

## BACKGROUND

The Erie Coke facility is located along the shores of Lake Erie in Erie, Pennsylvania. The facility is approximately 183 acres in size. This facility was used for steel manufacturing since the 1800s and as a coke production plant from 1925 until its closure in December 2019. The facility had a long history of environmental violations for releasing hazardous air pollutants. Based on community concerns and as a part of the regulatory process, in July 2019, the Pennsylvania Department of Environmental Protection (PADEP) started a year-long air monitoring program to measure levels of benzene, toluene, ethylbenzene, and xylene (BTEX). PADEP monitored BTEX from 13 locations surrounding the facility, including 4 locations within the community.

## WHAT DID THE PENNSYLVANIA DEPARTMENT OF HEALTH (PADOH) DO?

Using standard public health assessment methods, the PADOH evaluated the available BTEX air data for possible exposure levels and any health effects expected from exposure in the nearby community and prepared a report.

## WHAT WERE THE MAIN FINDINGS?

PADOH's health evaluation included assessing health effects in two categories: Non-cancer health effects and excess cancer risk.

### Non-Cancer Health Effects:

- Non-cancer health effects refers to health effects that are not related to cancer. These effects can be due to acute (less than 15 days), intermediate (15-365 days), or chronic (more than a year) exposure duration and can range from mild to severe. Examples of non-cancer health effects from exposure to high levels of BTEX in air can include anemia, immune system effects (example: low lymphocyte counts which can put you at a higher risk of infections), and nervous system effects (examples: headache, dizziness, impaired hearing and vision).
- Levels of BTEX in air samples from this study **did not exceed** non-cancer health-based screenings. Therefore, non-cancer health effects are not expected to occur from acute, intermediate, or chronic exposure to the detected levels of BTEX chemicals.

### Excess Cancer Risk:

- Excess cancer risk is the probability of developing cancer due to continuous exposure to a chemical in air over a lifetime.
- Chronic exposure to the detected benzene levels may have posed a cancer risk to the nearby community. However, these levels are similar to benzene levels detected in most urban or suburban outdoor air in the United States. Based on the 4 community monitors, the estimated excess cancer risks over a lifetime ranged from 1 in a million to 3 in a million for children and adults (1-3 excess cancers among a million exposed individuals).

In addition, because the facility permanently closed in 2019, current and future exposures to facility-related contaminants in air are not likely to harm people's health. However, PADOH is unable to determine whether past exposures to facility-related contaminants may have harmed people's health.

## LIMITATIONS

There are some limitations, or weaknesses, that impact the finding of our overall health assessment. These limitations may include data gaps where there are time periods without any data available, chemicals that were not analyzed, or locations without data. PADOH conclusions are based on the limited data available.

- Air monitoring (July 2019 - December 2019) used in this assessment took place before the facility closed. During this time, the facility was only operating at 50 – 75% capacity and these readings may not represent the facility at full operation. There is no air data available prior to July 2019 to evaluate releases or exposures prior to this date.
- Coke oven releases are a complex mixture of chemicals, containing BTEX, coal tar, creosote, polycyclic aromatic hydrocarbons, and metals. Only BTEX air data was available for this site, but other components of coke oven releases can contribute to potential adverse health effects. These other components were not part of our assessment.
- Decades of coke production may have contaminated nearby water and soil in the community surrounding the facility. At the time of this report's preparation, data from water and soil was not available to evaluate.

## RECOMMENDATIONS

With respect to current site updates and PADOH's health assessment, PADOH recommends that:

1. PADEP restrict community access to the facility to prevent exposures to potentially contaminated soil.
2. Community members, as a precaution, adhere to best gardening practices that may help reduce potential exposure to chemicals in soil surrounding the facility. Some best practices include using raised garden beds and pots filled with clean soil, mixing additional compost into in-ground gardens, and washing produce, peeling root crops, and removing outer leaves of leafy vegetables before eating.
3. Residents monitor the air quality conditions for their location by visiting [www.airnow.gov](http://www.airnow.gov) or by using the [AirNow mobile app](#). These resources will provide an air quality index (AQI) for a location, which uses color-coded categories to provide [recommendations](#) for outdoor and indoor activity for the general population and sensitive populations.
4. People living in this area consult their healthcare provider if they have any health issues.

## NEXT STEPS

Based on PADEP's July 2023 Site Investigation Report, PADEP is collecting additional environmental samples as part of facility clean-up activities. PADEP is developing a work plan for those activities, which is tentatively scheduled to begin in the fall of 2023.

Upon request, PADOH will provide technical assistance to stakeholders, the public, and partner agencies to address community health concerns and will review new environmental data as it becomes available, if representative of community exposures.

**If you have any questions, please contact us:**

**Phone:** 717.787.3350

**Fax:** 717.772.6975

**Email:** [env.health.concern@pa.gov](mailto:env.health.concern@pa.gov)

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