

Emissions Summary

The facility-wide PTE's for NO_x, CO, and sulfur dioxide (SO₂) were calculated using vendor estimated uncontrolled emission factors in the unit of pound per million Btu (lb/MMBtu), the design heat input capacities of the burners (ID Nos. BUR1 – BUR6), and year-round (8,760 hrs/yr) of operation.

One of the comments from Environmental Integrity Project (EIP) is that the facility does not include any CO emission estimates for the finished pellet silos (ID Nos. SILO1 – SILO16). Without any combustion process, the Division does not suspect that the silos would emit any CO emissions. In addition, these silos do not have any stacks according to the application; if they have any emissions, the emission would be fugitive. Unless this application triggers a PSD review, no fugitive criteria pollutant emission need to be included toward the facility-wide PTE calculations. Therefore, the Division does not investigate any possible CO emissions from the storage/silos.

The facility's PTE's for PM, PM₁₀, and PM_{2.5} were calculated using the estimated grain loading of the wet ESP (ID No. WESP), baghouses (ID Nos. BGH1 – BGH8), and cyclone (ID No. CYC), design flowrate of each control device, and year-round (8,760 hrs/yr) of operation.

The facility-wide PTE's for VOC and HAP were calculated based on the designed annual throughput of 600,000 oven dried tons (ODT) for Phase I and 1,320,000 ODT for Phase II. The biofilter (ID No. BIO) in Phase I has an assumed control efficiency of 92 percent, while BIO in Phase II has an assumed control efficiency of 93 percent. The only exception is that BIO only has 70% control efficiency on hydrogen chloride (HCl). The regenerative thermal oxidizer has an assumed control efficiency of 98%. The after-control emission factors were used to calculate facility-wide VOC and HAP PTE's.

For the dryers (ID Nos. DRY1 – DRY6) and pellet mills/pellet coolers (ID Nos. PM1 – PM32 and COOL1 – COOL4) in both phases, acrolein, phenol, HCl and propionaldehyde emission factors from the August 2021 Jasper pellet mill (in North Carolina) source test were used. For VOC, acetaldehyde, formaldehyde, and methanol emission calculation, Georgia EPD recommended uncontrolled emission factors were used.

For the drywood silos (ID Nos. DWS1 and DWS2), VOC, acetaldehyde, formaldehyde and methanol emission factors from the July 2021 Hazlehurst Wood Pellets silo testing were used. The acrolein, phenol, and propionaldehyde emission factors were assumed to equal the methanol emission factor.

For the dry hammermills (ID Nos. DHM1 – DHM6), Georgia EPD recommended emission factors were used for VOC, acetaldehyde, formaldehyde, and methanol. Acrolein, phenol, HCl and propionaldehyde emission factors from the August 2021 Jasper pellet mill source test were used.

The Appling County pellet silo testing emission factors for VOC, acetaldehyde, formaldehyde, and methanol were used in the emission estimates for the finished pellet silos in both phases (ID Nos. SILO1 – SILO16).