## **Process Description**

Seabreeze Energy Producers, LLC owns and operates an environmentally beneficial landfill gas (LFG) treatment facility at the Seabreeze Environmental Landfill in Brazoria County, Texas. The treatment facility recovers methane from the LFG through a series of compression, dehydration, and filtration steps designed to remove water, carbon dioxide, volatile organic compounds (VOCs), sulfur compounds, oxygen, and other trace components. The treated gas is then transferred to an existing natural gas pipeline.

Tail gases associated with the LFG treatment process are routed to a thermal oxidizer for control. The combination of tail gases and combustion air travel to the burner chamber, where natural gas is added to achieve complete combustion. The combustion chamber operates at a temperature of approximately 1500 °F. In accordance with manufacturer's specifications (attached), the proposed thermal oxidizer has an expected VOC destruction removal efficiency (DRE) of 98% or greater of non-methane hydrocarbons. The proposed thermal oxidizer has been designed to meet the following the emission limits:

- Oxides of Nitrogen (NOx) 0.2 lbs NOx/MMBtu system heat release
- Carbon Monoxide (CO): 0.2 lbs CO/MMBtu system heat release

The LFG treatment facility is currently authorized under 30 TAC §106.4, §106.261, §106.262, and §106.263 by Permit by Rule (PBR) Registration Number 143550. This Standard Permit for Pollution Control Project (PCP) application covers the replacement of the thermal oxidizer. Changes to operational throughput or gas stream composition is not proposed as part of this permit application. Minor collateral increases to the current PBR CO and NOx emission limits are necessary to align with manufacturer specifications for the proposed control device.<sup>1</sup>

<sup>&</sup>lt;sup>1</sup> Per Trisha Gupta (TCEQ), "The increases in NOx and CO will be considered as collateral increases and can be authorized via the PCP SP because the increases are strictly due to the replacement."