

Air Compliance Hurdles and Necessary Regulatory Flexibility for Landfill Gas System Compliance when Managing Subsurface Reactions

When assessing, managing, and mitigating subsurface reactions at a landfill site with an active landfill gas (LFG) collection and control system (GCCS), site owners and operators must balance the fine line between implementation of what is needed to assess and mitigate a subsurface reaction, and what is needed to maintain compliance with federal, state and local LFG management and control regulations.

MSW landfills are regulated under the Clean Air Act (CAA) per New Source Performance Standards (NSPS), Title 40, Code of Federal Regulations (CFR), Part 60 (Subpart WWW). The NSPS for landfills includes combustion and gas collection system standards designed to reduce emission of non-methane organic compounds (NMOCs) into the atmosphere, which also effectively reduces methane emissions. The standards under the NSPS were developed for a typical landfill where the waste mass degradation creates a methanogenic process. However, landfills exhibiting a subsurface reaction do not exhibit the "typical" methanogenic process, so the performance standards required to demonstrate compliance are difficult meet without regulatory flexibility.

The air regulations governing MSW landfills are dynamic and expected to be revised in the near future. As such, the presentation will be adjusted accordingly to reflect any changes that may impact how subsurface reactions are managed for compliance once the revised rules are proposed by the USEPA. The presentation will discuss the pertinent LFG regulations that can help, as well as hinder, the detection, response, and mitigation of subsurface reactions. In addition, this presentation will provide insight into areas where flexibility on the strict implementation of these regulations by responders can assist, and even prevent a subsurface reaction. Specific examples and issues expected to be covered include:

- Wellhead operational flexibility
 - a. temperature greater than 131 F
 - b. Oxygen greater than 5%
 - c. Classification of wells as non-NSPS when installed for odor control & cap integrity
- Flare operation and issues with BTU content and exit velocity determinations (40 CFR 60.18 compliance)
- Expedited permitting to allow for quick decisions on flare procurement.
- Benefit of temporary open flare utilization over permitting/design/specification of enclosed flares, particularly in non-attainment areas.