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February 7, 2023

Via Email and U.S. Mail

Dr. Bruce Randolph
Shelby County Health Officer
Shelby County Health Department
814 Jefferson Avenue
Memphis, TN 38105
Bruce.Randolph@shelbycountytn.gov

Re: Petition for an emergency air pollution order under Memphis Code section 9-12-9 requiring Sterilization Services of Tennessee to cease operations to protect the South Memphis community's health

Dear Dr. Randolph:

We are writing on behalf of Memphis Community Against Pollution (MCAP) to petition you in your capacity as the Shelby County Health Officer to exercise your emergency powers to protect the health of the South Memphis community by ordering Sterilization Services of Tennessee to cease operations or discontinue its ethylene oxide pollution.

The Shelby County Health Officer has a duty to issue an emergency order when he "finds that a generalized condition of air pollution exists and that it creates an emergency requiring immediate action to protect human health or safety." Memphis Muni. Code § 9-12-9(A). Even where there is not a generalized condition of air pollution, the Health Officer may issue an emergency order if he "finds that emissions from the operation of one or more air contaminant sources is causing imminent danger to human health or safety." *Id.* § 9-12-9(B). As detailed in the petition accompanying this letter, an emergency order requiring Sterilization Services of Tennessee to shut down or stop polluting is appropriate under either of these provisions.

Sterilization Services of Tennessee uses large amounts of ethylene oxide to sterilize medical equipment. Ethylene oxide is a cancer-causing chemical derived from fossil fuel production. Last summer, the U.S. Environmental Protection Agency (EPA) announced its intent to adopt more protective ethylene oxide air pollution standards for medical sterilization facilities because the chemical is *60 times more toxic* than EPA previously understood. But any protections afforded by EPA's new rule could be years away. Meanwhile, Sterilization Services of Tennessee currently operates 24 hours a day, seven days a week in South Memphis, exposing predominantly Black residents, including children, to ethylene oxide in neighborhoods overburdened with air pollution from myriad mobile and industrial sources.

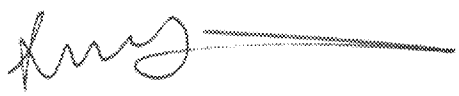
A report published today by the Union of Concerned Scientists, *Invisible Threat, Inequitable Impact, Communities Impacted by Cancer-causing Ethylene Oxide Pollution*, finds that based on the most recent publicly-available data, **ethylene oxide emissions contribute approximately 82 percent of the air toxics cancer risk in the census tract that includes Sterilization Services of Tennessee**. The report also finds that Sterilization Services of Tennessee operates within five miles of more than 130,000 people and approximately 180 schools and childcare centers. According to EPA's EJScreen 2.0, eleven percent of the residents within one-mile ring immediately surrounding the facility are children under age five who are particularly vulnerable to the damage caused by ethylene oxide. Previous studies have shown that Southwest Memphis includes the majority of Shelby County's major air pollution sources, and the most recent census reveals that the life expectancy at birth of someone living in the same census tract as Sterilization Services of Tennessee is 65.3 years, nearly a decade less than the life expectancy at birth of someone born in Shelby County generally.

EPA has identified Sterilization Services of Tennessee as among the commercial sterilization facilities whose ethylene oxide air pollution poses the greatest cancer risk to a community's health. These estimates do not account for other pollutants that are being emitted in the community, which may increase people's risk of developing cancer. The Union of Concerned Scientists identifies the South Memphis community as one that may be "disproportionately burdened" by ethylene oxide emissions from a commercial sterilizer, and concludes that, nationwide, exposure to ethylene oxide is "an urgent environmental justice issue." The Union of Concerned Scientists report comes two weeks after the Memphis City Council unanimously approved a resolution calling on Sterilization Services of Tennessee to voluntarily reduce its emissions of ethylene oxide.

Yet Sterilization Services of Tennessee has refused to take any voluntary action to protect the South Memphis community's health, although other facilities—including other facilities owned by the same company—have done so.

The South Memphis community should not be forced to endure several more years of unnecessary exposure to a cancer-causing chemical while EPA completes its rulemaking. The Shelby County Health Officer has the duty to order Sterilization Services of Tennessee to stop polluting South Memphis's air with ethylene oxide *now*. We urge you to act expeditiously on this petition.

