

application bulletin

APPLICATION:

- Monitoring oxygen in Landfill Methane Recovery

TAI SOLUTION:

Model 3010PA Percent Oxygen Analyzer, Model 3010TA Trace Oxygen Analyzer, InstaTrans Transmitter

Process Information

Methane gas is generated by the anaerobic decomposition of garbage in sanitary landfills. Typical gas concentrations are 55% CH₄ and 45% CO₂. The methane gas is recovered through vacuum wells sunk into the landfill.

Problem

Oxygen is poisonous to the microbes which metabolize the refuse and generate the methane. If the operators overpull gases through the vacuum, an influx of oxygen will occur.

This may have two serious effects. First, oxygen will kill the microbes, slowing the rate of decomposition and the production of gas. In addition, the presence of oxygen with combustible gases results in a potentially hazardous condition in the methane processing plant.

Solution

TAI's Model 3010PA percent oxygen analyzer with a special range of 0-1% oxygen -- using an "A" class Micro-fuel Cell and configured with high alarms -- has been installed at several sites to accurately monitor low levels of oxygen.

TAI's Model 3010TA trace oxygen analyzer and the InstaTrans oxygen transmitter may also be used in this application using standard ranges and the class A-2 Micro-fuel Cell.