Technical Evaluation and Preliminary Determination

APPLICANT
Johns Manville
5510 West 12th Street
Jacksonville, FL 32254-1653

FACILITY
Johns Manville – Jacksonville Operations
Foam Insulation Manufacturing Facility
ID No. 0310334
5510 West 12th Street
Jacksonville, FL 32254-1653

COUNTY
Duval

PERMITTING AND COMPLIANCE AUTHORITY
Environmental and Compliance Department
Environmental Quality Division
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1. GENERAL PROJECT INFORMATION

Air Pollution Regulations

Projects at stationary sources with the potential to emit air pollution are subject to the applicable environmental laws specified in Section 403 of the Florida Statutes (F.S.). The statutes authorize the Department of Environmental Protection (DEP) to establish regulations regarding air quality as part of the Florida Administrative Code (F.A.C.), which includes the following applicable chapters: 62-4 (Permits); 62-204 (Air Pollution Control – General Provisions); 62-210 (Stationary Sources – General Requirements); 62-212 (Stationary Sources – Preconstruction Review); 62-213 (Operation Permits for Major Sources of Air Pollution); 62-296 (Stationary Sources - Emission Standards); and 62-297 (Stationary Sources – Emissions Monitoring). Specifically, air operation permits are required pursuant to Rules 62-4 and 62-210, F.A.C.

In addition, the U. S. Environmental Protection Agency (EPA) establishes air quality regulations in Title 40 of the Code of Federal Regulations (CFR). Part 60 specifies New Source Performance Standards (NSPS) for numerous industrial categories. Part 61 specifies National Emission Standards for Hazardous Air Pollutants (NESHAP) based on specific pollutants. Part 63 specifies NESHAP based on the Maximum Achievable Control Technology (MACT) for numerous industrial categories. The DEP adopts these federal regulations on a quarterly basis in Rule 62-204.800, F.A.C.

In accordance with the terms of its Specific Operating Agreement, the City of Jacksonville, Environmental and Compliance Department, Environmental Quality Division has been delegated the Permitting and Compliance Authority (PCA) to process this determination on behalf of the DEP.

Glossary of Common Terms

Because of the technical nature of the project, the permit determination contains numerous acronyms and abbreviations, which will be defined in the permit determination.

Facility Description and Location

Johns Manville – Jacksonville Operations is a rigid foam insulation manufacturing facility, which is categorized under Standard Industrial Classification Code No. 3086. The facility is located in Duval County at 5510 West 12th Street, Jacksonville, FL 32254-1653. The UTM coordinates of this facility are Zone 17, 428.75 km East, and 3357.80 km North. The latitude and longitude coordinates are 30˚21’00” North, 81˚44’29” West.

This facility is located in an area designated as; unclassifiable for the air pollutants particulate matter less than or equal to ten (10) micrometers (PM_{10}), sulfur dioxide (SO_2), and lead (Pb); an air quality maintenance area for ozone (O_3); and in the area of influence of an air quality maintenance area for particulate matter (PM); pursuant to state and federal Ambient Air Quality Standards (AAQS), Chapter 62-204, F.A.C., and Rule 2.201, Jacksonville Environmental Protection Board (JEPB).

Facility Regulatory Categories

- The facility is not a major source of hazardous air pollutants (HAP).
- The facility has no units subject to the acid rain provisions of the Clean Air Act.
- The facility is not a Title V major source of air pollution in accordance with Chapter 62-213, F.A.C.
- The facility is not a major stationary source in accordance with Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.
- The facility is a synthetic non-Title V source of air pollution.

Project Description
Johns Manville – Jacksonville Operations manufactures rigid polyisocyanurate insulation panels consisting of a solid foam core which is laminated with various facers and substrates to give the finished product the desired performance characteristics. The foam insulation manufacturing facility plans to replace the existing laminator rated at 0.0833 million board feet per hour. The new laminator is rated at 0.095 million board feet per hour.

Two (2) natural gas fired burners, each rated at 0.478 million British thermal units per hour will replace the existing single natural gas fired burner rated a 2.0 million British thermal units per hour. The burners are used to heat the air in the foam insulation board laminator.