Sincerely,



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PETITION FOR AN EMERGENCY AIR POLLUTION ORDER
MEMPHIS CODE SECTION 9-12-9

The Shelby County Health Officer must exercise emergency powers under Memphis's local air pollution control law to order Sterilization Services of Tennessee to stop emitting ethylene oxide or to shut down its operations.

Sterilization Services of Tennessee's highly toxic ethylene oxide air pollution is an emergency that must be immediately addressed at the local level. Unless the Health Officer acts, South Memphis children and families will continue to be exposed to harmful levels of this cancer-causing chemical, potentially for many more years.

I. The Shelby County Health Officer has authority to issue emergency air pollution orders directing a polluter to discontinue emissions or cease operations.

Under the local air pollution ordinance, the Shelby County Health Officer has authority to issue emergency orders in two scenarios:

> [A] Any other provision of the law notwithstanding, if the health officer finds that a generalized condition of air pollution exists and that it creates an emergency requiring immediate action to protect human health or safety, the health officer shall order persons causing or contributing to the air pollution to reduce or discontinue immediately the emission of air contaminants.
>
> [B] In the absence of a generalized condition of air pollution of the type referred to in subsection A of this section, if the health officer finds that emissions from the operation of one or more air contaminant sources is causing imminent danger to human health or safety, he or she may order the person responsible for the operation in question to reduce or discontinue operations immediately[.]

Memphis Muni. Code § 9-12-9.

This local ordinance authorizing emergency air pollution orders is similar to Section 303 of the federal Clean Air Act. 42 U.S.C. § 7603. A similar provision also exists in the Tennessee Air Quality Act. Tenn. Code Ann. § 68-201-109. But under another provision of the Tennessee Air Quality Act, Shelby County administers its own air pollution control department. Tenn. Code Ann. § 68-201-202. Therefore, the Health Officer has the authority and duty to take emergency action to address Sterilization Services of Tennessee's ethylene oxide emissions.

II. Both the "generalized condition of pollution" and "imminent danger" scenarios in the Memphis Code warrant an emergency air pollution order directing Sterilization Services of Tennessee to discontinue emissions or cease operations.

Last summer, the U.S. Environmental Protection Agency announced its intent to adopt more protective ethylene oxide air pollution standards for medical sterilization facilities because

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the chemical is *60 times more toxic* than EPA previously understood.[1] Long term exposure to ethylene oxide has been linked to spontaneous miscarriage in expecting mothers, increased cancer risks, muscle weakness, impaired thinking and memory, genetic damage, and nerve damage.[2] Due to the genetic damage caused by ethylene oxide and the increased rate of DNA replication in children, the potential damage to children from ethylene oxide is even greater.[3] One year's worth of exposure to ethylene oxide represents a greater increase in the lifetime cancer risk for a child than an adult.[4]

Populations at greater risk are those living or working near facilities releasing ethylene oxide, especially for long durations.[5] A study done by the Illinois Department of Public Health found increased rates of cancers associated with ethylene oxide in women and girls who lived in the area around a commercial sterilization facility similar to Sterilization Services of Tennessee.[6] Similarly, the Texas Department of State Health Services identified increased rates of cancers associated with ethylene oxide around a commercial sterilizer in Laredo, Texas.[7]

In October 2022, EPA visited Memphis, and informed the South Memphis community that Sterilization Services of Tennessee is among the 23 commercial sterilizers posing the

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[1] **Attachment (Att.) 1**, *Frequent Questions About Ethylene Oxide (EtO)*, U.S. ENV'T PROT. AGENCY (Jan. 13, 2023), https://www.epa.gov/hazardous-air-pollutants-ethylene-oxide/frequent-questions-about-ethylene-oxide-eto; **Att. 2**, NAT'L CTR. FOR ENV'T ASSESSMENT, OFF. RSCH & DEV., U.S. ENV'T PROT. AGENCY, EVALUATION OF THE INHALATION CARCINOGENICITY OF ETHYLENE OXIDE: IN SUPPORT OF SUMMARY INFORMATION ON THE INTEGRATED RISK INFORMATION SYSTEM (Dec. 2016), https://cfpub.epa.gov/ncea/iris/iris_documents/documents/toxreviews/1025tr.pdf.

