EMISSION UNIT AND FACILITY-WIDE CALCULATIONS

REGULATED POLLUTANTS

Permit No.: 0310486-009-AC
Facility Name: Firestone Building Products Co.

Prepared by: Gloria Hunter-Barnes
Date: October 30, 2009

Emission Unit No.: 001 – Foam Insulation Board Manufacturing
Source: JAN 21, 2009 RTO VOC test results
Assume 100% Capture
RTO destruction efficiency = 95%
VOC at Inlet = 40.99 lbs/hr max @ 97% of process rate
Pollutant: VOC
40.99 lbs VOC/hr ⁄ 0.97 = 42.26 lbs/hr (VOC at 100% process rate)
42.26 lbs VOC/hr x (1-0.95) = 2.11 lbs/hr
2.11 lbs VOC/hr x 8760 hrs/yr x 1 ton/2000 lbs = 9.24 tons per yr

Emission Unit No.: 002 – Board Cutting Operation
Source: JAN 22, 2009 Dust Collector VOC test results
VOC emissions = 16.39 lbs/hr max @ 96% of process rate
Pollutant: VOC
16.39 lbs VOC/hr ⁄ 0.96 = 17.07 lbs/hr (VOC at 100% process rate)
17.07 lbs VOC/hr x 8760 hrs/yr x 1 ton/2000 lbs = 74.77 tons per yr
Pollutant: PM
Source: Rule 62-296.712(2), FAC and Rule 2.1001, JEPB
PM emissions shall not exceed 0.03 gr/dscf
0.03 gr/dscf x 11,000 cf/min x 60 min/hr x 1 lb/7000 grains = 2.83 lbs/hr
2.83 lbs/hr x 8760 hrs/yr x 1 ton/2000 lbs = 12.40 tons per yr

Foam Board Storage VOC Emissions
Source: HCFC Reporting Guidelines, API, 1995 (Johns Manville Application)
Emission factor: 0.00000771 lbs/boardfoot
Pollutant: VOC
0.00000771 lbs VOC/bdft x 457,000,000 bdft/yr x 1 ton/2000 lbs = 1.76 tons per yr

Storage Tank VOC Emissions
Source: Attachment to Permit Determination Request (e-mail) dated May 11, 2009 to Richard Robinson from Tanya Schnelzer, Firestone Diversified Products, TANKS 4.0 program results
Pollutant: VOC
MDI storage tanks [two (2) - 10,600 gallon tanks] = 0.0007 lbs/yr
Polyol storage tanks [four (4) – 6,000 gallon tanks] = 0.0003 lbs/yr
Flame Retardant storage tank [one (1) 6,000 gallon tank] = 0.0003 lbs/yr
Surfactant storage tank [one (1) 6,000 gallon tank] = 0.0001 lbs/yr
Total VOC = 0.0014 lbs/yr = 0.0000007 tons per yr

FACILITY VOC PTE
Board Manuf. + Board Cutting + Board Storage + Storage Tank = Total Facility VOC PTE
9.24 TPY + 74.77 TPY + 1.76 TPY + 0.0000007 TPY = 85.77 TPY