



Ethylene Oxide Emissions in Lake County

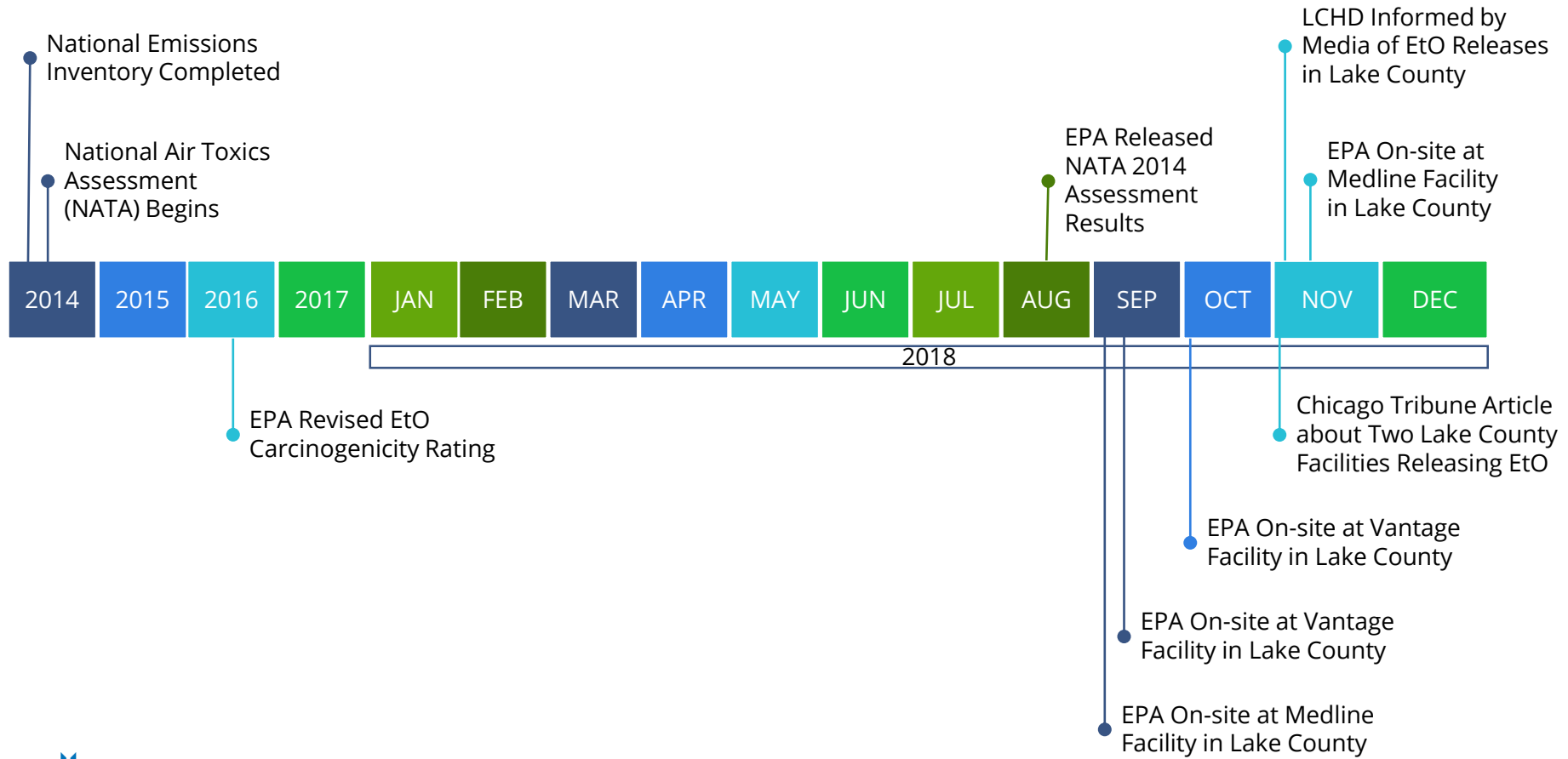
Board of Health Meeting

November 28, 2018

Mark A. Pfister, Executive Director

Ethylene Oxide (EtO) in Lake County

Investigation Timeline



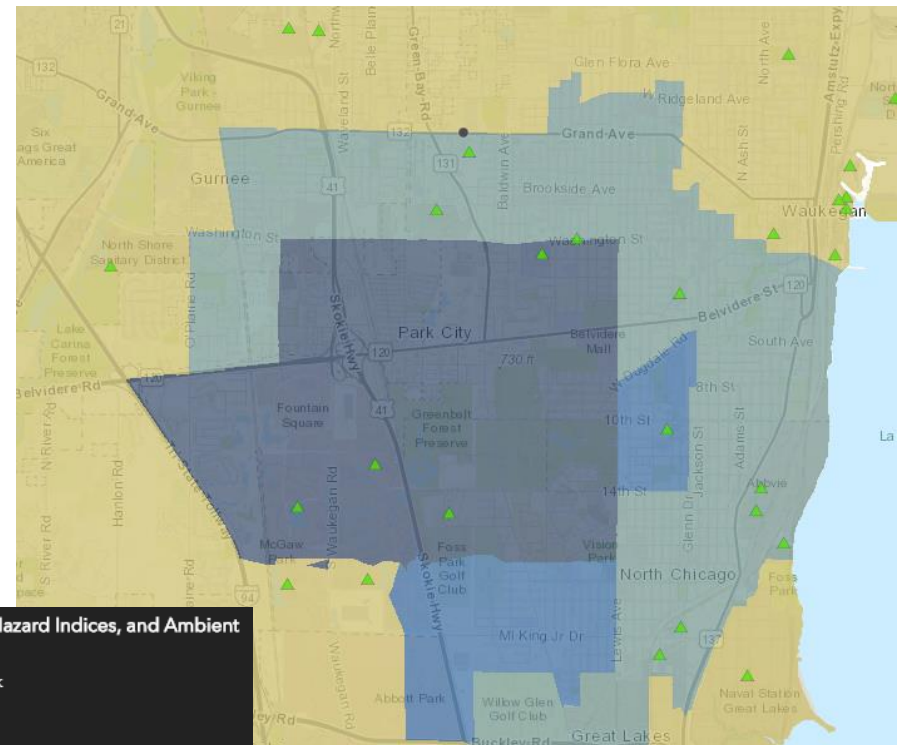
National Emissions Inventory (NEI)

- Managed by US Environmental Protection Agency (US-EPA)
- **ESTIMATE** of air emissions
- Limited to specific types of chemicals
- Data is based on submission from State, Local, and Tribal air agencies
- Includes more than just a single type of emission source



National Air Toxics Assessment

- Uses NEI data to **ESTIMATE** the long term **RISK** to human health
- Screening – tool intended to guide agencies to further investigation
- Limitation
 - Individual Person
 - Smaller Geographies
- Results



Ethylene Oxide

- EtO is a flammable, colorless gas with a sweet odor
- People can be exposed to EtO through direct inhalation, ingestion, or contact to the skin
- It is used to make sterilization agents for medical equipment, as well as antifreeze, paint thinners, polyester, and pesticides
- It is also found in auto exhaust and smoke from tobacco use

Potential Health Risks of EtO

- EtO damages DNA which may account for its cancer-causing activity
- Direct contact may cause breathing issues, neurologic symptoms, an allergic rash, or skin burn
- There *may be an increased risk* of developing blood cancers in men (e.g., leukemia and lymphoma) and breast cancer in women if they had industrial exposures to high levels of EtO, for long periods of time

Lake County Health Department Steps

- Nov 2, 2018

- Contacted **DuPage County Health Department**
- Established contact with the Regional Director/Toxicologist from the Agency for Toxic Substances and Disease Registry (**ATSDR**)
- Reached out to **IL-EPA** and filed a FOIA request for the facilities' permits

- Nov 5–6, 2018

- Developed an EtO emissions **fact sheet**
- Executive Director presented at County Board Health and Community Services Committee

Lake County Health Department Steps

- Nov 7, 2018

Conference Call with US-EPA, Regional office EPA, ATSDR, and IDPH

- Regional EPA onsite inspections for both companies since September 2018
- Additional omission controls to be voluntarily implemented by both companies to reduce EtO emissions
