



The Missouri Department of Health and Senior Services (DHSS) and the Agency for Toxic Substances and Disease Registry (ATSDR) have released the final Bridgeton Sanitary Landfill public health consultation, which evaluates the potential public health impacts of breathing chemical and odor emissions from the landfill. The health consultation was written at the request of community members and the St. Louis County Department of Public Health following the start of a subsurface smoldering event (SSE) at the landfill. This fact sheet highlights the findings of the final health consultation. Please see the final health consultation for responses to public comments and questions received during the public comment period.

Final Version 2022 DHSS Public Health Consultation: Key Findings

- **Prior to completion of corrective actions at the landfill in 2014, breathing sulfur-based compounds (including hydrogen sulfide and other reduced sulfur compounds) in the air near the landfill may have aggravated existing respiratory and cardiopulmonary conditions, caused respiratory effects such as chest tightness or difficulty breathing, or increased the risk of respiratory infection. Children, elderly adults, and people with chronic respiratory conditions such as asthma would have been at greater risk.**
- **Prior to completion of corrective actions at the landfill in 2014, odors from the landfill may have caused headache, nausea, or fatigue. Repeated exposure to odors may have increased stress and/or impaired mood.**
- **Fugitive emissions of sulfur-based compounds from the landfill decreased significantly after completion of corrective action at the landfill and are unlikely to harm people's health. Odors may be occasionally objectionable, especially during construction or instances of equipment malfunction at the landfill.**
- **Breathing other (non-sulfur based) chemicals detected in the air is not expected to have harmed people's health.**
- **Estimated cancer risks from living and breathing volatile organic compounds (VOCs) near the landfill are similar to the risks from living in other urban environments in the United States.**

Bridgeton Sanitary Landfill is a solid waste landfill located within the boundaries of West Lake Landfill near St. Louis, Missouri. In December 2010, Republic Services reported evidence of subsurface smoldering in the southern portion of the landfill. As the SSE intensified and the production of leachate significantly increased, odor emissions from the landfill also increased. In 2012, the Missouri Department of Natural Resources (DNR) began receiving increased odor complaints from the community.

From early 2013 through the summer of 2018, DNR conducted air monitoring and air sampling near the landfill perimeter for evaluation of landfill gas and odor emissions. DNR and the United States Environmental Protection Agency (EPA) also conducted air monitoring and sampling to characterize ambient air quality in the Bridgeton area.

DHSS evaluated 5 1/2 years of data (2013– July 2018) collected by DNR and EPA to assess the potential public health impacts of breathing chemicals and odors in air near the landfill.

DHSS did not evaluate radiological data. A separate public health consultation on radiation associated with West Lake Landfill was written by ATSDR in 2015.

Downward Trends:

In 2013-2018, sulfur-based compounds concentrations were measured continuously at three AreaRAE monitoring locations within 1/2 mile from the landfill.

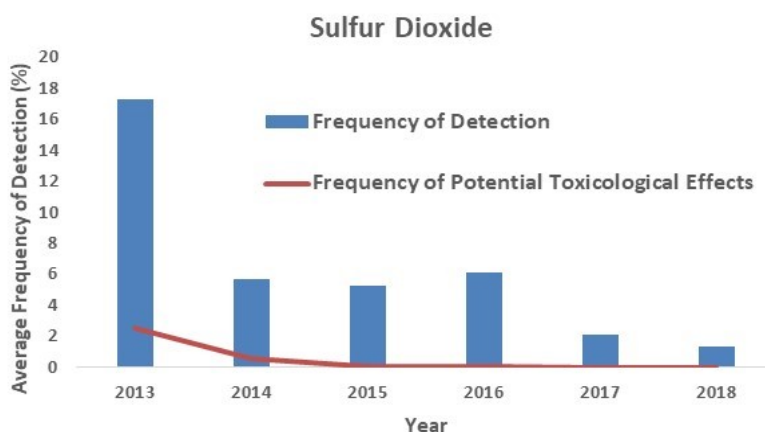
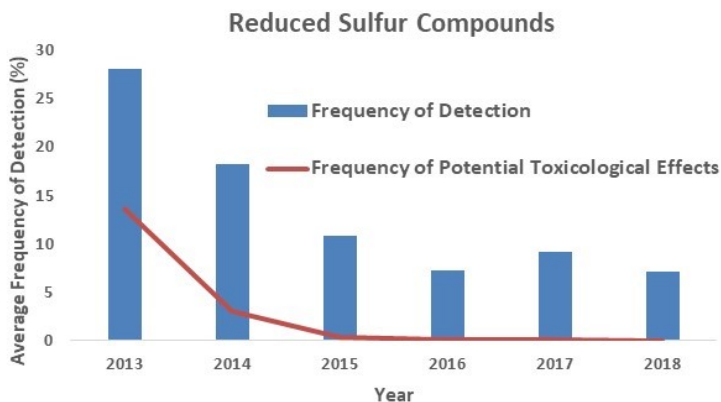
The chart on the top right shows the downward trend in the number of times reduced sulfur compounds were detected in ambient air near the landfill (blue) and the frequency of potential toxicological effects especially in sensitive individuals such as people with asthma (red). From 2013 to 2018, the average annual frequency of detection decreased by 74.6%.

The chart on the bottom right shows the downward trend in the number of times sulfur dioxide was detected in ambient air near the landfill (blue) and the frequency of potential toxicological effects in the general public including sensitive individuals (red). From 2013 to 2018, the average annual frequency of detection decreased by 92.3%.

These downward trends, as well as the decrease in frequency of detection of offensive odors, were statistically significant.

In 2018, reduced sulfur concentrations were well below a concentration shown in a human clinical study to cause adverse respiratory effects in people with asthma. Average sulfur dioxide concentrations at air quality monitoring stations near the landfill did not exceed air quality standards and guidelines.

Annual Frequency of Detection of Sulfur Based Compounds in Ambient Air



DHSS Recommends:

- Odors may continue to occasionally be objectionable, especially during construction or instances of equipment malfunction at the landfill. During periods of objectionable odor, stay indoors as much as possible and avoid outdoor exercise. Children, elderly adults, and people with chronic breathing conditions are especially affected by odors and sulfur-based compounds that can cause those odors.
- Seek immediate medical advice for any acute respiratory symptoms such as difficulty breathing. Offensive odors from any source may cause changes in breathing or trigger an asthma attack.
- Seek medical advice for any persistent symptoms that do not go away when the odors diminish, including symptoms associated with stress.

Next Steps:

- DHSS will review any additional monitoring and sampling data as appropriate.
- DHSS will coordinate with DNR and other agencies to address community health concerns and questions as they arise by providing professional and community health education as requested.