[2] **Att. 3**, *Ethylene Oxide "Gas" Sterilization*, CTRS. FOR DISEASE CONTROL & PREVENTION (Sept. 18, 2016) shorturl.at/ITXZ7. *See also* **Att. 4**, Occupational Safety & Health Admin., *OSHA Fact Sheet: Ethylene Oxide*, (2002), https://www.osha.gov/sites/default/files/publications/ethylene-oxide-factsheet.pdf (explaining the potential harm of ethylene oxide on workers).

[3] *Frequent Questions About Ethylene Oxide (EtO)*, *supra* note 1.

[4] *Id.*

[5] **Att. 5**, U.S. Dep't Health & Hum. Servs., *ATSDR Clinician Brief: Ethylene Oxide*, 3 (2009), https://www.atsdr.cdc.gov/emes/health_professionals/documents/Clinician-Brief-Ethylene-Oxide-508.pdf.

[6] **Att. 6**, ILL. DEP'T PUB. HEALTH, CANCER INCIDENCE ASSESSMENT NEAR STERIGENICS IN WILLOWBROK, IL, 1995-2015 3–4 (Mar. 29, 2021), https://dph.illinois.gov/content/dam/soi/en/web/idph/files/publications/sterigenicswillowbrookcancer-investigation-final.pdf.

[7] **Att. 7**, TEX. DEP'T STATE HEALTH SVCS., ASSESSMENT OF THE OCCURRENCE OF CANCER LAREDO, TEXAS 2006-2019 (Oct. 21, 2022), https://www.dshs.texas.gov/sites/default/files/CHI-ESTB/CSum%2022002_Full%20Report_Final.pdf.

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highest risk to a community's health.[8] But EPA also told the community that any protections afforded by their new rule could be years away.[9]

Meanwhile, Sterilization Services of Tennessee continues to operate 24 hours a day, seven days a week in South Memphis,[10] exposing predominantly Black residents to ethylene oxide in neighborhoods overburdened with air pollution from myriad mobile and industrial sources.[11] The company has refused to take any action to voluntarily reduce emissions before EPA's new rule goes into effect.[12]

After being told by EPA the only thing the community can do to protect themselves from the risk of ethylene oxide is to spend less time in their homes, the community is looking to its local government for a solution.[13]

Memphis Code section 9-12-9 requires the Shelby County Health Officer to protect the South Memphis community while the EPA rulemaking is pending. Information about the increased toxicity of ethylene oxide,[14] along with EPA's recently-disclosed air modeling showing increased cancer risks of up to 2,000 cases per one million people in the South Memphis community[15] and other evidence described below, create an emergency requiring immediate action to protect human health, and demonstrate that an imminent danger to human health exists in South Memphis.

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[8] **Att. 8**, *Ethylene Oxide and Risk in the Community of Memphis Tennessee Slide Presentation,* U.S. ENV'T PROT. AGENCY, at 11 (Oct. 18, 2022), https://www.epa.gov/system/files/documents/2022-10/Web%20Final_EtO%20Community%20Meeting%20Slides%20SST-%20Memphis.pdf [hereinafter EPA Slide Presentation].

[9] **Att. 9**, Dulce Torres Guzman, *EPA tells South Memphis Residents Little Recourse Exists to Deal with Toxic Emissions,* TENNESSEE LOOKOUT, (Oct. 20, 2022), https://tennesseelookout.com/2022/10/20/epa-tells-south-memphis-residents-little-recourse-exists-to-deal-with-toxic-emissions/.

[10] EPA Slide Presentation, at 24.

[11] **Att. 10**, Chunrong Jia and Jeffrey Foran, Air Toxics Concentrations, Source Identification, and Health Risks: An Air Pollution Hot Spot in Southwest Memphis, TN, 81 Atmospheric Env't 112–116 (Dec. 2013), https://www.sciencedirect.com/science/article/abs/pii/S1352231013006948?via%3Dihub#..

[12] **Att. 11**, Keely Brewer, *A Cancer-causing Chemical Has Been on EPA's Radar for Years. Why Is It Still There?*, CHATTANOOGA TIMES FREE PRESS, (Jan. 29, 2023), https://www.timesfreepress.com/news/2023/jan/29/a-cancer-causing-chemical-has-been-on-epas-radar/ ("Sterilization Services of Tennessee appeared on the EPA's list of high-risk facilities in August, but the company has refused to comment until after there are new regulations on the books.")

[13] *Id.*; Torres Guzman, *supra* note 9.

[14] *Frequent Questions About Ethylene Oxide (EtO)*, *supra* note 1.

