-to-emit greater than 250 tons per year of carbon monoxide, the facility is a major stationary source under PSD and any future permit actions must document and include an evaluation of the net emissions increases and applicability of NSR/PSD. For this project, a comparison of projected actual PM emissions to baseline actual PM emissions was less than the significant emissions rate. Therefore, the project is not subject to PSD preconstruction review.

This project will enhance end-of-process PM controls on the following emission unit.

Facility ID No. 0330006	
ID No.	**Emission Unit Description**
050	Boardmill Dryer emissions controlled by Scrubber 53, Scrubber 54 and Wet End Seal

FACILITY REGULATORY CLASSIFICATION

- The facility is a major source of hazardous air pollutants (HAP).
- The facility has no units subject to the acid rain provisions of the Clean Air Act (CAA).
- The facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is a major stationary source in accordance with Rule 62-212.400(PSD), F.A.C.

SECTION 2. ADMINISTRATIVE REQUIREMENTS

1. Permitting Authority: The permitting authority for this project is the Northwest District Air Resource Management Program, Florida Department of Environmental Protection (Department). The District's mailing address is 160 W. Government Street, Suite 308, Pensacola, Florida 32502-5740. All documents related to applications for permits to operate an emissions unit shall be submitted to the District Office.

2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the District Office at the above address or nwdair@dep.state.fl.us.

3. Appendices: The following Appendices are attached as part of this permit:

    a. Appendix A. Citation Formats and Glossary of Common Terms;

    b. Appendix B. General Conditions;

    c. Appendix C. Common Conditions; and

    d. Appendix D. Common Testing Requirements.

    e. Appendix E. CAM Plan.

4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.

5. Asbestos: This permit does not authorize any demolition or renovation of the facility or its parts or components which involves asbestos removal. This permit does not constitute a waiver of any of the requirements of Chapter 62-257, F.A.C., and 40 CFR 61, Subpart M, National Emission Standard for Asbestos, adopted and incorporated by reference in Rule 62-204.800, F.A.C. Compliance with Chapter 62-257, F.A.C., and 40 CFR 61, Subpart M, Section 61.145, is required for any asbestos demolition or renovation at the source. [40 CFR 61; Rule 62-204.800, F.A.C.; and, Chapter 62-257, F.A.C.]

6. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]

7. Modifications: The permittee shall notify the Compliance Authority upon commencement of construction. No new emissions unit shall be constructed and no existing emissions unit shall be modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Rules 62-210.300(1) and 62-212.300(1)(a), F.A.C.]

8. Source Obligation:

    (a) At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

    (b) At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by exceeding its projected actual emissions, then the requirements of subsections 62-212.400(4)

through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

[Rule 62-212.400(12), F.A.C.]

9. Application for Title V Permit: This permit authorizes construction of the permitted emissions units and initial operation to determine compliance with Department rules. A Title V air operation permit is required for regular operation of the permitted emissions unit. The permittee shall apply for a Title V air operation permit at least 90 days prior to expiration of this permit, but no later than 180 days after commencing operation. To apply for a Title V operation permit, the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department may by law require. The application shall be submitted to the appropriate Permitting Authority with copies to the Compliance Authority. You can obtain a permit application form or apply for permit renewal electronically at the following web address: http://www.dep.state.fl.us/air/emission/permitting.htm. [Rules 62-4.030, 62-4.050 and Chapter 62-213, F.A.C.]

A. BOARDMILL DRYER EU050

Subsection A. This section of the permit addresses the following emissions unit.

ID No.	Emissions Unit Description
050	Boardmill Dryer emissions controlled by Scrubber 53, Scrubber 54, and Wet End Seal

Formed pulp boards are dried in a 112.35 MMBtu/hr natural gas fired board dryer. Emissions from board drying are controlled by two Venturi scrubbers (Scrubber #53 and Scrubber #54). Each new scrubber will receive approximately half of the Boardmill Dryer exhaust. The remaining fugitive emissions from circulation are captured by a Wet End Seal and mixed with ambient air before being exhausted to the atmosphere.

The following specific conditions apply to the emissions unit(s) listed above:

A.1. Previous Permits: This permit supplements all previously issued air construction and operation permits for this emissions unit. Except for the change noted below, the unit remains subject to the conditions of all other legally binding air construction and operating permits. [Rules 62-4.070(3) and 62-210.300(1), F.A.C.]

