

**Odor Task Force
May 11, 2016
11200 Broadway, Suite 1390**

Agenda

- I. Call to Order**
- II. Introductions**
- III. Updates**
 - A. Recent Trainings**
 - B. SCR Town Hall Meeting of 05/03/16**
 - C. Opt-In Web Page**
 - D. Frequently Asked Questions**
 - E. City Testing**
 - F. TCEQ Testing**
- IV. Open Discussion**
- V. Next Meeting Date**
- VI. Adjourn**

Minutes Odor Task Force
April 27, 2016

The Odor Task Force held a regular meeting at 6:00 PM, in the City of Pearland, Convention and Visitors Bureau Office, located at 11200 Broadway, Suite 1390 in Pearland, Texas.

1. Call to Order: The meeting was called to order at 6:00 PM.
2. Roll Call: The following members were in attendance at the meeting:

Sparkle Anderson
Jon R. Branson
Trent Epperson
Nina Gutierrez-Garcia
Roland Garcia
Laurie Garcia
Kevin McCloud
Maria Shaw
Eric Wilson

3. PURPOSE OF THE TASK FORCE:

The purpose of the Task Force is for the City of Pearland and the Texas Commission on Environmental Quality (TCEQ) to create a vehicle to communicate with residents of what the City of Pearland and TCEQ are doing in regards to the “Odor Issue” that is occurring on the west side of Pearland.

4. CITY’S COMMUNICATION PLAN:

- A. Opt-In Web Page – The City of Pearland has created an Opt-In-Web Page where residents can register to find out information regarding the odor issue on the west side of Pearland.
- B. Frequently Asked Questions – On the Opt-In-Web Page, the City is in the process of developing a FAQ section where residents can find factual information about a variety of issues related to the odor issue.
- C. Bi-Weekly Meetings – At this time, the Task Force will be meeting every two weeks. It is anticipated the Task Force will continue to meet on a regular basis until the odor issue is resolved.

5. OPEN DISCUSSION:

The Task Force discussed inviting other individuals to the Task Force. They included Travis May, Kevin McGuire and a possible invitation to the General Manager of Blue Ridge Landfill. The group had no objections to Travis and Kevin however, it was discussed that Blue Ridge Landfill would only be invited at meetings where specific information is requested from them.

The Task Force also discussed setting up a training for area residents whereby individuals learn how to differentiate between and describe different categories of smells in order to help identify the odor problem.

6. NEXT MEETING:

The next regular meeting will take place in two weeks on May 11, 2016, at 6:00 PM at the Pearland Convention and Visitors Bureau Conference Room.

7. ADJOURNMENT:

The meeting was adjourned at 7:21 PM.



City of Pearland
3523 Liberty Drive
Pearland, Texas 77581 – 5416
Phone: 281.652.1900
pearlandtx.gov

Odor FAQs

1. Who do I contact with odor complaints?

Direct all calls concerning odor to the Texas Commission on Environmental Quality (TCEQ) and the City of Pearland. Please use the following numbers, as other Emergency numbers on TCEQ's website may not reach the department needed to investigate your complaint.

State: *TCEQ (Texas Commission on Environmental Quality)*

- Air Section (unknown, chemical, or mixed odors/visible ~~odors~~ emissions/other air issues)
 - o 713.767.3714
- General information regarding environmental complaints:
 - o <https://tceq.texas.gov/complaints/index.html>

City: City of Pearland

- Public Works – (24/7 – City is responding to requests and making customer contact within 90 minutes; City staff will drive the area and document boundaries of odor event.)
 - o 281.652.1900
- Resources for residents regarding odor investigations
 - o pearlandtx.gov/scairquality

Local Business:

- *Blue Ridge Landfill: (Matt Montagna)*
 - o 281.668.9739

2. What information do I need to report?

Report the following information:

- Name and contact number
- Address or hundred block number of location
- Date/time of odor(s)
- Duration of odor(s); is the odor on-going, past, or intermittent
- Describe to best knowledge type of odor
 - o **Common adjectives:** sweet, sour, fishy, natural gas, rotten-eggs/boiled eggs, burnt, chlorinated (bleach/swimming pool), garlic/onion, rubbery, fruity, floral, earthy (dirt), gasoline/fuel, crude oil, hot plastic, moth balls, medicinal, tar-like, straw/hay-like, etc.)
- Intensity of the odor, scale of 1 – 5, with 5 strongest
- Odor indoors or outdoors, or both