- Vantage to voluntarily perform ambient air testing after control implementation at their fence line
- Requested timely notification by US-EPA and IL-EPA to LCHD when a risk is identified and/or work is being conducted in Lake County

Lake County Health Department Steps

- Nov 8–9, 2018

- Learned IL-EPA is conducting groundwater testing around Sterigenics (Willowbrook) due to concerns of possible ethylene **glycol** (not oxide) contamination in **2013**
- Groundwater contamination is not a known concern for the Lake County facilities
- Collaborated on revision of webinar slides with ATSDR, DuPage County Health Department, IL Academy of Family Physicians, IDPH, and University of Illinois at Chicago (to be hosted at the end of November)

Lake County Health Department Steps

- Nov 16–19, 2018

- IEPA conference call with LCHD and Gurnee
- Mark Pfister presented at Waukegan City Council
- USEPA finalizing Lake County web page

Next Steps

Facilitating communication between the public and EPA

- Collaborate with US-EPA to develop a specific webpage on US-EPA website informing public of investigative details/updates for Lake County companies
- Disseminate information about webinar (November 19th) presented by ATSDR, EPA, and University of Illinois discussing health risks for EtO emissions (audience: healthcare providers, public, other organizations)
- Work with US-EPA to direct inquiries to appropriate websites, people, or organizations

Next Steps

- Obtain and review permitting records from IEPA for the two Lake County companies emitting EtO
- Visit Medline and Vantage sites to better understand EtO emissions
- Once available, review the following:
 - EtO stack emissions data pre- and post-control implementation and ambient air monitoring results for Lake County facilities
 - IL-EPA ground water testing in DuPage County
 - Results of IDPH/DuPage cancer risk study

Future

- Work with key government officials to encourage US-EPA and IL-EPA to complete a thorough assessment of Lake County facilities
- Collaborate with state legislators to mandate all emissions reporting for facilities in Illinois
- Work to get notification to local health agencies when violations or health hazards occur at permitted facilities



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