**DHSS Daily Follow-Up Review of Air Monitoring Data from the Bridgeton Landfill Area, June 4-6, 2013**

The Department of Health and Senior Services (DHSS) has reviewed air quality screening data collected by the Department of Natural Resources (DNR) at Bridgeton Landfill from the afternoon of June 4 to the afternoon of June 6, 2013. On April 23, DNR began routine, twice daily surveillance of hydrogen sulfide, benzene, and odor levels around the entire periphery of the landfill. In addition, DNR has provided continuous monitoring of reduced sulfur compounds (reported as hydrogen sulfide), sulfur dioxide, carbon monoxide, total volatile organic compounds (VOCs) and gamma radiation at three fixed locations. DHSS has reviewed both sets of data to identify potential public health concerns for short-term health effects. Generally, samples are collected near the property boundary and dispersion is expected to reduce exposure downwind of the sample locations.

## Odors

Odors were reported by DNR as being strong the afternoon of June 4 and moderate on June 5 at locations southwest of the landfill.

- Winds were variable with no predominant wind direction during this period.
- The DNR contractor detected low to moderate odors south and southwest of the landfill and only low odors at other locations surrounding the landfill using a Nasal Ranger olfactometer.
- DHSS continues to recommend that during periods of objectionable odor, sensitive individuals should stay indoors as much as possible, avoid outdoor exercise, and seek medical advice for any acute symptoms. Symptoms associated with exposure to strong odors include headache, nausea, and fatigue. Symptoms generally associated with strong odors typically disappear once the odors dissipate.

## Hydrogen Sulfide and Other Reduced Sulfur Compounds

Hydrogen sulfide concentrations were well below levels of public health concern.

- The maximum concentration of hydrogen sulfide detected was 25.6 parts per billion (ppb) during routine monitoring. Hydrogen sulfide concentrations were detected by the Jerome meter, which is highly sensitive and specific to hydrogen sulfide.
- AreaRAE monitors periodically detected low concentrations of reduced sulfur compounds at monitoring locations west and south of the landfill.
- For three hours on June 4 at the monitoring location west of the landfill, the average concentration of reduced sulfur compounds exceeded a health-based guideline for acute exposure to hydrogen sulfide. These compounds are not just hydrogen sulfide but primarily another reduced sulfur compound with lower toxicity.
- For five hours on June 5 at the monitoring location west of the landfill, the average concentration of reduced sulfur compounds exceeded a health-based guideline for acute exposure to hydrogen sulfide. These compounds are not just hydrogen sulfide but primarily another reduced sulfur compound with lower toxicity. DNR data verification with the Jerome meter showed only low concentrations of hydrogen sulfide.

## Sulfur Dioxide

Average sulfur dioxide concentrations did not exceed levels of public health concern.

- Sulfur dioxide was detected at the monitoring locations west and south of the landfill. However, average concentrations of sulfur dioxide were below 0.01 parts per million (ppm) and did not exceed health-based guidelines for acute exposure.

## Benzene and Total VOCs

Benzene was not detected in ambient air at any of the surveillance locations around the landfill.

- Previous sampling has shown that while several VOCs are present in the landfill source gas, benzene may be a primary VOC of public health concern.
- Average total VOC concentrations were not at a level that indicates a need for compound-specific sampling.

## Carbon Monoxide

Average carbon monoxide concentrations were well below levels of public health concern.

## Radiation Rates

Gamma radiation rates were well below levels of public health concern.

- Gamma radiation rates continue to be at levels that are at or near natural background levels.