E-MAIL ATTACHMENT
DEP Comments on Air Dispersion Modeling
Westmoreland Sanitary Landfill, LLC
Plan Approval Application 65-00767C
Proposed Installation of Leachate Evaporator
Westmoreland Sanitary Landfill, Rostraver Township, Westmoreland County

2.4 Good Engineering Practice (GEP) Stack Height and Building Downwash

1. The width and angle of the building included in the BPIPPRM input files appear to be somewhat inconsistent with aerial imagery.

2. The building's base elevation of 297.30 meters entered in the "NOBLE Future.bpi" BPIPPRM input file differs from the building's base elevation of 312.45 meters entered in the "NOBLE.bpi" BPIPPRM input file. The DEP notes, however, that the downwash parameters in the AERMOD input files in the "Current" and "Future" folders are the same and reflect BPIPPRM output resulting from a building base elevation of 312.45 meters. Is this correct or should the downwash parameters differ?

2.5 Terrain and Receptor Data

3. The receptor grid files do not match this subsection's description of the receptor grid, which was established in the air dispersion modeling protocol. The receptor grid files do not include any receptors along the property boundary, do not include special receptors at residences, and do not include any receptors in "hot spots."

4. AERMAP was executed with the U.S. Geological Survey's (USGS) 3D Elevation Program (3DEP) data, formerly National Elevation Dataset (NED), with a 1 arc-second (~30 meter) resolution instead of a one-third arc-second (~10 meter) resolution. This is inconsistent with this subsection's description of the terrain processing and the established air dispersion modeling protocol.

2.6 Meteorological Data

5. The value following the PROFBASE keyword in ME pathway of the AERMOD input files is 335 meters. Subsection 3.5.3 of the "User's Guide for the AMS/EPA Regulatory Model (AERMOD)" (EPA-454/B-21-001, April 2021) states, "[t]he AERMOD model generates a gridded vertical profile of potential temperatures for use in the plume rise calculations. Since potential temperature is dependent on the elevation above mean sea level (MSL), the user must define the base elevation for the profile with the PROFBASE keyword … The base elevation should correspond with the base elevation of the primary meteorological tower." The base elevation of the Pittsburgh International Airport (KPIT) meteorological tower is 367 meters. See Comment 10 of the DEP's July 15, 2021, comments on the air dispersion modeling protocol.

3.1 Modeling Files

6. The following electronic files listed in this subsection were not included with the submittal: KPIT_2016-2020_ADJUSTAR.SFC, AERMAP.INP (for the current scenario), and AERMAP.OUT (for the current scenario).