[15] **Att. 12**, *Memphis, Tennessee (Sterilization Services of Tennessee),* U.S. ENV'T PROT. AGENCY, (Oct. 21, 2022), https://www.epa.gov/hazardous-air-pollutants-ethylene-oxide/forms/memphis-tennessee-sterilization-services-tennessee.

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A. An emergency order is warranted under the "Generalized Condition" scenario.

Memphis's air pollution ordinance provides, in relevant part:

> *Any other provision of the law notwithstanding*, if the health officer finds that a generalized condition of air pollution exists and that it creates an emergency requiring immediate action to protect human health or safety, the health officer *shall* order persons causing or contributing to the air pollution to reduce or discontinue immediately the emission of air contaminants.

Memphis Muni. Code § 9-12-9 (A) (emphasis added). This provision authorizes the Health Officer to issue an emergency order even if the "persons causing or contributing to the air pollution" are in compliance with other relevant provisions of law—including any relevant environmental permits. *Id.* This provision further *requires* the Health Officer to act if he finds that a "generalized condition of air pollution exists" and that it "creates an emergency requiring immediate action to protect human health." *Id.*

"Generalized" means "involving, applicable to, or affecting the whole"[16] or "involving a lot of people, places, or things."[17] "Generalized condition" mirrors Clean Air Act Section 303's reference to pollution from a "combination of sources (including moving sources)." 42 U.S.C. § 7603. Long-standing EPA guidance interpreting Section 303 similarly contemplates its use to address conditions of air pollution caused by more than one source.[18] EPA recently reaffirmed that the guidance interpreting Section 303 "contemplates consideration of cumulative impacts" in issuing an emergency order.[19]

"Air pollution" means "presence in the outdoor atmosphere of one or more air contaminants in sufficient quantities and of such characteristics and duration as to be injurious to human, plant or animal life, or to property, or which unreasonably interfere with the enjoyment of life and property." Tenn. Comp. R. and Regs. 1200-03-02-.01(1)(d).[20] Ethylene oxide is designated a Hazardous Air Pollutant under the Clean Air Act. 42 U.S.C. § 7412(b)(1).

Substantial evidence exists to support a finding that a "generalized condition of air pollution exists" in the South Memphis community surrounding Sterilization Services of

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[16] *General*, Merriam-Webster. *Generalized* means "made general," so these definitions are from *general*.

[17] *Generalized,* Cambridge Dictionary.

[18] **Att. 13**, Memorandum from Eric V. Schaeffer, Director, Office of Regulatory Enforcement, Office of Enforcement and Compliance Assurance, to Addresses, on Transmittal of "Guidance on Section 303 of the Clean Air Act," at 10–11 (Apr. 1, 1999) [hereinafter "1999 EPA Guidance"].

[19] **Att. 14**, OFF. GEN. COUNS., U.S. ENV'T PROT. AGENCY, PUB. NO. 360R22002, EPA LEGAL TOOLS TO ADVANCE ENVIRONMENTAL JUSTICE: CUMULATIVE IMPACTS ADDENDUM 14 (2023).

[20] Memphis Municipal Code incorporates the definitions from Tennessee Regulations. *See* Memphis Muni. Code § 9-12-1 ("For the purpose of enforcement of the definitions, chapter 1200-3-2, of the Tennessee Air Pollution regulations, as effective on December 31, 2000, is adopted by reference as a portion of this code.").

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Tennessee. It is well-established that the community already bears more than its fair share of air pollution burdens. A 2013 study concluded:

> [T]his study identified an air toxics pollution "hot spot" in southwest Memphis, TN. The levels of air toxics are greater than many other industrialized urban regions in the U.S., indicating that this community is at high risk from exposure to ambient air toxics. Stationary, mobile, and secondary sources are significant contributors to concentrations of air toxics, and the racial and economic composition of this region indicates that the effects of pollutants from these sources fall disproportionately on African Americans and individuals with very low-income levels compared with the remainder of the Memphis metropolitan area.[21]

The study observed that residents of Southwest Memphis, which was defined to encompass the area surrounding Sterilization Services of Tennessee, face a cumulative cancer risk that is four times higher than the national average.[22] Contributing sources identified by the study include:

> Twenty-two of the top 30 major emission sources in Shelby County reside in or near southwest Memphis. There are other significant local transportation sources of air pollution, including barge traffic on the Mississippi River, truck and autos on interstate highways, several local rail yards, and air traffic at Memphis International Airport, the busiest airport in the U.S. and second busiest in the world by cargo traffic.[23]

The study called for "more intensive spatial and temporal air quality monitoring throughout the greater Memphis area,"[24] but despite the passage of ten years since the publication of the study, we are not aware of this air monitoring having been conducted by federal, state, or local air pollution authorities.