3. Why can't the TCEQ source of odors be determined already; why is TCEQ taking so long to resolve this?

TCEQ has been investigating the source and nature of the odors since the complaints began in August 2015. They have dispatched numerous teams to investigate the odors at all hours of the day and night and there are multiple investigations ongoing at the present time. TCEQ has an extensive investigators are trained to use an odor evaluation procedure using a called FIDO (Frequency, Intensity, Duration, Offensiveness) Chart (see next question) to determine if an odor can be classified as constitutes a "nuisance" as defined in the TCEQ rules. Title 30 of the Texas Administrative Code, Chapter Section 101.4, which states defines a nuisance as "a discharge from any source whatsoever of one or more air contaminants or combinations thereof, in such concentration and of such duration as are or may tend to be injurious to or to adversely affect human health or welfare, animal life, vegetation, or property, or as to interfere with the normal use and enjoyment of animal life, vegetation, or property." Unless a nuisance condition can be confirmed and the source identified, TCEQ cannot issue a violation for creating a nuisance.

TCEQ is routinely out, as frequently as daily, investigating odors, from early morning to late evening. Unless an odor can be determined as a nuisance, TCEQ cannot bring any enforceable action against an entity. Ideally, TCEQ investigators would be at the complainant's location at the time of the odor is occurring, in order to experience the same conditions that generated the complaint. Multiple trips are usually conducted during an investigator's survey of an odor. As this is often not practical, the TCEQ takes measures to ensure that investigators experience the same conditions as the complainants. For example, weather forecasts from TCEQ meteorologists may be used to schedule investigations during similar weather conditions. When an odor is detected, TCEQ investigators follow the FIDO process to determine whether a nuisance condition can be confirmed at the time of the investigation. If the same odor described in a complaint is detected by the investigators under similar weather conditions, and a nuisance condition is confirmed, then the investigators can issue a nuisance violation if a source can be identified. This is why it is so important to be as descriptive as possible when filing complaints.

During an investigation, an odor is odors are documented on a map to determine the extent of an odor plume. The survey route, the time the investigator was at each location, and the odor observations at each location is documented are recorded. Meteorological data is obtained, such as wind direction, and any change in wind direction, temperature, precipitation, and humidity. Any health effects, such as nausea, detected experienced by the investigator are also noted.

TCEQ has been using meteorological data, on-site investigations, compliance evaluations, and odor descriptions to identify possible sources. However, this identification must be supported by evidence in order to warrant issuance of a violation. If a source is identified, an attempt is made to locate the specific cause of odor (a specific compound, process, or reason for plant upset).

Upon completion of the field portion of the investigation, the information collected is reviewed to determine whether a nuisance condition is was confirmed, and whether evidence in the case will constitutes a nuisance support issuance of a violation.

4. What is TCEQ's FIDO Chart Process?

~~The purpose of the all odor investigations is to determine the source of the odors and to work with that source to stop or lessen the generation of any nuisance odors.~~

The FIDO (Frequency, Intensity, Duration, and Offensiveness) Chart process is a method used to provide consistent, objective nuisance determinations and assist in description of odors.

- Frequency is the number of times that an odor has been complained about and documented to have occurred by the investigator.
 - o Daily: odor documented during investigator's survey at least 3 consecutive times in a 14-day rolling period at the complainant's site;
 - o Weekly: odor documented during an investigator's odor survey at least 3 times at the complainant's site or equal distance in any 30-day period;
 - o Monthly: odor documented during an investigator's odor survey at least 2 times at the complainant's site or equal distance in any 60-day period;
 - o Quarterly: odor documented during an investigator's odor survey at least 2 times at the complainant's site or equal distance in any 90-day period
 - o Single occurrence: odor documented during an investigator's odor survey at the complainant's site or equal distance.
- Duration is the length of time an odor has been complained about and confirmed by the investigator to have occurred. ~~(Investigators have stayed on site for a minimum of least an hour when monitoring odors detected.)~~ This involves completing an odor log and noting the intensity of the odor for every minute during the evaluation. This can take from 15 minutes to four hours, with intensity being assessed each minute during the survey.
- Intensity measures the perceived concentration and is documented from very strong odors to very light odors. TCEQ investigators are trained to assess the intensity of odors.
- Offensiveness is the character of the odor which can be distinguished. Examples include:
 - o Highly offensive – sewage sludge, rancid grease, landfill gas, leachate, mercaptans
 - o Offensive – landfill garbage, unprocessed wastewater, waste burning
 - o Unpleasant – gasoline/diesel fuel, combustion exhaust, burned food, ammonia, chlorine
 - o Not unpleasant – fresh cut grass/hay, normal food preparation, perfume, ketones, esters, alcohols

5. What does TCEQ analyze when taking air samples?

TCEQ has taken grab and composite samples for air analyses. A grab sample is a sample taken at a single occurrence over a 15-30 second time frame. A composite sample is multiple samples taken for 15-30 seconds over a 30 minute to 1 hour time frame. The samples collected in Summa canisters are analyzed for 65 volatile organic compounds (VOCs). VOCs are known to have a detrimental health affect, and have thresholds which TCEQ will consider toxic/hazardous. Measurement of VOCs is parts per billion (ppb).

