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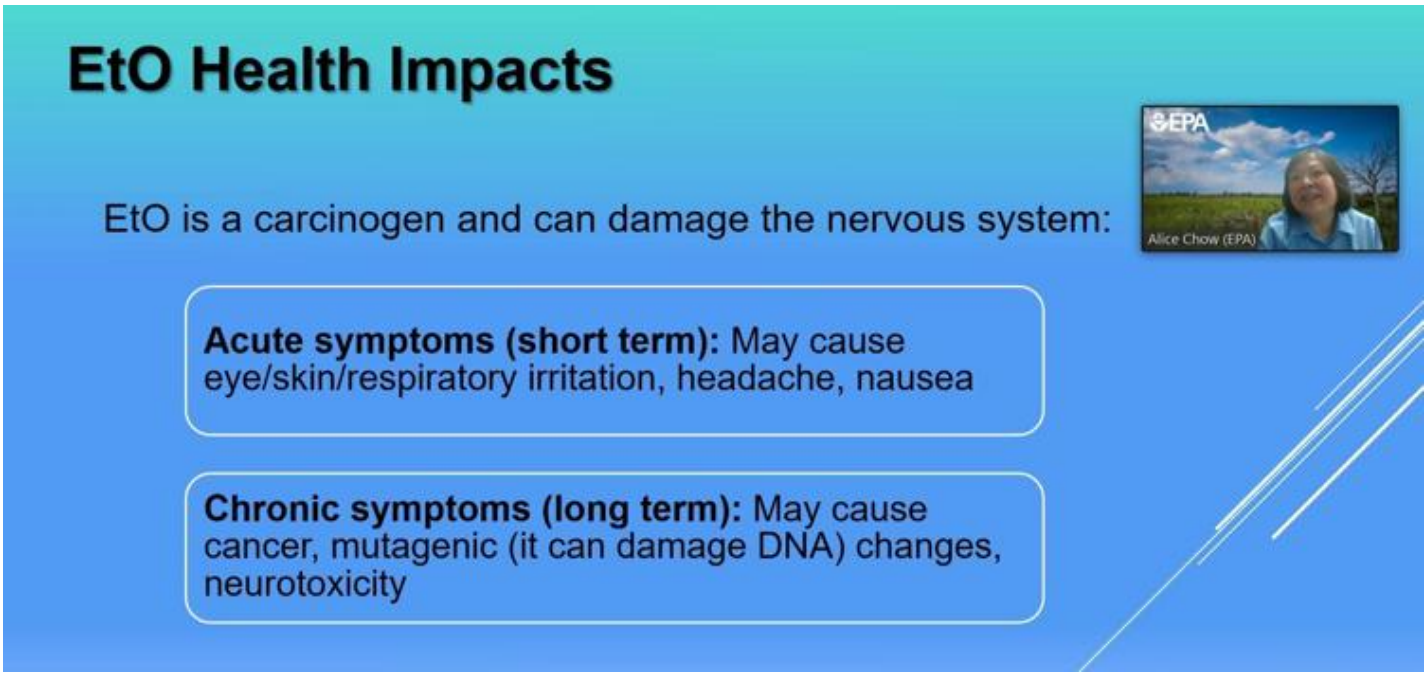
EPA, DEP struggle to address health, regulatory concerns at public meeting on ethylene oxide

By Mike Tony mtony@hdmediallc.com
Sep 24, 2021



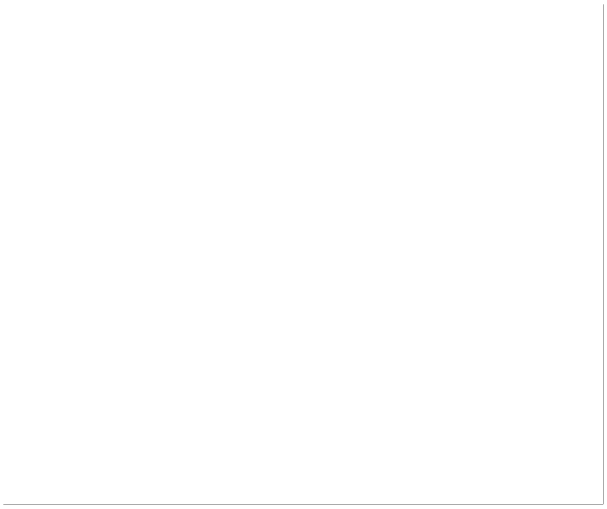
Alice Chow, chief of the U.S. Environmental Protection Agency's regional air quality analysis branch, details health impacts from ethylene oxide during an EPA and West Virginia Department of Environmental Protection public meeting Thursday night.

