Potential Impacts of Increase in HAP Data Due to Proposed AERR Updates

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EPA will have additional data on HAP emissions and sources under the proposed AERR updates.

What will they do with it?



How will EPA use additional HAP emission data?

Regulatory Purposes

- Protect public health and inform communities of potential risks from these pollutants
- Currently a gap in the data that is available to EPA and data needed for EPA to meet regulatory requirements
- Facilitate future residual risk and technology reviews (RTR)
 - Review and revise current standards
- New source categories with "maximum achievable control technology," (MACT) standards



How will EPA use additional HAP emission data?

Risk Assessment

- ► AirToxScreen/NATA
 - Ongoing review of air toxics in the US
 - Used to learn which air toxics and emission source types may raise health risks in certain places
- ► 4 Step Process
 - Compile emissions data
 Estimate ambient concentration of air toxics
 - 3) Estimate population exposure
 - 4) Determine potential public health risks

AirToxScre	een Map	ping Tool (based on 2019 emis	Zoom to Stat Zoom to Coun None None	Select Minimum Risk to Inc Se No number selected	lect Only Tracts With Cha
To get started: • Select tract(s) on map using selector tool in upper left correr of map. When tract(s) are selected lists and charts will appear 2 Zoom to a specific • Zoom to a specific	0	Tool km 600 mi	ATTED Cheago New Yo ATTES St Dow Websiger Dallas Atlanta Houton	Boston	Legend Cancer Risk (2019) Total Risk (in a millio > 100 - 400 > 75 - 100 > 50 - 75 > 52 - 50 5 - 25 Zero Population Tracts
Tract Location Data		Risk by Air Toxic	Risk by Source Type Facility Emissio		ons (tons)



How will EPA use additional HAP emission data?

Risk Assessment

- Integrated Risk Information System (IRIS) Program
 - Pollutant toxicity value from chronic exposure
 - HAP data will help inform priorities for nominations
- Compliance and enforcement
 - Discrepancies between reported and monitored data
 - Facility search based on risk
- ► Siting of ambient air monitors





Case Study: Ethylene Oxide

- Highly carcinogenic per USEPA
- Industries that emit EtO
- As part of the 2014 National Air Toxics Assessment (2014 NATA), ethylene oxide risk value lowered
 - USEPA lowered the IRIS value (Inhalation Unit Risk) to 0.003 μ g/m³ from 0.1 μ g/m³
 - Inhalation Unit Risk = Concentration at which 1 cancer case is expected
 - Expected cancer impacts suddenly >30x higher
- Several census tracks that were below cancer risk of 1 in 10⁶ MM were now over 50 in 10⁶ after 2016 toxicity change for EtO
 - Contributes to being classified as an overburdened census tract



Regulatory Fallout of new EtO Standards

NESHAP – Subpart FFFF – Miscellaneous Organic Chemical Manufacturing (MON)

- Final rule addressing the toxicity of EtO
- Revised as part of the RTR (Residual Risk & Technology Review)
- NESHAP Subpart O Sterilization Plants
 - Proposed rule
 - EJ is a significant focus in EPA's proposed rule analysis
 - Draft RTR aimed for <100 in 10⁶ cancer risk for all facilities.
 - Higher cancer risk main driver in revising regulation

Table 2 Summary of Cancer Risk Reductions				
	Current cancer risks	Cancer risks if proposed amendments are finalized		
Maximum Individual Risk (MIR) ¹	6,000-in-1 million	100-in-1 million.		
Number of People with Cancer Risks >100-in-1 million	18,000	0.		
Number of People with Cancer Risks ≥1-in-1 million	8.3 million	1.26 million. ²		
Estimated Annual Cancer Incidence (cases per year)	0.9	0.1.		

Table 2-Summary of Cancer Risk Reductions



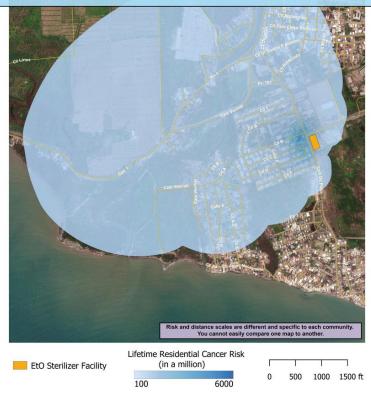
Additional Transparency and Community Involvement

- Community engagement page
 - Specific sources identified
- High visibility in local communities
- Community engagement webinar had >700 attendees
- Published into EJScreen public attention
- ► Litigation?
- Changes to control requirements

Announcement

<u>The risk information on this map, from July 2022, is no longer current.</u> EPA is archiving this map because it no longer portrays everything we know about risk. In a number of cases, commercial sterilizers have made improvements or changes to operations that have reduced risks to residents.

EPA has proposed two new actions to address emissions of ethylene oxide from commercial sterilizers and to reduce risks for people who live, work, or go to school near these facilities. More information is available at https://www.epa.gov/ethylene-oxide





What does this hold for the future?

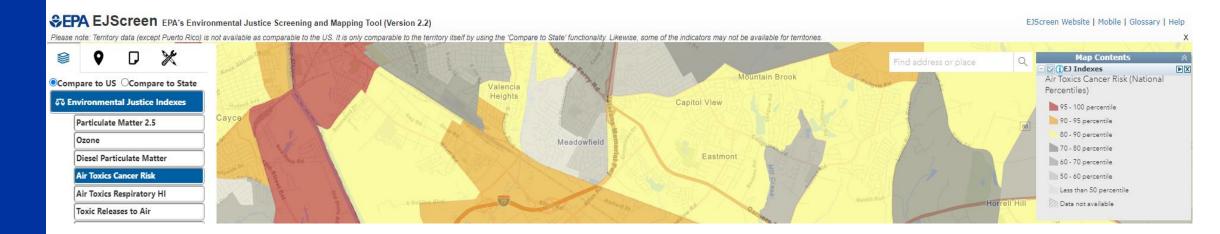
- More focus on specific hazardous pollutants vs criteria pollutants
 - Targeted industries may look different than before
- Risk and Technology Review for existing Maximum Achievable Control Technology standards
- Additional MACT standards will continue to be evaluated
- Per- and polyfluoroalkyl substances (PFAS)
 - Reportable substance under Toxic Release Inventory (TRI)
 - EPA collecting comments on "PFAS Option" for AERR
 - No health benchmarks for inhalation toxicity currently





What does this hold for the future?

- Executive Order (E.O.) 12898 (59 FR 7629, February 16, 1994) directs Federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission
- Additional HAP Data -> AirToxScreen -> EJScreen
- More information will lead to more accurate risk modeling
 - Close gap in understanding impacts of HAPs on communities





How to Prepare?

- Review proposed AERR rule and consider submitting comments
 - EPA extended comment period to 11/17/2023
- Be aware of AirToxScreen impacts via EJScreen or AirToxScreen mapping tool
- Assure reported data is accurate and not overly reported
 - Reported information feeds into tools
- Foster ongoing community engagement
- Be aware of hazardous air pollutants of interest (heavy metals, EtO, PFAS, etc.)

