



FACT SHEET

Keegan Landfill, Kearny, NJ

Updated: May 15, 2019

Background

Since approximately December 2018, the Department of Environmental Protection (DEP) has received complaints concerning intermittent hydrogen sulfide odors believed to be emanating from the landfill. The DEP takes these concerns very seriously and, at the start of the complaints, DEP staff mobilized to the area to investigate the complaints along with local partners at the Hudson Regional Health Commission.

Since February, DEP staff have conducted regular inspections and air monitoring at and around the landfill. While DEP's inspectors have detected some odors at and emanating from the landfill, air monitoring has not detected persistent exceedances of the regulatory standard for hydrogen sulfide emissions.

What is hydrogen sulfide?

Hydrogen sulfide, also known as "H₂S," is a colorless gas with the odor of rotten eggs. It is often generated as a by-product of industrial and natural processes, including during the breakdown of waste contained within a landfill. Hydrogen sulfide has a low odor threshold, which means that it can be detected by humans at very low concentrations before it could pose a health risk.

What are the regulatory standards for hydrogen sulfide?

To ensure conditions that remain protective of human health and the environment, the DEP has set a conservative regulatory standard of 30 parts of hydrogen sulfide in one billion parts of air (ppb) averaged over any 30-minute period at or beyond the property line of the landfill. By comparison, the permissible workplace exposure limit as established by the U.S. Occupational Safety and Health Administration (OSHA) is 20,000 ppb for exposures of 15 minutes within any eight-hour period.

What have DEP inspections found at Keegan Landfill?

Upon identifying Keegan as a source of odors in January, DEP immediately notified New Jersey Sports and Exposition Authority (NJSEA) of its compliance obligations and commenced regular odor inspections and hydrogen sulfide monitoring at and around the landfill. Hydrogen sulfide exceedances have since been detected on two occasions at levels slightly above the 30-minute regulatory standard of 30 ppb, on March 1 (34.33 ppb) and March 20 (34.01 ppb).

Although there have not been persistent exceedances of the regulatory standard for hydrogen sulfide emissions at Keegan, odors from the landfill are perceptible at lower concentrations and variable depending on atmospheric conditions.

What is being done to address odors at Keegan Landfill?

NJSEA has worked cooperatively with DEP investigators and entered a voluntary Administrative Consent Order (ACO) with DEP on March 22, 2019, the immediate goal of which was for NJSEA to design and install a continuous monitoring system at the landfill. The monitoring system was installed and

functional as of May 8, 2019. This system of eight monitors functions continuously, 24 hours a day, to provide the data necessary to assist DEP in ensuring that conditions at Keegan are protective of human health and the environment—the DEP’s top priority.

NJSEA has advised the DEP that it will commit to design and install a gas collection and control system intended to mitigate odor emissions from the Keegan Landfill. DEP will conduct regulatory oversight of this effort by reviewing the gas collection system design for compliance with environmental requirements and issuing permits or approvals where those requirements are met. In the meantime, if monitoring indicates verifiable odor violations or exceedances of the 30-minute, 30 ppb standard for hydrogen sulfide emissions, DEP will take appropriate enforcement action.

How could hydrogen sulfide affect my health?

Exposure to low concentrations of hydrogen sulfide within the range of 30 ppb over 30 minutes has the potential to cause eye, nose, or throat irritation, headaches and nausea. It may also cause difficulty breathing for some individuals with respiratory problems, such as asthmatics. There are some people who may be more sensitive to hydrogen sulfide and can smell it at even lower levels (as low as 0.5 ppb) due to the odor itself.

More serious potential health effects could be associated with concentrations above the OSHA standard of 20,000 ppb for exposures of 15 minutes within any eight-hour period. As noted above, hydrogen sulfide levels at Keegan Landfill slightly exceeded DEP’s more conservative 30-minute regulatory standard of 30 ppb on two occasions: March 1 (34.33 ppb) and March 20 (34.01 ppb). These exceedances are considerably below the 20,000 ppb OSHA standard associated with more serious potential health effects.

More information on how hydrogen sulfide odors from landfills may affect your health can be found on New Jersey Department of Health’s (NJDOH) website:

https://www.nj.gov/health/ceohs/documents/Hydrogen_sulfide_fact_sheet.pdf

What should I do if I experience hydrogen sulfide odors in my neighborhood?

The DEP encourages residents to report hydrogen sulfide odors to the DEP Hotline: **1-877-WARN-DEP**

Residents may also report incidents using DEP’s new mobile application WARN NJDEP.

