

Calvert City, KY Community Air Monitoring



Nick Barnett

EPA Region 4
Community Planner
Air and Radiation Division



EPA Region 4 Contact Information:

Barnett.Nicholas@epa.gov

EPA Website:

epa.gov/ky/calvert-city-kentucky-air-monitoring



Sarah Taft, Ph.D.

**EPA Region 4
Acting Director
Air and Radiation Division**



Why we are here today

1

Pollution is increasing health risks in your neighborhood.

2

We are working to reduce this risk in three ways.

3

We want to hear from you.



What Are My Risks?

No indication of:

- **Chronic non-cancer risks**
- **Short-term or emergency health impacts**



Over your lifetime

Breathing in hazardous air
pollutants over many
years can cause certain
cancers



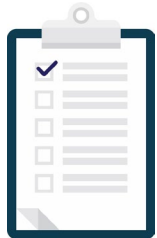
Special Considerations about Risk



Workers may be exposed at higher levels.



Children and babies may be at higher risk.



This risk assessment is focused on community risk, not worker risk.

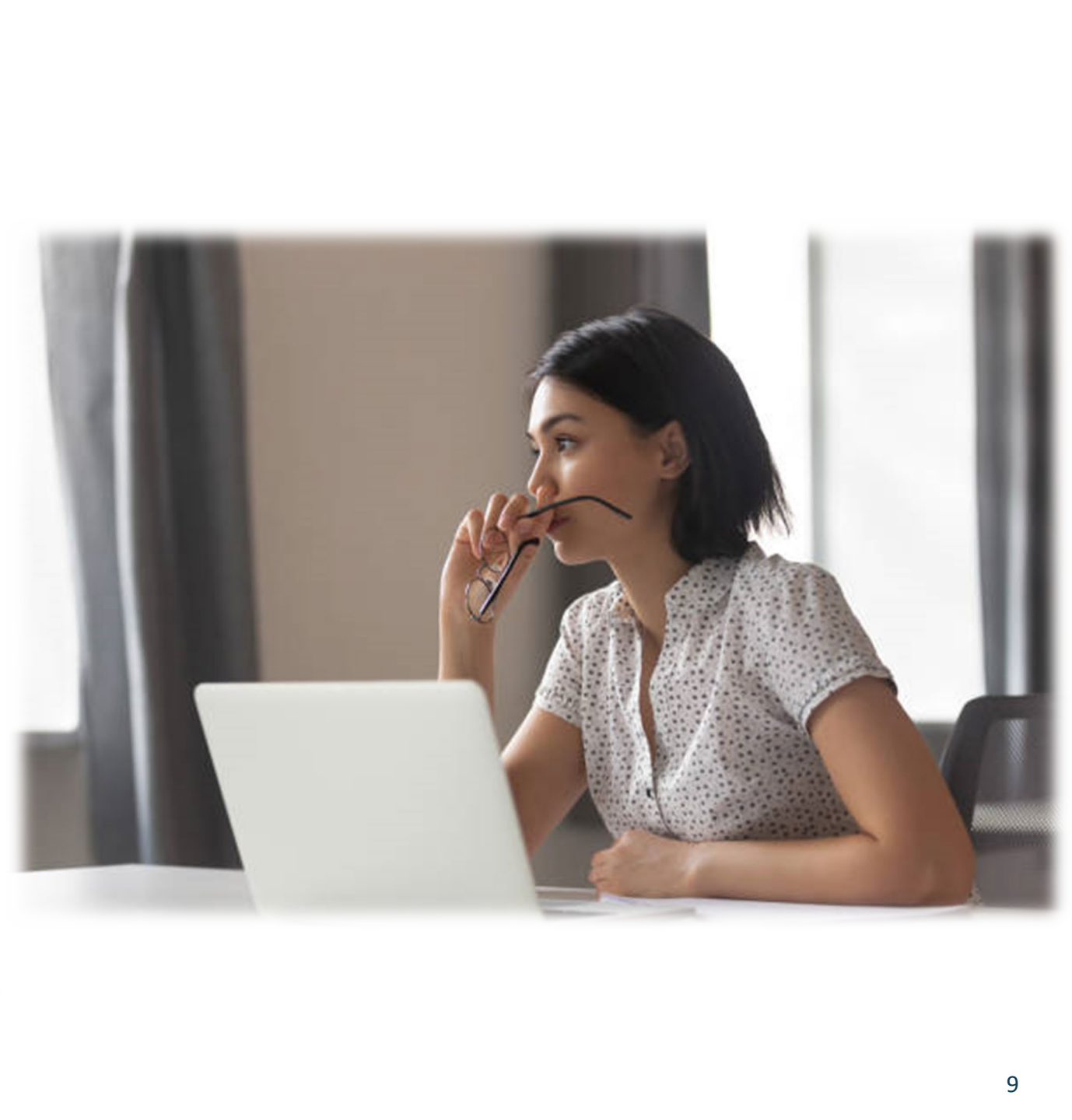


Understanding Risk

How close?

How much?

How long?



Daniel Garver

EPA Region 4
Environmental Scientist
Air and Radiation Division





Calvert City Air Monitoring

Air samples collected to evaluate potential health risks of volatile organic compounds (VOCs) in Calvert City, KY

- 14 months (Oct. 2020 – Dec. 2021)
- 24-hr samples collected once every six days
- Three sites in Calvert City and one rural background site

Calvert City air monitoring sites were selected to meet certain objectives:

- Expected areas of highest VOC concentrations near air pollution emissions sources
- In a populated area in the community

Kentucky is continuing air monitoring at all three Calvert City sites



Johnson Riley Rd. Air Monitoring Site



Tennessee River

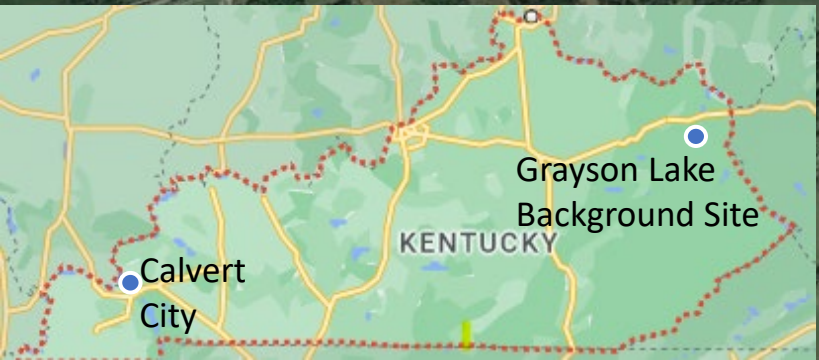
Tennessee River

LWD

Johnson Riley Rd.

