# STATEMENT OF BASIS

Title V Air Operation Permit Renewal
Permit No. 0630011-014-AV

## APPLICANT

The applicant for this project is Rex Lumber, LLC. The applicant's responsible official and mailing address are: Mr. Randy Cummings, General Manager, Rex Lumber, LLC, Graceville Lumber Mill, 5299 Alabama Street, Graceville, Florida 32440.

## FACILITY DESCRIPTION

The facility produces dimensional lumber from yellow pine logs. The facility consists of a log debarker, sawmill, wood waste handling and storage system, four direct-fired lumber drying kilns and a planer mill. Raw logs are debarked, cut to lengths, rough-sawn and then sent to the drying kilns. The dried lumber is finished to dimensional lumber sizes in the planer mill and is then trimmed, graded and bundled for shipment. Waste products such as bark, green chips and sawdust, and dried chips and sawdust are either shipped off site or used as fuel for the direct fired lumber drying kilns. The facility has a total of four cyclones (Planer Mill Shavings Cyclone, Shavings Bin Cyclone, Fuel Storage Silo Cyclone for Kiln Nos. 1 and 2, and a Fuel Storage Silo Cyclone for Kiln Nos. 3 and 4) to control particulate matter (PM) emissions from equipment used for the handling and storage of wood waste. The maximum production rate for the facility is 170,112,000 board feet of lumber per year.

Note: A second Fuel Storage Silo Cyclone was authorized by permits 0630011-008-AC and 0630011-011-AC for Kiln Nos. 3 and 4; however, the additional fuel storage silo was not constructed.

Total potential emissions (tons/year) from the facility are as follows:

| **Pollutant** | **CO** | **NOx** | PM | PM10 | **PM2.5** | **$SO_2$** | VOC[1] | **H115**[2] | **Phenol** | **H095**[2] | **H001** | **Total HAP** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Kiln No. 1[3] | 57.8 | 47.2 | 38.5 | 34.7 | 29.9 | 2.4 | 95.2 | 4.8 | 0.20 | 0.20 | 1.04 | 6.26 |
| Kiln No. 2[3] | 57.8 | 47.2 | 38.5 | 34.7 | 29.9 | 2.4 | 95.2 | 4.8 | 0.20 | 0.20 | 1.04 | 6.26 |
| Kiln No. 3[3] | 65.7 | 24.1 | 36.1 | 31.8 | 27.4 | 2.7 | 106.5 | 5.4 | 0.22 | 0.22 | 1.17 | 7.01 |
| Kiln No. 4 [3] | 65.7 | 24.1 | 36.1 | 31.8 | 27.4 | 2.7 | 106.5 | 5.4 | 0.22 | 0.22 | 1.17 | 7.01 |
| Cyclones (4) Unregulated | | | 35.0 | 21.4 | 21.4 | | | | | | | |
| Log Sawing (Fugitive) | | | 8.17 | 4.49 | 4.49 | | | | | | | |
| Log Debarking (Fugitive) | | | 8.17 | 4.49 | 4.49 | | | | | | | |
| **Total** | **247.0** | **142.6** | **200.7** | **163.3** | **144.9** | **10.3** | **403.2** | **20.4** | **0.85** | **0.85** | **4.42** | **26.54** |

[1] VOC includes both the fuel burning and the wood drying components of the direct fired kilns.
[2] Methanol and formaldehyde are both a VOC and HAP and are included in the VOC total.
[3] Kiln Nos. 1 and 2 burn only "dry" (kiln dried) waste wood and no bark. Kiln Nos. 3 and 4 burn only "wet" wood (never kiln dried) and no bark. The AP 42 emission factors for PM and NOx are lower for "wet" wood (no bark) as compared to "dry" wood (no bark).

Note: The VOC emission factor for the kilns is 4.74 lb VOC/1000 board-feet, based on National Council for Air and Stream Improvement (NCASI) Bulletin 845 and emission factors for Formaldehyde and Methanol from the NCASI 2008 SARA Handbook. US EPA recommends calculating VOC total as follows: VOC total = 3.8 lb VOC (as Carbon) per MBF + Formaldehyde + (0.36 x Methanol). Therefore, VOC total = 3.8 lb VOC (as Carbon)/MBF x 1.222 (convert carbon to Propane) + 0.01 lb Formaldehyde/MBF + 0.36 x 0.24 lb Methanol/MBF.

### Debarking and Sawmill Operations

Logging trucks deliver whole logs to the facility where they are stored in the log storage yard until they are ready to be processed. The logs are loaded onto the debarker log infeed deck, the bark is removed and the logs are trimmed to the appropriate length. The bark is conveyed via covered conveyer to a bark storage bin.

The debarked logs are mechanically conveyed through the saw-mill and rough-cut into individual boards. The cut

and trimmed boards are sorted, stacked and routed to the green lumber storage area.

The wood waste (chips and sawdust) generated by the saw-mill is conveyed via covered conveyer to a storage bin. Any large pieces of unused wood are run through a chipper before going to storage cyclone. The saw-mill is fully enclosed to prevent any fugitive emissions.