Nevertheless, publicly available data sets confirm that the community remains a toxic air pollution hot spot. According to the Center for Disease Control's Environmental Justice Index Explorer tool, all of the tracts immediately surrounding Sterilization Services of Tennessee have an Air Toxics Cancer Risk greater than 80%.[25] The 2020 Census for Tract 55, closest to the facility, ranks in the 95% top national percentile for environmental burden, with a high estimated prevalence of asthma.[26] EPA's EJScreen 2.0 shows that the 1-mile buffer zone around Sterilization Services of Tennessee has an Air Toxics Cancer Risk and an Air Toxics Respiratory Hazard Index area of in the 95th-100th percentile in the U.S. for both environmental justice and

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[21] Chunrong Jia, *supra* note 11, at 112.
[22] *Id.*
[23] *Id.*
[24] *Id.*
[25] **Att. 15**, *Environmental Justice Index (EJI) Explorer*, CTRS. FOR DISEASE CONTROL & PREVENTION, (last visited Feb. 6, 2023), https://onemap.cdc.gov/portal/apps/sites/#/eji-explorer.
[26] *Id.*

pollution and sources indexes.[27] In the 3-mile buffer zone, the Air Toxics percentages remain the same.[28] In addition, a recently-published investigative map developed by ProPublica identified South Memphis as a toxic air pollution hot spot due to the presence of several industrial facilities, including, among others, the Valero Oil Refinery, Nucor Steel Mill, and Stella Jones, a pressure-treated wood manufacturer.[29] The life expectancy at birth of someone living in the same census tract as Sterilization Services of Tennessee is 65.3 years, nearly a decade less than the life expectancy at birth of someone born in Shelby County generally.[30]

The evidence described above shows that a "generalized condition of air pollution" exists in the South Memphis community. The revelation of the increased toxicity of ethylene oxide and the amount of uncontrolled fugitive emissions escaping from Sterilization Services of Tennessee contribute to that condition, creating "an emergency requiring immediate action to protect human health." Children in the community face a particularly urgent health risk warranting immediate action.

EPA's own modeling indicates that ethylene oxide is present in the atmosphere surrounding Sterilization Services of Tennessee in sufficient quantities to harm people.[31] Specifically, EPA has found that the facility's emissions can cause a cancer risk of up to 2,000 in 1 million people—and that is exclusive of exposure to other cancer-causing chemicals.[32] EPA considers a risk of less than 100 in 1 million people "acceptable."[33] EPA has also identified Sterilization Services of Tennessee as one of the top 23 facilities with the highest risk to the surrounding community.[34] The majority of the risk from Sterilization Services of Tennessee come from uncontrolled fugitive emissions.[35]

A report published today by the Union of Concerned Scientists, *Invisible Threat, Inequitable Impact*, *Communities Impacted by Cancer-causing Ethylene Oxide Pollution*, finds

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[27] **Att. 16**, Env't Prot. Agency, *1 mile Ring around the Area, TENNESSEE, EPA Region 4, – SST EtO*, S. ENV'T L. CTR., (last visited Jan. 13, 2023), https://southernenvironment.sharefile.com/d-s8c7ae72125774c6cb4c006532cb0a40b.

[28] **Att. 17**, Env't Prot. Agency, *3 miles Ring around the Area, TENNESSEE, EPA Region 4 – SST EtO,* S. ENV'T L. CTR., (last visited Jan. 13, 2023), https://southernenvironment.sharefile.com/d-sce33d0464eac408092e50f71cef34702.

[29] https://projects.propublica.org/toxmap/.

[30] **Att. 18**, Tejada-Vera B, Bastian B, Arias E, Escobedo LA. & Salant B, *Life Expectancy Estimates by U.S. Census Tract, 2010-2015*, NAT'L CTR. FOR HEALTH STAT. (Mar. 9, 2020), https://www.cdc.gov/nchs/data-visualization/life-expectancy/; **Att. 19**, Sarah Ashley Nicole Collins, *Racial Differences in Life Expectancy Among Shelby County, Tennessee Residents* 7 (2020). Electronic Theses and Dissertations. 2087. https://digitalcommons.memphis.edu/etd/2087.

