

Keegan Landfill Q&A

1) What is causing the odors at Keegan Landfill and what is being done to resolve the issue?

- The “rotten egg” odors at the Keegan Landfill are caused by the emission of Hydrogen Sulfide (“H₂S”) gas. H₂S is generated when bacteria feed on certain types of sulfate-containing construction waste, such as gypsum wallboard, under anaerobic (lack of oxygen) conditions, meaning that it comes from waste that is already buried rather than newly deposited material.
- Under certain conditions, and particularly in light of last year’s heavy volume of rainfall, the generation of H₂S can occur at higher than normal levels resulting in the odor issues that we are experiencing today. In 2018, the amount of rainfall (59.47 inches) exceeded even that of 2012 (36.35 inches), the year in which Superstorm Sandy occurred.
- On March 22, 2019, the New Jersey Department of Environmental Protection (“DEP”) and the NJSEA entered into an Administrative Consent Order (“ACO”) to resolve the issue of H₂S emissions emanating from the Keegan Landfill that exceed DEP air pollution standards and regulations.
- The ACO makes clear what is expected of the NJSEA and the NJSEA is committed to meeting or exceeding the standards and deadlines it establishes. Under the ACO, the NJSEA will design, construct, and operate a system to collect and destroy H₂S emissions from the Landfill, which is considered the most effective method for preventing associated odors from migrating off-site and impacting the community.
- Per the ACO, the NJSEA on April 1, 2019, submitted a Monitoring Action Plan to the DEP. The plan includes the installation and operation of a continuous hydrogen sulfide ambient air monitoring system to run at the Keegan Landfill 24 hours per day, 7 days a week.
- Immediate measures that the NJSEA has undertaken to control H₂S emissions and related odors include:
 - Minimize or eliminate the acceptance of C&D waste which contains gypsum wallboard, especially gypsum fines.
 - Evaluate the use of additional or alternative cover material and/or cover products.
 - Properly compact daily cover material.
 - Minimize the surface area of the working face of the landfill.

- The NJSEA is subject to fines should it not meet the compliance schedule established by the ACO.
- The ACO is the result of a March 1, 2019, DEP inspection at the Keegan Landfill that measured readings of H₂S exceeding 30 parts per billion averaged over a period of 31 minutes. Under DEP regulations, H₂S emissions greater than 30 parts per billion averaged over any 30-minute period at or beyond the property line of a sanitary landfill is an air pollution violation.

2) **Why does the NJSEA operate the Keegan Landfill?**

- The NJSEA, which was previously known as the New Jersey Meadowlands Commission (“NJMC”), and before that the Hackensack Meadowlands Development Commission (“HMDC”) (hereinafter, collectively, referred to as the “Agency” or “NJSEA”), is charged with the administration of the NJSEA District Solid Waste Management Plan, which covers the Meadowlands District including the portion of Kearny containing the Keegan Landfill. Furthermore, the Agency is authorized by statute to provide solid waste disposal facilities in the District. These statutory mandates remain part of NJSEA’s responsibilities today. It is why NJSEA is operating the Keegan Landfill and why the Agency has been involved in operating and closing several other landfills including two others with similar histories in Kearny, the 1A and 1C landfills.
- The revenue generated by the operation of Keegan Landfill funds the ongoing post-closure costs of other NJSEA-owned landfills including those located in Kearny.
- In the 1950’s and 1960’s, when the landfill property was under municipal control, a private operator was permitted to dump waste directly into the Kearny Marsh and both hazardous and non-hazardous waste was accepted at the Landfill.
- The operator was not required by the town to provide any environmental controls at the landfill, eventually allowing 65 million gallons of leachate every year to enter the Kearny Marsh. The Agency shut the landfill in 1972 to stop the unabated dumping.
- In 1987, due to frequent underground fires at the Keegan Landfill, the NJDEP directed Kearny to cover the Keegan Landfill with 2 feet of soil to stop the fires and help mitigate the leachate generation. Despite the order, Kearny did not initiate any controls and the Kearny Marsh continued to degrade.
- Due to the abhorrent conditions at Keegan Landfill and the surrounding Kearny Marsh, the Agency originally proposed installing environmental controls in the 1990’s but the Town of Kearny, which owned the landfill, asked for more time to see if a lessee could develop the property. However, no viable plan ever materialized.
- In 2005 the Town of Kearny entered into a lease agreement with the Agency allowing the Agency to begin work to remediate, operate, and ultimately close the Landfill. Since 2005, under this lease, Kearny received over \$14 Million in payments,

including lease payments and host community benefits tied to the waste tonnage brought to the Keegan Landfill. Additionally, Kearny received approximately \$400,000 worth of free dumping at Keegan since the landfill reopened in 2009.

- The Authority spent approximately \$33 million to complete the remediation, including, among other measures, construction of a leachate collection system and containment wall around the entire landfill; acquisition of adjacent land including the Kearny Marsh; and construction of two sewage pump stations to pump leachate from the Landfill to the Passaic Valley Sewerage Commission.