6. Why can't a 24-7 air monitoring system be put in place?

The TCEQ is working to identify appropriate analytical resources to address the odor complaints. Analysis of air samples in mobile monitoring stations is one tool that may be used to identify the source of unknown odors. TCEQ routinely uses this type of monitor to assess air quality throughout the region as required by EPA, and opposes installing a 24-7 monitoring system due to the reasons evaluating its use in this application. if a contaminant is detected,

~~there is no means to pinpoint it to a source. This is especially the case if an entity is operating illegally. This will only determine what is in the air during the time frame monitored. And the goal of the odor investigations is to determine the source for enforcement and prosecuting if necessary. Because weather patterns are so complex, especially at the surface, it can be difficult to identify a source using a mobile monitoring station. For example, if a contaminant is detected, it is difficult to determine whether the chemical came from a stationary source or from a passing vehicle.~~

7. What is the gas that comes from the landfill?

The gas that comes from the landfill is methane and carbon dioxide, and a small amount of hydrogen sulfide, which is created by the decomposition of waste. Responsible landfill management practices include robust gas collection and control systems.

At Blue Ridge, the landfill gas is collected from the subsurface in a series of more than 150 gas wells. The landfill gas is then routed through a system of vacuums and pipes to be used as alternative fuel or is transferred to a flare station, where it is safely destroyed.

8. What is leachate?

Leachate is generated when storm water percolates through the landfill. This leachate is captured by a series of tubes placed under the landfill prior to accepting waste. Leachate is maintained in tanks until discharged to a sewage treatment plant.

9. Is the landfill contaminating the groundwater?

No. The landfill applies a low permeable liner that hinders the migration of leachate into the underlying aquifers. Blue Ridge Landfill has also installed 52 groundwater monitoring sites around the entire landfill to monitor the quality of groundwater and ensure no leachate has penetrated the liner. The groundwater monitoring wells are analyzed routinely and results submitted to TCEQ. The reports are public record and can be obtained by contacting TCEQ's solid waste division at 713.767.3641.

10. How thick is the soil layer applied daily, and of what does it consist?

The Blue Ridge landfill team applies a 6-inch layer of clean topsoil or clay to the active working face each day (the area where waste is deposited daily), which helps control odors after hours.

11. What causes landfill odors; and are these odors harmful?

Decomposition of organic material creates gases that are emitted from the waste. These emissions may include such compounds as putrescine, cadaverine, and sulfur compounds such as hydrogen sulfide, dimethyl sulfide, and mercaptans. These sulfur compounds produce naturally occurring gases that give have a very strong rotten egg smell, or natural gas smell, even at very low concentrations. Hydrogen sulfide and other sulfur-based chemicals can be smelled at much lower concentrations than concentration at which adverse health effects may occur. Odorous levels are not necessarily harmful levels.

Ammonia is another odorous gas that is produced by the decomposition of organic matter in a landfill. Ammonia is common in the environment from the natural breakdown of manure and

dead plants and animals. People are less sensitive to the odor of ammonia than that of sulfur-based chemical odors.

12. What does the landfill do to control odors?

Blue Ridge Landfill has a sophisticated odor control system that includes a misting system to neutralize any potential odor before it might emanate offsite, effective waste compaction and soil cover processes, and a robust landfill gas management system. The landfill team also conducts offsite odor inspections. Blue Ridge Landfill is deeply committed to being a good neighbor and doing its part to control odor.

13. What is the function of the wastewater treatment plant?

A wastewater treatment plant processes all wastewater for a community. Wastewater is generated by everyone when we use sinks, showers, and flush toilets; it is collected through an underground system of pipes that flow by gravity to the treatment plant. Once the raw wastewater reaches the treatment plant it goes through a process of microbial breakdown to clean the water and release into the streams and creeks. Each wastewater treatment plant is regulated by TCEQ and has to meet regulatory limits prior to discharging to the open waterways to ensure protection of public and aquatic health.

14. What does the wastewater treatment plant do to control odors?

The wastewater treatment plant has an odor misting neutralizers that surround the basin where the raw water enters the treatment plant process. This is the point before treatment, at which, ~~if any odors~~, if any were present, would arise. The odor neutralizers are set to spray 24/7. In addition to the odor neutralizer, weather protected plywood has been placed over the metal grates at this basin. In addition, routine cleaning of the on-site lift station has been scheduled for more frequency to mitigate odors before they occur.