The finished product panels emerge from the laminator and, if needed, are directed to the cutting operation (edge-trim, cross-cut, gang, panel, foot, and hogger saws). The panels are cut to the desired size and shape then are packaged, labeled, and delivered to the warehouse for temporary storage. The cutting and storage operations will not be changed by this construction project.

Processing Schedule
- 10/10/2011 – Received the construction permit application

2. PSD APPLICABILITY

General PSD Applicability
For areas currently in attainment with the state and federal AAQS or areas otherwise designated as unclassifiable, the DEP regulates major stationary sources of air pollution in accordance with Florida's PSD preconstruction review program as defined in Rule 62-212.400, F.A.C. Under preconstruction review, the DEP first must determine if a project is subject to the PSD requirements ("PSD applicability review") and, if so, must conduct a PSD preconstruction review. A PSD applicability review is required for projects at new and existing major stationary sources. In addition, proposed projects at existing minor sources are subject to a PSD applicability review to determine whether potential emissions *from the proposed project itself* will exceed the PSD major stationary source thresholds. A facility is considered a major stationary source with respect to PSD if it emits or has the potential to emit:
- 250 tons per year or more of any regulated air pollutant; or
- 100 tons per year or more of any regulated air pollutant and the facility belongs to one of the following 28 PSD-major facility categories: fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input, coal cleaning plants (with thermal dryers), Kraft pulp mills, portland cement plants, primary zinc smelters, iron and steel mill plants, primary aluminum ore reduction plants, primary copper smelters, municipal incinerators capable of charging more than 250 tons of refuse per day, hydrofluoric, sulfuric, and nitric acid plants, petroleum refineries, lime plants, phosphate rock processing plants, coke oven batteries, sulfur recovery plants, carbon black plants (furnace process), primary lead smelters, fuel conversion plants, sintering plants, secondary metal production plants, chemical process plants, fossil fuel boilers (or combinations thereof) totaling more than 250 million British thermal units per hour heat input, petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels, taconite ore processing plants, glass fiber processing plants and charcoal production plants.

Once it is determined that a project is subject to PSD preconstruction review, the project emissions are compared to the "significant emission rates" defined in Rule 62-210.200, F.A.C. for the following pollutants: carbon monoxide (CO); nitrogen oxides (NO_X); sulfur dioxide (SO_2); particulate matter (PM); particulate matter with a mean particle diameter of 10 microns or less (PM_{10}); volatile organic compounds (VOC); lead (Pb); fluorides (Fl); sulfuric acid mist (SAM); hydrogen sulfide (H_2S); total reduced sulfur (TRS), including H_2S; reduced sulfur compounds, including H_2S; municipal waste combustor organics measured as total tetra- through octa-chlorinated dibenzo-p-dioxins and dibenzofurans; municipal waste combustor metals measured as particulate matter; municipal waste combustor acid gases measured as SO_2 and hydrogen chloride (HCl); municipal solid waste landfills emissions measured as non-methane organic compounds (NMOC); and mercury (Hg). In addition, significant emissions rate

also means any emissions rate or any net emissions increase associated with a major stationary source or major modification which would construct within 10 kilometers of a Class I area and have an impact on such area equal to or greater than 1 $\mu g/m^3$, 24-hour average. If the potential emission exceeds the defined significant emissions rate of a PSD pollutant, the project is considered "significant" for the pollutant and the applicant must employ the Best Available Control Technology (BACT) to minimize the emissions and evaluate the air quality impacts. Although a facility or project may be *major* with respect to PSD for only one regulated pollutant, it may be required to install BACT controls for several "significant" regulated pollutants.

PSD and Title V Applicability for Project

The existing facility is not a major stationary source of air pollution for PSD purposes because the potential emissions of PSD air pollutants are less than 250 tons per year pursuant to Rule 62-210.200(189), F.A.C., and Rule 2.301, JEPB.

This project is not subject to PSD preconstruction review requirements since the proposed project itself has potential emissions of PSD air pollutants that are less than 250 tons per year pursuant to Rule 62-210.200(189), F.A.C., and Rule 2.301, JEPB.