U.S. Environmental Protection Agency video screenshot

Environmental regulators had mostly indefinite answers to the many questions about ethylene oxide they faced at a Thursday night meeting on the cancer-causing chemical's prevalence in Kanawha County.

U.S. Environmental Protection Agency and West Virginia Department of Environmental Protection officials faced questions from Kanawha County residents and public officials with health and regulatory concerns about ethylene oxide emissions in Institute and South Charleston.

The Zoom teleconference meeting, hosted by the EPA and DEP attracted more than 175 attendees and marked the agencies' first local public meeting on ethylene oxide.



The agencies held the meeting to provide information on the health risks and effects of ethylene oxide, and how they regulate the chemical following an EPA air toxics assessment released in 2018 that found that six of the 90 census tracts with the highest cancer risk from the flammable, colorless gas were in Kanawha County.

The total cancer risk in Kanawha was 366 in 1 million, 10th-highest in the country, driven largely by emissions from two Union Carbide plants in Institute and South Charleston.

But that hasn't been the final word.

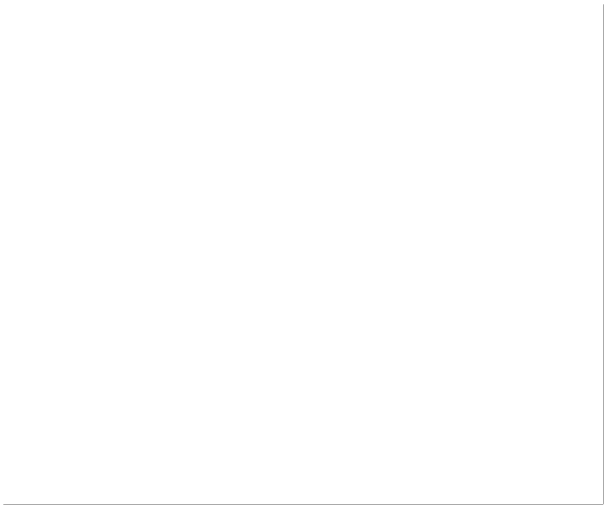
The DEP subsequently asked the EPA for help getting localized data, suspecting the assessment overestimated the cancer risk at the Union Carbide facilities.

EPA and DEP officials recounted their subsequent risk reassessment that again revealed concerning levels of risk near the facilities, although they were less widespread.

Agency representatives explained ethylene oxide's known health effects and fielded questions that highlighted concerns about environmental racism, the agencies' inability to quantify risks associated with past emissions in Institute and South Charleston, and future outreach efforts.

But officials did not give definitive answers on when a promised next meeting would be held, when they would release the results of an upcoming round of onsite air monitoring, or if additional monitoring would follow what the DEP plans to be one 24-hour air sampling period.

Alice Chow, chief of the EPA's regional air quality analysis branch, explained that ethylene oxide is used to sterilize medical equipment and make ethylene glycol, an essential ingredient in antifreeze, plastics and cosmetics.



Mainly emitted by chemical manufacturing plants, ethylene oxide may cause respiratory irritation and nausea following short-term exposure and cancer and DNA damage after long-term exposure, Chow warned.

Chow noted that long-term ethylene oxide exposure elevates the risk of white blood cell cancers like non-Hodgkin lymphoma, myeloma, leukemia and breast cancer in women.

Using its 2017 air toxics assessment model, the EPA estimated the potential increased cancer risk from breathing ethylene oxide released from the South Charleston Union Carbide facility to be 807 cases in 1 million, the Institute Union Carbide facility to be 379 in 1 million and a Covestro facility in South Charleston to be 185 cases in 1 million.

Chow noted the EPA is reviewing Clean Air Act regulations for facilities that emit ethylene oxide, including the category that the Institute and South Charleston emission sites fall in.

But that regulatory review isn't slated until the fall of 2024 — 10 years after it was last updated and the Ohio Valley Environmental Coalition and other conservation groups unsuccessfully petitioned the EPA for a new final rule.