Calvert City

Calvert City
Elementary School



Grayson Lake
Background Site

Calvert
City

KENTUCKY



**Rashidra R. Walker,
Ph.D.**

**EPA Region 4
Toxicologist
Air and Radiation Division**



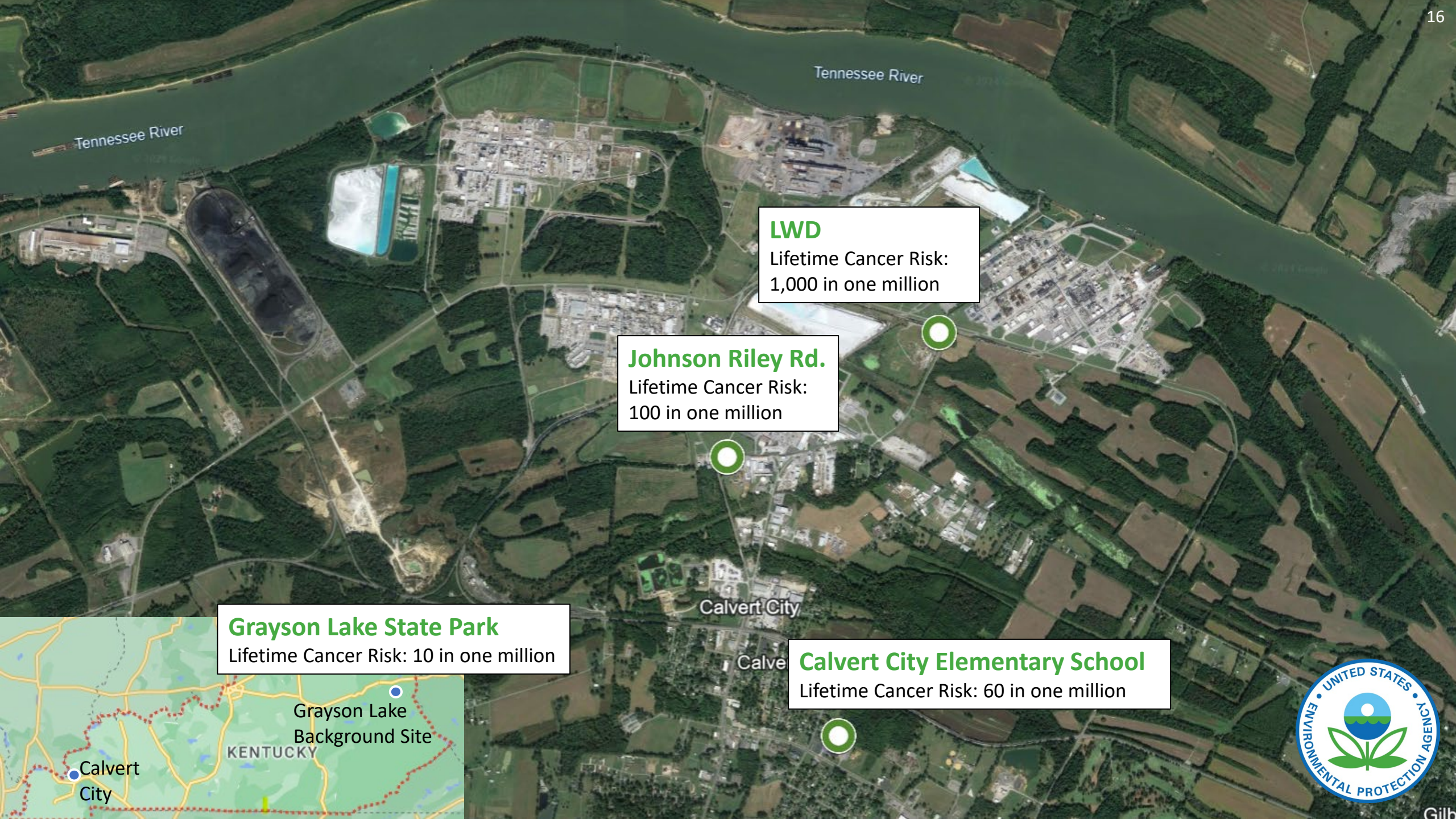
Risk Analysis Results



Over your lifetime

Breathing in hazardous air
pollutants over many
years can cause certain
cancers.