The facility is not a major source of air pollution for Title V purposes because the potential emissions of regulated air pollutants are less than 100 tons per year and the potential emissions of Hazardous Air Pollutants (HAP) are less than 10 tons per year for a single HAP and less than 25 tons per year for total HAP pursuant to Rule 62-210.200(188), F.A.C., and Rule 2.301, JEPB.

This facility is a synthetic non-Title V source of air pollution in that the permittee has requested a limit to cutting operations of 370 million board feet per year in order to maintain VOC emissions less than 100 tons per year.

3. APPLICATION REVIEW

Discussion of Emissions

Laminator – Methylene Bis Diphenylmethanediisocyanate (MDI), polyol, and pentane are combined at the laminator to form the rigid foam panels. As the foam expands, facers and substrates are laminated to the outer surface. Three (3) emission points are associated with the proposed laminator; the foam head or pour table, the laminator chamber, and the laminator furnace. The proposed laminator has a production capacity of 95,000 board feet per hour (832.2 million board feet per year). The following pollutants have the potential to be emitted in the following amounts to the atmosphere:

Pour Table Vent

- VOC – 16.4 tons per year (mostly pentane)
- HAP – 0.167 tons per year (mostly MDI)

Laminator Chamber

- VOC – 13.4 tons per year (mostly pentane)

Laminator Furnace (two) – natural gas fired, 0.478 million British thermal units per hour burners.

- CO – 0.3 tons per year
- NO_X – 0.4 tons per year
- PM – 0.03 tons per year
- SO_X – 0.002 tons per year
- VOC – 0.02 tons per year
- HAP – 0.01 tons per year

Cutting Operations – A series of saws (edge-trim, cross-cut, gang, panel, foot, and hogger) cut panels to the desired shape and size. One (1) emission point (20,000 standard cubic feet per minute, Mikro-Pulsaire Dust Collector, Model Number 224-TRW-10, baghouse) is provided for all cutting operations. This emission unit's maximum process rate is 83,300 board feet per hour and limited by request of the permittee to 370 million board feet per year. The following pollutants have the potential to be emitted in the following amounts to the atmosphere:

- VOC – 42.0 tons per year (all pentane)
- PM – 15.0 tons per year

This emission unit will not be modified under this construction permit.

Fugitive emissions are released from the 30,000 gallon pentane storage tank's numerous valves and fittings, during insulation panel storage prior to shipping, and from the cleaning of parts. The following pollutants have the potential to be emitted in the following amounts to the atmosphere:

- VOC – 6.4 tons per year

These processes will not be modified under this construction permit.

Local Requirements
This facility is subject to Chapter 360 [Environmental Regulation], Chapter 362 [Air and Water Pollution], Chapter 365 [Hazardous Regulated Substance Program], and Chapter 376 [Odor Control] of the Ordinance Code of the City of Jacksonville, Title X; and Rule 1 [Final Rules with Respect to Organization, Procedure, and Practice] and Rule 2, Part Numbers I through III and Part Numbers X through XIV [Air Pollution Control], JEPB.

State Requirements
This facility is subject to the applicable sections of Chapter 403, F.S. and Rules 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297, F.A.C.

Federal NSPS Provisions
The size of pentane storage tank at this facility is less than 75 cubic meters therefore 40CFR60 Subpart Kb does not apply to this project. There are no other subparts of 40CFR60 that apply to this facility.

Federal NESHAP Provisions
This facility is not a major source of Hazardous Air Pollutants (HAP). None of the area source subparts apply to this facility. 40CFR63 does not apply to this project.

Other Permit Determination Conditions
There are no other conditions associated with this permit determination.

4. PERMIT DETERMINATION

The PCA makes the determination that this project does require an Air Construction Permit and that the proposed project will comply with all applicable local, state, and federal air pollution regulations. This determination is based on a technical review of the complete application, reasonable assurances provided by the applicant, and the conditions specified in the permit determination. C. Blane Johnson is the project engineer responsible for reviewing the application and performing the permit determination. He may be reached by telephone at (904) 255-7199 and by e-mail at chrisb@coj.net.