



To: Board of Education

**From: Dr. Lori Casey, Associate Superintendent of Educational Services
Mr. Chris Bobek, Associate Superintendent of Business Services
Mrs. Brooke Hagstrom, Communications Manager**

Date: Thursday, Oct. 24, 2019

Re: ETO Update

Background:

The Lake County Health Department, the Village of Gurnee, and the City of Waukegan entered into a partnership when concerns of EtO emissions began to surface late last year. They worked with the U.S. Environmental Protection Agency to establish an air monitoring program to conduct ethylene oxide (EtO) ambient air sampling near Vantage Specialty Chemicals in Gurnee and Medline Industries in Waukegan. Four locations were chosen near Medline, four locations were chosen near Vantage, and two remote sites were chosen. Woodland was selected as one of the two remote test sites because the school is beyond the area where EtO was expected to impact the air and would provide background air quality levels to compare to the air monitored near the two companies.

Action taken by partners:

- The first set of air quality testing data has been sent to the Agency for Toxic Substances and Disease Registry (ATSDR) and U.S. Environmental Protection Agency (EPA) for a health risk assessment.
- Illinois Department of Public Health will be conducting a cancer incidence study after the risk assessments are completed.
- Representatives in the state legislature have pushed for stronger regulations and restrictions.
- IEPA recently approved additional ambient air testing to continue around the Medline and Vantage sites.
- Senator Melinda Bush hosted at Town Hall Meeting on Oct. 2, 2019
- Phase II monitoring by the Lake County Health Department will begin Saturday, October 26 and end on Tuesday, January 21.

Action taken by Woodland District 50:

- EtO information sent to parents in June to inform Woodland Families that Lake County Health Department selected Woodland Middle School as a test site.
 - Information is updated on Woodland District 50 website when new information becomes available, and includes helpful links to Lake County and Gurnee.
 - EtO Update sent to Board, Staff and Woodland Families Sept. 24, 2019.
 - On the morning of Oct. 2, Dr. Casey, Mr. Bobek and Ms. Hooker held a phone conference with representatives from the Lake County Health Department and the Center for Disease Control. The
-



purpose of the call was to discuss the results of the first round of air monitoring data collected, and to ask questions about next steps.

- District representatives, including administration and Board members attended a town hall meeting Oct. 2 from 6:30 - 8 p.m. at the College of Lake County in Grayslake. (information gathering). The turnout was too large for the auditorium and a second room was opened up for a live broadcast. A remote viewing option was also available in Waukegan.
- Researched air filters as requested by the Board of Education. See Air Filter section below
- Researched Woodland buses driving near Vantage and Medline. See Transportation section below.

Readings taken at Woodland Middle School

The chart below is a record of the readings taken at Woodland Middle School, and the following bullet points provide additional context as explained by the Lake County Health Department and the CDC on the Oct. 2, 2019 phone call.

- ND is Non-detect
- .02 is not a regulatory action level
- The concern is about the 1.28 $\mu\text{g}/\text{m}^3$ result on June 18-19. When discussing this result with the CDC and Lake County Health Department, they indicated low confidence in the validity of this reading. They do not believe it is from Vantage or Medline because monitoring devices closer to each facility recorded lower readings on June 18-19. Additional monitoring, scheduled for October, will give more information about this pattern.
- CDC notes that ETO is common in the air and it is not unusual to see concentrations of .1 to .3 based on samples taken across the country, even in areas without sterilizing companies.

| Site # | Sample Dates | Measured Air Concentration | |
|--------|--------------------|----------------------------|--------|
| | | $\mu\text{g}/\text{m}^3$ | ppb |
| R2 | June 6 – 7, 2019 | 0.15 | 0.082 |
| R2 | June 9 – 10, 2019 | 0.11 | 0.062 |
| R2 | June 12 – 13, 2019 | 0.12 | 0.065 |
| R2 | June 15 – 16, 2019 | 0.16 | 0.0896 |



| | | | |
|----|------------------------|------|-------|
| R2 | June 18 – 19, 2019 | 1.28 | 0.708 |
| R2 | June 21 – 22, 2019 | ND | ND |
| R2 | June 24 – 25, 2019 | ND | ND |
| R2 | June 27 – 28, 2019 | ND | ND |
| R2 | June 30 – July 1, 2019 | ND | ND |
| R2 | July 3 – 4, 2019 | ND | ND |