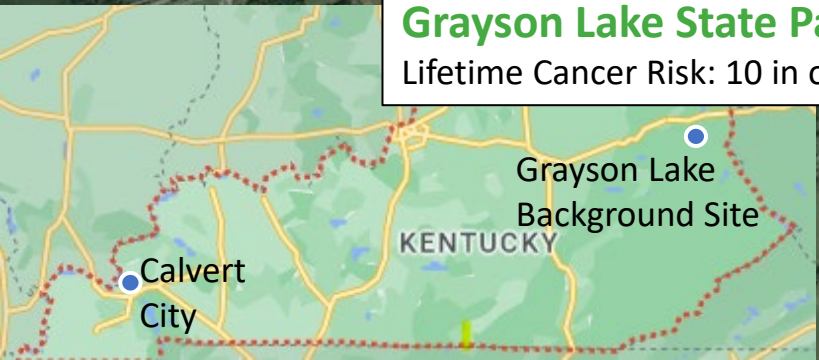


LWD
Lifetime Cancer Risk:
1,000 in one million

Johnson Riley Rd.
Lifetime Cancer Risk:
100 in one million

Grayson Lake State Park
Lifetime Cancer Risk: 10 in one million

Calvert City Elementary School
Lifetime Cancer Risk: 60 in one million



Excess Lifetime Cancer Risk

Excess Cancer Risk

All one million people with
same level of exposure

and the 400,000
people who develop
cancer due to a
combination of factors

One in a million
excess cancer risk

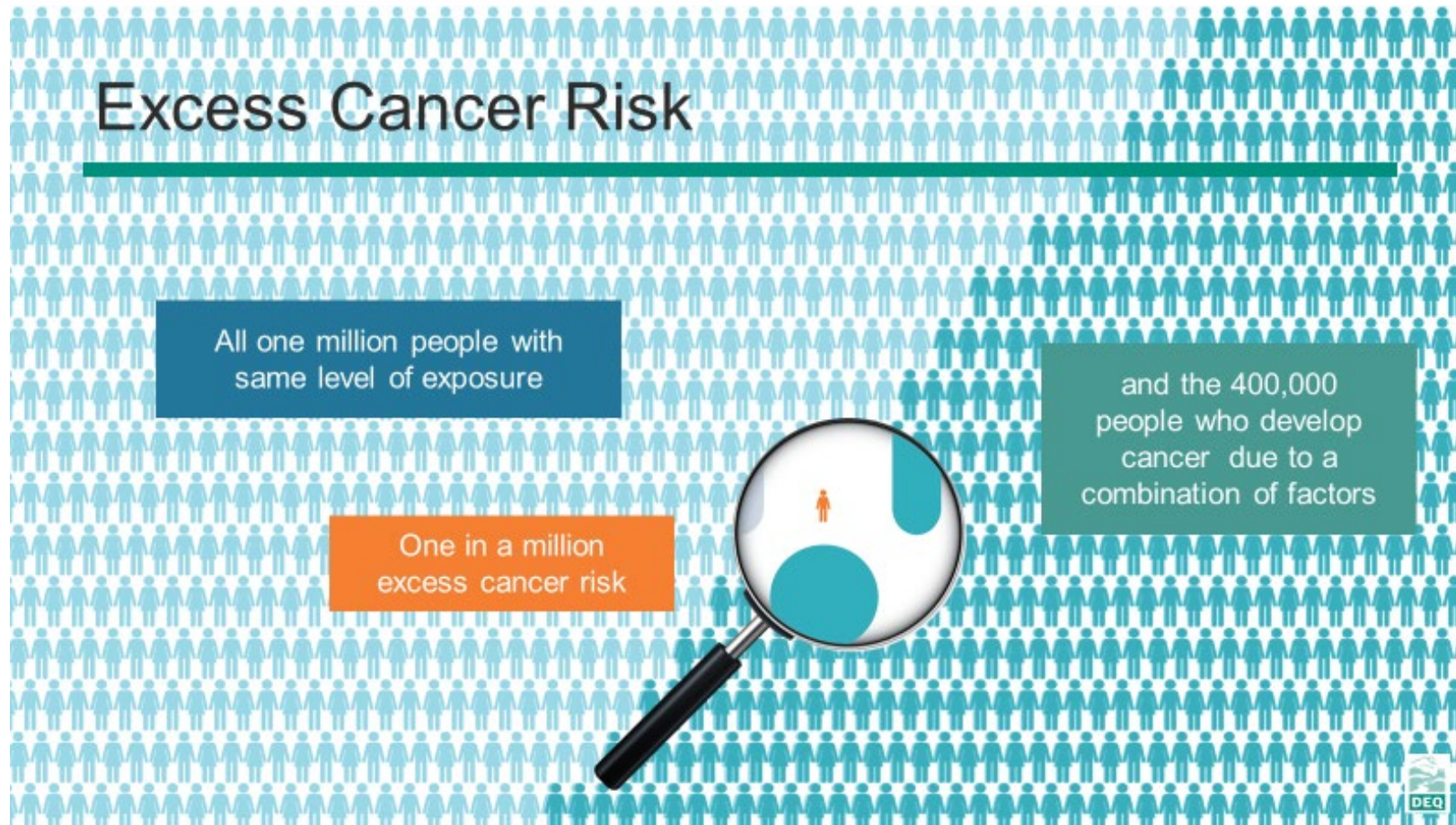


Image credit: Oregon Department of Environmental Quality, Oregon Health Authority and US EPA community partnership.



What is Ethylene Dichloride (EDC)?