15. Could my drinking water be bad, too?

The City of Pearland monitors the drinking water quality regularly. An annual report is provided called the Consumer Confidence Report (CCR), which is published annually on the City of Pearland's website, and mailed to those who wish to receive a hard copy. Potable water is also regulated by TCEQ. The CCR list all contaminants that are in the drinking water, the potential sources of the contaminant, the maximum limit allowed in drinking water, and the possible health effects.

16. What is mercaptan?

Mercaptan is a ~~harmless and non-toxic but~~ pungent gas, similar to rotten eggs. It is added to natural gas, which is odorless and colorless, to make it easier to detect a gas leak before it can create a hazardous situation. It can be detected ~~in~~ at extremely small quantities ~~low concentrations~~, less than one part per million, which makes it an ideal additive for odorless gases. Without mercaptan, gas leaks from your stove or water heater ~~would be~~ might go undetected. Mercaptan contains sulfur, that's what makes it smell. It is less corrosive and less toxic than similar sulfur compounds found in rotten eggs, onions, garlic, and skunk.

17. What are environmental odors and where do they come from?

Substances in the environment can produce odors, which can be ~~smelt~~smelled when outdoors and sometimes indoors. Odors are the result of airborne chemicals that trigger a reaction in the olfactory system. These chemicals may come from decomposition (rotting) of an organic substance, such as food waste or mulch, or they may come from an industrial chemical process. Some people may smell and even experience reactions to certain chemicals in the air before they are at harmful levels at levels lower than those that pose health risks. These ~~When odors are offensive enough, strong enough, and last long enough, they can become a nuisance, causing temporary symptoms such as headaches and nausea.~~

18. How can environmental odors affect me?

Everyone reacts to odors differently; some are more sensitive to environmental odors than others. Odors can trigger temporary physical reactions such as headaches and nausea. These kinds of reactions to odors do not necessarily indicate a long-term health risk. These People that are more sensitive to odors may have symptoms a reaction to even at low concentrations of the odor in the air. Many experience no physical reaction at all. In general, as concentration levels increase, more people will have symptoms. Symptoms vary based on sensitivity to the odor, type of substance, its concentration in air, how often exposure occurs (frequency), how long exposure lasts (duration), your age, and your state of health. The most common symptoms are:

- Headaches
- Nausea
- Nasal congestion
- Eye, nose, and throat irritation
- Hoarseness, sore throat
- Cough
- Chest tightness
- Shortness of breath
- Wheezing
- Heart palpitations
- ~~Nausea~~
- Drowsiness
- ~~Mental depression~~

19. Are all environmental odors toxic?

No. Toxicity is the degree to which a substance (a toxin) can harm humans or animals. ~~The following factors affect toxicity~~ The tendency of a substance to create an odor is unrelated to its potential health effects. For example, even though garlic has a strong smell, it is generally accepted that it is safe to breathe garlic fumes.

The TCEQ Toxicology Division has published a paper on health impacts from landfill emissions. It can be downloaded here: {insert link when received}

The Centers for Disease Control published a primer on landfill gas (available at <http://www.atsdr.cdc.gov/HAC/landfill/html/intro.html>) in 2001 that contains useful information about emissions from landfills.:

~~The amount of substance (concentration) in the air you breath, how often (frequency) breathe air, and how much time (duration) spent breathing the air.~~

~~If a substance level in air is high, happens often, and lasts a long time, the odor can become toxic and cause adverse health effects.~~

~~If these conditions do not exist, odors are generally not toxic.~~

20. Are environmental odors regulated?

Texas state law prohibits the creation of a nuisance, which includes offensive odors. The TCEQ enforces this law through its rule, 30 TAC 101.4 (discussed above).

This rule applies even to facilities that are operating in compliance with all applicable rules and environmental permits.

~~In general, no. The U.S. Environmental Protection Agency (EPA) regulates pollutants in outdoor air through the National Ambient Air Quality Standards (NAAQS). The NAAQS regulates:~~

- ~~○ Carbon monoxide (CO)~~
- ~~○ Lead (Pb)~~
- ~~○ Nitrogen dioxide (NO₂)~~
- ~~○ Ozone (O₃)~~
- ~~○ Particulate Matter (PM) and~~
- ~~○ Sulfur dioxide (SO₂)~~

~~Sulfur dioxide is the only regulated air pollutant with a strong, pungent odor.~~

~~Under the Clean Air Act, EPA must control 187 hazardous air pollutants, also known as toxic air pollutants. EPA controls these chemicals for their toxicity, **not** for their odor. EPA requires them to be controlled at the source that generates the emissions.~~