3. What happened in the video from July 3, 2018 in which a truck is shown dumping liquid waste at Keegan?

- On Aug. 30, 2018, the NJDEP issued a Notice of Violation to the NJSEA for accepting liquid sewage sludge, a non-permitted material, at the Keegan Landfill on July 3, 2018. NJDEP inspectors observed and videotaped what appeared to be liquid waste from a municipal utilities authority being dumped at the Keegan Landfill during a compliance investigation.
- The Keegan Landfill is permitted to accept waste types identified as ID 13, 13C, and 27. Materials accepted at Keegan as ID 27 include grit and screenings from local utility authorities, but not liquid sewage sludge.
- The load in question was accepted because both the Certification Letter from the local utilities authority and the Origin and Destination Form stated that the load was classified as ID 27 and contained grit and screenings but not sewage sludge.
- Unfortunately, in addition to grit and screenings, the load in question contained the wash down from the inside of a plant under construction and therefore included significantly more liquid than a standard load of grit and screenings.
- This load should not have been delivered to the Keegan Landfill. The NJSEA and the utilities authority in question have committed to ensuring that this mistake is not made again.
- On Sept. 26, 2018, the DEP found the issue to be satisfied.
- The NJSEA is in compliance with DEP standards regarding the types of materials accepted at the Keegan Landfill and will continue its commitment to stay in compliance moving forward.
- The load from the utilities authority is not the cause of the hydrogen sulfide odors at the landfill.

4. Did the NJSEA operate a leachate venting system without a permit? Is this why there are odors?

- In 2008, as part of its remediation of the Keegan Landfill, the NJSEA installed a series of vents on top of the leachate collection system to allow for pressure equalization within the system. Installation of the vents did not require a permit. The 1/8” diameter holes in the pipes in this system have not caused or contributed to the off-site odor issue at Keegan.
- As a result of a Jan. 22, 2019, compliance inspection, the DEP issued a Notice of Violation dated Jan. 28, 2019, to the NJSEA for operating a leachate venting system at the Keegan Landfill without a permit.
- While the NJSEA did not agree with the DEP’s finding, it agreed to cap and seal the pipes in question to eliminate the issue and resolve the violation. These pipes were capped in February.
- On March 12, 2019, the DEP found the NJSEA to be in compliance and the issue resolved.

5. How does NJSEA use revenue from the Keegan Landfill?

- The revenues collected from the operation of the Keegan Landfill are used in part to fund Landfill operating expenses; post-closure costs for previously closed landfills within the Meadowlands District, including the 1A and 1C landfills in Kearny; and certain NJSEA operating expenses. Remaining funds are used to partially fund programs and activities that benefit Kearny residents and all of the residents of the District. These include
 - Maintaining and improving parks and natural areas, including the preservation and restoration of the 300-acre Kearny Marsh and other wetland sites that the NJSEA purchased and preserved over the decades, including sites located in Kearny and purchased from the Town.
 - Supporting the nationally-recognized NJSEA Meadowlands Environment Center (“MEC”) environmental and scientific education programs for Grades K-12 through a partnership with Ramapo College of New Jersey.
 - The MEC’s extensive offerings include programs in environmental science, technology and engineering; Gifted and Talented Convocations; and the national model MarshAccess program for people of all ages living with disabilities. Classes cover a wide array of scientific disciplines including ecology, chemistry, biology, physics, natural history and astronomy.
 - The MEC has had a longstanding partnership with Kearny’s Gifted and Talented program, having the privilege of educating approximately 180 students each year in advanced convocations.
 - In addition, classes from the Franklin, Garfield, Lincoln, and Schuyler schools have participated in educational programs.

- Hosting free family-oriented events for the public including the yearly Butterfly Day and Birding Festival, and guided nature walks throughout the Meadowlands, through a partnership with the Bergen County Audubon Society

6. Why not just stop operating the Keegan Landfill?

- Ceasing or suspending landfill operations will not solve the odor problem nor will it result in quicker implementation of the planned remedial measures.
- Revenue generated from the operation of the Landfill is used for public purposes including funding closure and post-closure expenses at Keegan and other NJSEA landfills.
- The NJSEA has a statutory obligation to perform solid waste management in the District. By fulfilling its mandate of providing for the sanitary disposal of solid waste, the Authority has been able to protect the delicate environmental balance within the Meadowlands District. This includes rehabilitating the Kearny Marsh from a polluted waterway to a wetland habitat where wildlife thrives.
- The Keegan Landfill is part of the Hackensack Meadowlands Solid Waste Management District. Solid waste management districts are authorized by the New Jersey Solid Waste Management Act and are part of a state-wide process to ensure the environmentally sound management of New Jersey's solid waste. The Keegan landfill plays an important part in this coordinated approach to solid waste management in the District and the State.

7. Are there trucks entering the Keegan Landfill off-hours?

- The operating hours of the Keegan Landfill are 6 a.m. to 4 p.m. weekdays, 6 a.m. to 1:30 p.m. on Saturday
- There is no dumping at the site before or after operating hours.
- The gate opens at 5 a.m. so that employees may enter the site.
- Haulers generally begin queueing around 5:30 a.m. They are not permitted to dump until 6 a.m.; however the early queueing at the site prevents trucks from queueing on Bergen Avenue and affecting traffic.
- There are numerous video cameras at the entrance to the landfill so that we can be assured that no one is entering the site without permission.