House Bills

- State Rep. Rita Mayfield, D-Waukegan, filed House Bill 3888, which would require the EPA to continually collect emission information from EtO-emitting facilities and set more restrictions on its storage location. In addition, if passed as written, would completely phase out the use of EtO at Medline by January 1, 2021 and restrict emissions from Vantage (reported in the range on 1-2000 pounds per year prior to the installation of additional controls in April of this year) to 30 pounds per year.
- State Rep. Jim Durkin filed HB3885 which addresses restrictions of the pollutant, stating that communities that operate as a home rule unit of local government, including Gurnee and Waukegan, can “adopt an ordinance that imposes additional operating restrictions upon or prohibits ethylene oxide sterilization operations” within their boundaries.

Air Filter Research

Referenced at the September Governing Board Meeting was the action taken by Benjamin Preparatory School in Atlanta Georgia. Benjamin Preparatory is a 14,000 sq. ft., one building district that installed carbon-based air filters in an attempt to mitigate EtO within the walls of the school. The filters require changing four times per year and students are not allowed outside for gym class. Additional filters are placed as stand alone units by each doorway. To date, there have been no studies that Woodland has been able to locate that verify whether the carbon-based air filter would alleviate the levels of EtO inside school buildings, and Benjamin Preparatory has not conducted any post installation tests to verify results.

Operations & Facilities met with Woodland’s air quality consultant to determine what steps Woodland would need to take in order to make a similar transition to carbon-based air filters. The consultant explained that we



would need a staggered testing phase to gather information on air quality inside the buildings while using both filters pre and post installation. Carbon-based filters would be placed in one section or wing as a beta test while the other filters remain standard. Testing would consist of 8 to 10 samples at \$1,000 per sample to gather enough data for comparison between carbon-based and standard filters.

- **Middle School** - The Middle School is approximately 440,000 sq. ft. and requires 65 air filters. Standard filters cost an average of \$25.15 per filter. With each replacement cycle, the district spends \$1,634.75 on standard filters. Carbon-based filters for the Middle School HVAC would cost \$460 apiece for a total of \$29,900 for a full cycle replacement. The difference between standard and carbon-based replacement costs multiplied by four times per year results in increased expenditures of \$113,061 annually.
- **Intermediate** - Intermediate School is approximately 242,000 sq. ft. and requires 166 air filters. Standard filters range in price from \$2.36 to \$2.52. At an average of \$2.44 per filter, filters cost the district \$405 each round of replacements. Carbon-based filters cost \$78 to \$107 apiece. At an average cost of \$92.50, carbon-based filters would cost the district \$15,355 each replacement cycle. The difference between standard and carbon-based replacement costs multiplied by four times per year results in increased expenditures of \$59,800 annually.
- **South Campus** - Both the Elementary and Primary building's HVAC utilize univents which consist of a different kind of air filter than those in the Middle and Intermediate schools. At this point in time, there isn't a carbon-based air filter solution available for installation with univents. The district's air quality consultant was unable to provide a solution for these two buildings.

Summary of Air Filter Research: Based on the current research available, the request to install air filters in the schools as suggested by the public during the September Board Meeting, is not a viable option. As it stands today, air filter mitigation for EtO is new, unproven and costly. There are no guarantees that carbon-based filters reduce EtO emissions, and implementation at the two viable sites would increase district costs by \$172,861 annually.

Woodland Transportation Near Vantage and Medline

A statement was made during citizen's statements requesting that we reroute any buses that go by Vantage and Medline. Vantage is located on Delaney Road and Medline is located off of Northpoint. **Both of these locations are outside Woodland District boundaries.** Currently, we have no buses that go near those facilities. There is a possibility in the future that we may have a student who is homeless living near one of the facilities, however at this time we do not.

Additional Information



-
- S. EPA – Region 5 Hotline: r5hotline@epa.gov; (312) 353-2000 / toll-free (800) 621-8431; website: www.epa.gov/il/addressing-ethylene-oxide-emissions-lake-county-illinois.
 - IEPA – Brad Frost: frost@illinois.gov; (217) 782-7027; website: www.illinois.gov/epa/topics/community-relations/sites/ethylene-oxide/Pages/default.aspx.
 - ATSDR – Michelle College: mna9@cdc.gov; (312) 886-1462; <https://www.atsdr.cdc.gov/substances/toxsubstance.asp?toxid=133>.
 - Lake County Health Department: (847) 377-8020; lakecountyil.gov/eto.
-