



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 public health impacts of breathing chemical and odor emissions from the landfill. This fact sheet highlights the findings of the final health consultation in regards to odors. 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 about Odors**

- **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.**
- **Malodorous sulfur-based compounds may have aggravated asthma or other chronic respiratory disease.**
- **Repeated exposure to offensive odors may have increased stress and/or impaired mood.**
- **After completion of corrective actions at the landfill, the frequency of detection of offensive odors near the landfill decreased significantly. However, odors may continue to be occasionally offensive, especially during periods of construction, invasive work, or instances of landfill equipment malfunction.**

In December 2010, Republic Services reported evidence of subsurface smoldering in the southern portion of the landfill. As subsurface smoldering 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. An odor is caused by a chemical in the air that is detected by the sense of smell.

Sulfur-based compounds can be smelled at very low levels and were likely responsible for much of the odor that came from the landfill. Other chemicals like volatile organic compounds also likely contributed to odors from the landfill. Sulfur-based compounds and volatile organic compounds were produced by the decomposition of materials in the landfill.

Common Symptoms

Not everyone reacts to offensive odors in the same way. Common physical symptoms that may be triggered include:

- headache,
- nausea, and
- respiratory issues such as chest tightness or difficulty breathing in sensitive individuals (for instance, those with asthma).



Missouri Department of Natural Resources used an AreaRAE® multi-sensor system to test air for various chemicals including sulfur-based compounds.

Symptoms Associated with Odor

Often, people can smell chemicals well before they have reached a level that might cause a toxic effect. Offensive odors can be a nuisance and may be the direct cause of some symptoms even at concentrations below levels that would harm health. Repeated exposures to these odors may add significantly to an individual's stress levels and affect quality of life.

Chronic stress and the negative emotions that are generated from increased stress can affect people's health in a variety of ways. Stress-induced health issues can include increased susceptibility to infection, increased severity of infectious diseases, or increased inflammatory responses that may be associated with common diseases. Indirect effects of stress (such as poor sleep, poor eating habits, less exercise, increased smoking, and alcohol consumption) put people at greater risk of health problems.

Multiple Sources of Odor

Bridgeton Landfill is located in an urban/suburban environment, where people breathe air containing chemical and odor emissions from many potential sources. Other sources of odors in the air may have become more noticeable after emissions from the landfill decreased.

Actions Individuals Can Take to Reduce Exposure to Odors and Protect Health

- **From 2013 to 2018, DNR detections of offensive odors in the vicinity of the landfill decreased by more than 98%. However, 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. This is especially important for sensitive individuals: children, elderly adults, and people with chronic respiratory conditions.**
- **Exercise indoors during periods of objectionable odor.**
- **Seek immediate medical advice for serious respiratory symptoms such as difficulty breathing. Offensive odors from any source may cause changes in breathing or trigger an asthma attack.**
- **Health symptoms associated with offensive odors usually subside once odors go away and do not require medical attention. Seek medical advice for any persistent symptoms.**
- **Take health-protective measures to combat the effects of stress, as much as possible. This includes following recommended nutrition guidelines, not smoking, and getting regular exercise. Individuals at risk of chronic stress are advised to seek advice on developing a comprehensive stress management plan. Be aware that children can manifest stress in different ways depending on their age, previous experiences, and coping behavior.**



Bridgeton Landfill, August 2013
Photo: Missouri Department of Natural Resources