A.2. New Equipment: Except for the change noted below, the new equipment authorized by this permit shall be subject to the same requirements, such as, but not limited to; emissions standards, recordkeeping, compliance testing and fuels limitations previously established for this emissions unit in all other legally binding air construction and operating permits. [Rules 62-4.070(3) and 62-210.300(1), F.A.C.]

EQUIPMENT

A.3. The permittee is authorized to make the following changes to this emission unit:

a. Remove the existing dust collector system serving the South exhaust (Multicyclone #54), including the collector, fan and stack.
b. Remove the existing Scrubber system serving the North exhaust (Scrubber #53), including the scrubber, fan and stack.
c. Install two new wet Venturi scrubbers with modulating throats.
d. Install two mist separators.
e. Install two exhaust fans with variable frequency drives.
f. Install two exhaust stacks with platforms and test ports.
g. Install all auxiliary support equipment required to operate the scrubbers, including tanks, pumps and piping.

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EMISSIONS STANDARDS

A.4. Particulate Matter. Particulate matter (PM) emissions from the north dryer exhaust, the south dryer exhaust and the Wet End Seal exhaust shall not exceed a combined total of 9.0 pounds PM per hour. [Permits 0330006-007-AC and 0330006-014-AC, and Application No. 0330006-020-AC]

A.5. Visible Emissions. Visible emissions shall not equal or be greater than 20% opacity. [Rule 62-296.320(4)(b), F.A.C.]

TESTING REQUIREMENTS

A.6. Initial Compliance Tests: The emission unit shall be tested to demonstrate initial compliance with the emissions standards for particulate matter and visible emissions on both the north and south dryer exhausts and the Wet End Seal exhaust. The initial tests shall be conducted within 60 days after achieving permitted capacity, but not later than 180 days after initial operation of the unit. Notification of compliance testing and

completed test reports may be submitted by electronic mail to nwdair@dep.state.fl.us. [Rules 62-4.070(3) and 62-297.310(7)(a)1, F.A.C.]

A.7. Annual Compliance Tests: During each federal fiscal year (October 1 to September 30), the emission unit shall be tested to demonstrate compliance with the emissions standards for particulate matter and visible emissions on both the north and south dryer exhausts and the Wet End Seal exhaust. Notification of compliance testing and completed test reports may be submitted by electronic mail to nwdair@dep.state.fl.us. [Rule 62-297.310(7)(a)4, F.A.C.]

A.8. Test Requirements: The permittee shall notify the Compliance Authority in writing at least 15 days prior to any required tests. Notification may be sent via e-mail to nwdair@dep.state.fl.us. Tests shall be conducted in accordance with the applicable requirements specified in Appendix D (Common Testing Requirements) of this permit. [Rule 62-297.310(7)(a)9, F.A.C.]

A.9. Test Methods: Required tests shall be performed in accordance with the following reference methods.

Method	Description of Method and Comments
5	Determination of Particulate Emissions from Stationary Sources
9	Visual Determination of the Opacity of Emissions from Stationary Sources

The above methods are described in Appendix A of 40 CFR 60 and are adopted by reference in Rules 62-204.800 and 62-297.401, F.A.C. No other methods may be used unless prior written approval is received from the Department. [Rules 62-204.800 and 62-297.401, F.A.C.; and Appendix A of 40 CFR 60]

MONITORING REQUIREMENTS

A.10. The permittee shall maintain a record of:

a. Pressure drop across each scrubber and water flow rates to each scrubber, recording the data in accordance with Appendix E. CAM Plan.
b. Dryer Process rates for each shift.
c. Dryer Natural gas usage (MMCF) recorded on a 12-month total rolling basis.
d. Dryer Hours of operation (12-month rolling totals).

[Rule 62-4.070(3), F.A.C., and Application No. 0330006-020-AC]

RECORDS AND REPORTS

A.11. Compliance Assurance Monitoring (CAM) Requirements:

a. This emission unit is subject to the Compliance Assurance Monitoring (CAM) requirements contained in the approved Compliance Monitoring Plan. Failure to adhere to the monitoring requirements specified does not necessarily indicate an exceedance of a specific emissions limitation; however, it may constitute good reason to require compliance testing pursuant to Rule 62-297.310(7)(b), F.A.C.

b. This permit has changes that need to be incorporated into the Compliance Assurance Monitoring Plan. The Permittee shall establish operating requirements for the new scrubbers (pressure drop across each scrubber, water flow rates to each scrubber, etc.) and provide an updated CAM Plan for Department review and approval within 120 days of startup of the new scrubbers.

[Rules 62-204.800 and 62-213.440(1)(b)1.a., F.A.C., 40 CFR 64 and Application No. 0330006-020-AC]