Mike Egnor, air toxics coordinator for the DEP's Division of Air Quality, recalled that a state Department of Health and Human Resources review of ethylene oxide-associated cancer rates in the Kanahwa Valley revealed no elevated levels of such cancers for Kanawha County.

Egnor added the Department of Health and Human Resources is reviewing cancer rates on a more localized level.

The DEP updated risk modeling for the sites after visiting them and getting what Egnor said was more accurate emissions data that changed estimated risk levels.

Egnor noted that Union Carbide, in 2018, transferred permitting in Institute to Specialty Products US, LLC, a subsidiary of International Flavors & Fragrances, Inc., meaning Specialty Products now operates an ethylene oxide process there that had been run by Union Carbide.

The four facilities in the Kanawha Valley that emit ethylene oxide, Egnor observed, are Union Carbide and Specialty Products in Institute, and Union Carbide and Covestro in South Charleston.

Egnor showed maps indicating that after the agencies updated their risk model, ethylene oxide cancer risks dipped below the 100-in-a-million threshold the EPA considers an unacceptable level of risk just south of Interstate 64, near the Union Carbide and Covestro facilities on MacCorkle Avenue Southwest in South Charleston.

But the risks became greater further east in the West Side of Charleston near the Kanawha River, albeit still below 100 in a million.

Risks also fell below 100 in a million in St. Albans west of the ethylene oxide emissions in Institute.

The meeting opened with the director of the EPA's Office of Environmental Justice, Matthew Tejada, touting the importance of community feedback on ethylene oxide issues.

A March 2020 EPA Office of Inspector General report urged the agency to inform people who live near facilities with significant emissions about their elevated estimated cancer risks. The report noted agency plans for potential outreach in the first half of 2020. The EPA delayed those efforts to gather and model new information

instead.

Kathy Ferguson, an Institute area resident, said the shadow of regulators' uncertainty over ethylene oxide cancer risks made it feel like she and neighbors are getting treated like guinea pigs.

"I feel like we're talking about ethylene oxide sort of in a silo," Ferguson said, alluding to a 1985 leak of toxic methyl isocyanate from Union Carbide's Institute plant and other chemical incidents in the Kanawha Valley. "It's the chemical de jour … [T]o look at ethylene oxide and say, 'Well, there's this amount of cancer risk,' add that to the other exposures. Add that to the other chemicals that are in the air."

St. Albans Mayor Scott James took the opposite view, suggesting that ethylene oxide does not pose a danger in his community.

"I trust these chemical companies," James said.

But most commenters expressed concern with local ethylene oxide cancer risks and what environmental regulators are doing about them.

Chow admitted that while monitoring for common air pollutants like carbon monoxide and ground-level ozone is required, air toxics reporting is voluntary, prompting the EPA to have to fill in data gaps each time it performs a new National Air Toxics Assessment.

"That has to be a statutory change," Chow said. "We try to encourage our state and local agencies to have their facilities submit better data."

Institute has traditionally had a high concentration of Black residents relative to most of the rest of West Virginia, dating to the founding of historically Black West Virginia State University in 1890.

Jane English, NAACP environmental and climate justice program manager, objected to the chemical pollution that the unincorporated community has to deal with historically.

Chow told Kanawha County Community Development Coordinator Cassidy Riley that there was $20 million set aside for competitive EPA air quality monitoring grants for which the agency will accept requests for proposal this fall.

"[W]here do we go from here?" West Virginia Environmental Council President Linda Frame said toward the end of the 140-minute meeting. "I'm hearing a very healthy level of cynicism and distrust."

The DEP is developing an air monitoring plan to include fenceline monitoring.

Fenceline monitoring is used to measure pollutants that cross a facility's fenceline in real time.

The DEP anticipates four sets of 24-hour data at each undetermined location, DEP acting spokesman Terry Fletcher previously said. Each site and a project background site in Guthrie will have four 24-hour ethylene oxide samples.

Whether the DEP conducts further monitoring will depend on the first four samples, according to Egnor.

Egnor said the DEP is hoping to get sampling completed in the next two to three months, after which samples will be sent to a lab in Philadelphia and then come back to the department for quality assurance. Then the agency will publish the data on its ethylene oxide webpage created last month – a step Egnor declined to give a time frame for.

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