

ST. MARY'S COUNTY GOVERNMENT  
DEPARTMENT OF  
PUBLIC WORKS & TRANSPORTATION

James M. Gotsch, P.E., Director



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MEMO TO FILE: October 7, 2022

FROM: Gary Whipple, Deputy Director, Facility Capital Projects Manager

**Subject:** Control of Methane Emissions from MSW Landfill Regulation

**Background information:** The primary purpose of the proposed regulations is to repeal existing COMAR 26.11.19.20 – *Control of Landfill Gas Emissions from Municipal Solid Waste Landfills* and adopt new requirements and standards to reduce methane gas emissions from Municipal Solid Waste (MSW) landfills in Maryland under a new chapter COMAR 26.11.42 – *Control of Emissions from Municipal Solid Waste Landfills*.

**Summary / Related information:** The following information is from the Solid Waste Plan, the 2003 St. Andrews Landfill Gas Management Plan, and the 2010 Clements Landfill Gas Remediation Plan

1) St. Andrews Landfill; At an estimated capacity of 900,000 tons, the landfill falls into the category of closed landfills that have received more than 450,000 tons after December 31, 1993. Also, the landfill already has an active gas collection and control system (GCCS) in operation since March 2007, or 15 years.

St. Andrews Landfill is the only landfill permitted in the County to receive MSW. However, the County ceased landfilling operations at the site in June 2001. The County stopped placement in municipal waste cells 1, 2 and 4 in November 1997 and cell 3 in February 1999. The rubble cell 5 ceased operation in June 2001. The County constructed a final cover system for the St. Andrews Landfill, and it includes a gas collection and extraction system over the entire Area B (Cells 1, 2 & 4 – 2001/Cells 3 & 5 – 2003). The active blower flare became operational in March 2007.

2) Clements Landfill; At an estimated capacity of 360,000 calculated by MES, and with May 1989 as the last month the landfill accepted waste under permit, the landfill does NOT fall into the category of closed landfills that have received more than 450,000 tons after December 31, 1993. The County installed 15 passive solar flares that began operation in January 2008. MDE issued the County a permit for an active blower flare in March 2015 with construction completed in March 2016, in operation for 6 years.

3) Surface Methane Monitoring: St. Andrews Landfill, over the 450,000 ton threshold, will require an initial waste-in-place report with a methane generation rate calculation. Annual methane generation rate of 8,548 tons is threshold for requiring a new GCCS. With the existing GCCS, the Landfill may be required to have a design plan review to determine regulatory adherence with the current system.

4) Removal of existing GCCS's; The St. Andrews flare could be removed from service since it is past the 15-year operational period minimum threshold for consideration. If the measured methane generation rate is below 732 tons/year, as measured by three successive tests, and surface measurements do not exceed 200 parts per million volume (ppmv), the equipment could be removed under an approved plan. If removed, confirmatory monitoring of surface methane concentration would be required for 8 calendar quarters.

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5) Solar Panels: The St. Andrews Landfill would be exempt if solar panels are installed with a start date of installation before January 1, 2024 (15 months). The landfill last accepted waste prior to July 17, 2014 and is under the 2,750,000 ton limit as required for consideration.

**Potential Impacts:**

These potential engineering and monitoring costs would be added to existing services with Maryland Environmental Services (MES).

- Design plan review of St. Andrews GCCS to determine regulatory compliance.
- Gas control systems monitored quarterly for leak detection.
- Wellheads monitored monthly.

**Question:**

Besides the incentive to install solar panels, has there been any consideration for incentives to develop a waste recovery facility plan for a network of closed landfills under a cooperative agreement, to reduce the source of methane and produce energy.