**Lumber Drying Kilns**

The green lumber is transferred to the drying kilns. The facility has a total of four direct fired lumber drying kilns. Batch Kiln Nos. 1 and 2 (EU022) are each equipped with a McConnell (Model 36) burner that has a maximum heat input rating of 22 MMBtu/hr. Continuous Kiln Nos. 3 and 4 (EU041) each have a maximum heat input of 25 MMBtu/hr. The wood waste is metered from the fuel storage silos to the wood burners and the flue gases from each burner are ducted to the associated lumber kiln. Kiln Nos. 1 and 2 are each 32 feet by 68 feet and will hold 110,000 board feet of lumber per load. Each load requires approximately 24 hours for drying. Kiln Nos. 3 and 4 are 33 feet by 204 feet and each has a maximum production rate of 61,600,000 board feet of lumber per year for the facility. The maximum production rate for the facility is 170,112,000 board feet of lumber per year.

The lumber drying kilns were constructed after 1974 and are the only regulated emissions units at the site. The kilns are regulated in accordance with 62-296.410(2)(a), F.A.C. (Carbonaceous Fuel Burning Equipment). Emissions from the kilns are uncontrolled. Visible emissions from the kilns are limited to 20% opacity under normal operation.

**Planer Mill**

Lumber from the dry lumber storage area is transported to the planer mill where the lumber is sized to specifications. The wood waste (shavings, dust and trim blocks) from the planer mill is captured and pneumatically conveyed to the planner mill shavings cyclone, shavings bin cyclone and eventually to the shavings storage bin or the fuel storage silo. The trim blocks from the end-trim operation in the planer mill are routed through the planer mill hog (exiting as wood chips) before they are pneumatically conveyed to the wood waste handling system, as mentioned above. The finished lumber is then sorted, stacked, banded and stored until final shipment.

The new shaver and cyclone that were added to the Planer Mill in 2010 to produce dry planer mill wood shavings for stable bedding are no longer needed and the equipment has been removed. These changes to the Planer Mill were considered part of unregulated emissions unit EU039 and did not require a construction permit. Facility-wide PM emissions were not affected by the installation and subsequent removal of the shaver and cyclone.

The new wood treatment step, added to the production line in 2010 to spray the antifungal “AntiBlu XP-64” or equivalent on the finished lumber products to control sapstain and mold, was considered an insignificant activity and did not require a construction permit because it was estimated to emit only 1.36 TPY of VOC. (See letter from the Department to Mr. Randy Cummings, Responsible Official for Rex Lumber, LLC, dated April 20, 2010.)

Also included in this permit are miscellaneous unregulated/insignificant emissions units and/or activities.

Based on the Title V Air Operation Permit Renewal application received October 1, 2013, this facility is a major source of hazardous air pollutants (HAP), with a potential to emit 10 tons per year or more of any one hazardous air pollutant and is also major for PSD with a potential to emit over 250 tons of VOC. Further increases in any of the priority pollutants that exceed the PSD Major Modification Threshold will require a PSD review. [Rule 62-210.200(194)(a), F.A.C.]

## PROJECT DESCRIPTION

The purpose of this permitting project is to renew the existing Title V air operation permit for the above referenced facility.

## PROCESSING SCHEDULE AND RELATED DOCUMENTS

Application for a Title V Air Operation Permit Renewal (EPSAP No. 3579-1) received **October 1, 2013**
Notice of Intent to Issue Air Permit issued **October 10, 2013**
Public Notice Published **October 18, 2013**

## PRIMARY REGULATORY REQUIREMENTS

Title III: The facility is identified as a major source of hazardous air pollutants (HAP).

Title V: The facility is a Title V major source of air pollution in accordance with Chapter 62-213, Florida Administrative Code (F.A.C.).

PSD: The facility is a Prevention of Significant Deterioration (PSD)-major stationary source of air pollution in accordance with Rule 62-212.400, F.A.C.

NSPS: The facility does not operate units subject to the New Source Performance Standards (NSPS) of 40 Code of Federal Regulations (CFR) 60.

NESHAP: The facility operates units subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) of 40 CFR 63.

CAIR: The facility is not subject to the Clean Air Interstate Rule (CAIR) set forth in Rule 62-296.470, F.A.C.

CAM: Compliance Assurance Monitoring (CAM) does not apply to any of the units at the facility.

## PROJECT REVIEW

This project renews Title V air operation permit No. 0630011-012-AV, issued on June 11, 2009. Changes made under air construction permit 0630011-011-AC were incorporated into the Title V permit by revision No. 0630011-013-AV, issued on March 2, 2010. Changes made as part of this renewal also involved use of the new Title V permit template, use of combined appendices, reformatting, replacing TV-6 with a new Appendix TV and streamlining of EU sections by moving common conditions to the new appendices.

## CONCLUSION

This project renews the existing Title V air operation permit 0630011-012-AV, which was issued on June 11, 2009 and revised on March 2, 2010 by permit 0630011-013-AV. This Title V air operation permit renewal is issued under the provisions of Chapter 403, Florida Statues (F.S.), and Chapters 62-4, 62-210 and 62-213, F.A.C.