VOC, acetaldehyde, formaldehyde, and methanol emissions from the dry wood bins (ID Nos. DWB1-DWB2) were calculated using uncontrolled emission factors from the March 2021 Hazelhurst Wood Pellet test results. Emissions of acrolein, phenol, and propionaldehyde from the dry wood bins (ID Nos. DWB1 – DWB2) were assumed to be the same as methanol. Emission factors of acrolein, phenol, and propionaldehyde are generally much lower than the methanol emission factor. The Division would accept these emission factors because they are conservative.

All uncontrolled emission factors for the finished wood pellet silos (ID Nos. SILO1 – SILO6) were referenced from testing conducted at Appling Wood Pellets in January of 2021.

The regenerative thermal oxidizer (ID No. RTO) was assumed to have a 98% destruction efficiency for VOCs and HAPs (with the exception of HCl, which the RTO does not control). The wet ESP (ID No. WESP) was assumed to have a 99% control efficiency for SO_2 because SO_2 tends to adhere to the ash from wood combustion, and removal of the ash plus water spray in the wet ESP would both remove SO_2. The biofilter (ID No. BIO) was assumed to operate with a 65% control efficiency for VOCs and HAPs.

Conditions 6.3c.ii. and 6.3e.ii. will require the facility to conduct initial VOC and HAP testing on the biofilter (ID No. BIO) to validate the unit-specific after-control VOC and HAP emission factors. The facility is required to use the results from the most recent performance tests to calculate actual emissions. The facility must adjust their actual production rates according to the tested emission factors and comply with the 249-tpy VOC and 10/25-tpy single/combined HAP emission limits.

Facility-wide PM and $PM_{2.5}$ emissions were assumed to be equal to the PM_{10} emissions. Since the facility is required to use after-control emission factors to track actual VOC and $PM/PM_{10}/PM_{2.5}$ emissions, they will continue to be required to operate their control devices at all times while their associated emission units are operating. This will also ensure that the facility will comply with Georgia Air Toxics Guidelines. Because both phases will now operate with an RTO, WESP, and biofilter, this requirement will apply to both phases.

Table 2: Facility-wide Emissions (tpy) in Phase I (After-control)

Pollutant	Potential Emissions
PM	≤249 (by permit limit) 48.6 (in the application)
PM_{10}	≤249 (by permit limit) 48.6 (in the application)
$PM_{2.5}$	≤249 (by permit limit) 46.9 (in the application)
NOx	≤249 (by permit limit) 171 (in the application)
SO_2	0.31
CO	≤249 (by permit limit) 169 tpy (in the application)
VOC	≤249 (by permit limit) 238 (in the application)
Max. Individual HAP	<10 (by permit limit) 1.73 (in the application)