Ethylene Dichloride (EDC)

- Man-made, clear, oily liquid this is not found naturally in the environment
- Mainly used to help make plastic and vinyl products, such as polyvinyl chloride (PVC) pipes and other construction materials
- Primarily used in the production of vinyl chloride as well as other chemicals
- Also known as 1,2-Dichloroethane



Jake Carpenter

Environmental Engineer
EPA Region 4
Air and Radiation Division



Reducing EDC at its source is the best way to reduce risk in the study area

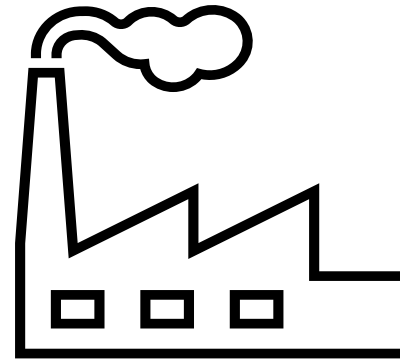


Where EDC Comes from in Calvert City

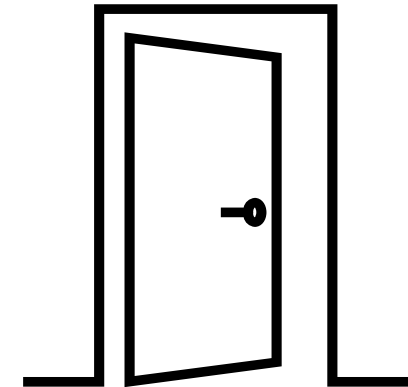


Air pollution releases are called “emissions”. There are two main types of VOC emissions from industrial facilities:

Controlled Emissions



Fugitive Emissions



In Calvert City, reported emissions data indicates that the majority of EDC emissions come from fugitive emissions at Westlake Vinyls

EPA Actions

- EPA is supporting Kentucky DAQ in dialogue with Westlake Vinyls, the largest source of EDC in the area, on new strategies to reduce EDC emissions in the near-term.
- EPA [proposed revisions to regulations for the Synthetic Organic Chemical Manufacturing Industry \(known as the “HON” rules\)](#), which are applicable at Westlake Vinyls and other chemical plants. The proposed revisions include fenceline monitoring requirements for EDC and other hazardous air pollutants.



Michael Kennedy

Director of KY Division for
Air Quality



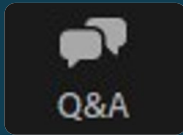
Key Messages

We are working to reduce risk by:

1. Working with Kentucky to reduce EDC emissions.
2. We are updating air pollution regulations to be more protective of your health.
3. We are sharing these risk results with you, so you have the same information we have.



- **In-person Participants:** Proceed to a microphone. We will also read aloud some questions that have been provided on comment cards during the Q & A session.
- **Zoom Participants:** Enter your questions by using the **Q&A function**.



- **Phone Participants:** If you are listening on your phone and cannot access the Q&A function, press *9 to let us know you have a question. Once we identify you by the last four digits of your phone number, press *6 to unmute.



Question and Answer Session Panel:

Sarah Taft, Ph.D.

Acting Director, EPA Region 4 Air & Radiation Division

Amanda LeFevre

Deputy Commissioner,

Kentucky Department for Environmental Protection

Michael Kennedy

Director, Kentucky Division for Air Quality

Virtual Panelists:

K. Leann Bing

Agency for Toxic Substances & Disease Registry

Dr. Abby Mutic and Dr. Jinbing Bai

Pediatric Environmental Health Specialties Unit (PEHSU)

Emory University

Public Health Contacts

K. Leann Bing

Environmental Health Scientist
CDC / Agency for Toxic Substances
and Disease Registry (ATSDR) Region IV
kbing@cdc.gov

**Abby Mutic, Ph.D, MSN, CNM and
Jinbing Bai, Ph.D, RN**
Pediatric Environmental Health
Specialty Unit (PEHSU)
abby.mutic@emory.edu
jinbing.bai@emory.edu
www.pehsu.net/region4

Billy Pitts
Public Health Director
Marshall County Health Department
billy.pitts@mcphd.org



Next Steps

- For additional questions, please contact:

Nick Barnett

EPA Community Planner

Barnett.Nicholas@epa.gov

- To learn more:
epa.gov/ky/calvert-city-kentucky-air-monitoring
- For more information about EDC:
atsdr.cdc.gov/toxfaqs/tfacts38.pdf

