

5. TOXIC AIR POLLUTANT EMISSIONS IMPACT ASSESSMENT

Georgia EPD requests that a toxics impact assessment (TIA) be completed as a part of this application. A TIA was conducted, and the facility passed the TIA. This section details the assumptions used for completing the TIA and the results of the TIA.

Georgia EPD regulates the emissions of toxic air pollutants (TAP) through a program approved under the provisions of GRAQC Rule 391-3-1-.02(2)(a)3(ii). A TAP is defined as any substance that may have an adverse effect on public health, excluding any specific substance that is covered by a State or Federal ambient air quality standard. Procedures governing the Georgia EPD's review of toxic air pollutant emissions as part of air permit reviews are contained in EPD's *Guideline for Ambient Impact Assessment of Toxic Air Pollutant Emissions* (the *Guideline*).¹⁰

The Guideline has established the Allowable Ambient Concentration (AAC) and Minimum Emission Rate (MER) for each TAP, which are included in Appendix A of the Guideline. Additionally, procedures for establishing the AACs are included in Appendix C of the Guideline.

5.1 Determination of Toxic Air Pollutant Impact

The following section describes the methodology used to determine the toxics impacts from the proposed facility. Renewable Biomass Group evaluated emissions of acetaldehyde, acrolein, formaldehyde, methanol, phenol, and propionaldehyde from the production process as well as pollutants emitted as byproducts from natural gas combustion.

5.1.1 Methodology

A TIA was performed in accordance with the Guideline. Section 2.2 of the Guideline requires a comparison between the facility-wide emission rate and the MER. For a pollutant that has a facility-wide emission rate above the MER, the Guideline requires the use of screening model (SCREEN3) or refined models (AERMOD or ISCST3) to determine the maximum ground level concentrations for TAP. Facility-wide emission rates are compared to the MER for the identified TAP, as shown in Table 5-1.

¹⁰ Guideline for Ambient Impact Assessment of Toxic Air Pollutant Emissions. Georgia Department of Natural Resources, Environmental Protection Division, Air Protection Branch, Revised, May 2017.