[31] *Memphis, Tennessee (Sterilization Services of Tennessee)*, *supra* note 15.

[32] *Id.*

[33] **Att. 20**, Darya Minovi, *Invisible Threat, Inequitable Impact Communities Impacted by Cancer-Causing Ethylene Oxide Pollution*, UNION OF CONCERNED SCIENTISTS 7 (Feb. 2023) http://www.ucsusa.org/resources/invisible-threat-inequitable-impact [hereinafter UCS Report]; *Id.*

[34] EPA Slide Presentation, at 11.

[35] *Id.*, at 18.

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that based on the most recent publicly-available data, **ethylene oxide emissions account for approximately 82 percent of the air toxics cancer risk in the census tract that includes Sterilization Services of Tennessee**.[36] The report also finds that Sterilization Services of Tennessee operates within five miles of more than 130,000 people and approximately 180 schools and childcare centers.[37] EPA has stated:

> Because children's bodies are growing, they are expected to be more susceptible to the toxic effects caused by EtO. This is because EtO is mutagenic, meaning it can damage DNA. As children grow, they tend to be more susceptible to the harmful effects caused by chemicals, including chemicals that are mutagenic. For anyone, including children, risks would decrease with decreased exposure.[38]

EPA's EJScreen 2.0 shows that eleven percent of the residents in the one-mile radius immediately surrounding the facility are children under age five—a population that is particularly vulnerable to the damage caused by ethylene oxide.[39] The Health Officer must act immediately to protect children and other vulnerable residents in South Memphis.

There is no credible evidence showing that Sterilization Services of Tennessee is *not* contributing to the air pollution in South Memphis. When EPA announced that Sterilization Services of Tennessee was among the highest risk facilities, the Mayor of Memphis released a report detailing four days of air monitoring the City had commissioned near the facility.[40] That report did not find ambient levels of ethylene oxide above Occupational Health and Safety Administration standards. However, the methodology of that air monitoring exercise was not appropriate for evaluating ambient exposure in the community. An independent review of the City's air monitoring report by atmospheric chemist Dr. Richard Peltier confirms that the air monitoring conducted was flawed in several ways, including: (1) use of a fixed location despite multiple changes in wind direction; (2) measurement interference due to the monitoring instrument's sensitivity to carbon monoxide and proximity to many sources of carbon monoxide; and (3) the monitoring instrument's inability to detect levels of ethylene oxide likely to be present at ambient levels in the community.[41]

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[36] UCS Report, at 15.

[37] *Id.*

[38] **Att. 21**, *Our Current Understanding of the Human Health and Environmental Risks of Ethylene Oxide*, U.S. ENV'T PROT. AGENCY, (Dec. 8, 2022), https://www.epa.gov/hazardous-air-pollutants-ethylene-oxide/our-current-understanding-human-health-and-environmental.

[39] Env't Prot. Agency, *1 mile Ring around the Area, TENNESSEE, EPA Region 4, – SST EtO*, *supra* Note 27.

[40] **Att. 22**, *City of Memphis Response to EPA Ethylene Oxide Announcement*, CITY OF MEMPHIS (Aug. 3, 2022), https://www.memphistn.gov/news/city-of-memphis-response-to-epa-ethylene-oxide-announcement/.

[41] **Att. 23**, Letter from Dr. Richard E. Peltier, Professor Env't Health Sci., U. Mass Amherst to Amanda Garcia, Dir. Tenn. Off., S. Env't L. Ctr. (Feb. 3, 2023).

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As the updated toxicity information and air modeling performed by EPA shows, Sterilization Services of Tennessee is a "person causing or contributing to the air pollution" and therefore the Health Officer must order them to stop emitting ethylene oxide.

B. An emergency order is warranted under the "Imminent Danger" scenario.

Even if the Health Officer does not find that a generalized condition of pollution exists, the Memphis Code provides:

> [I]f the health officer finds that emissions from the operation of one or more air contaminant sources is causing imminent danger to human health or safety, he or she may order the person responsible for the operation in question to reduce or discontinue operations immediately[.]

Memphis Muni. Code § 9-12-9(B). An emergency order is warranted under this scenario as well.

Sterilization Services of Tennessee is an "air contaminant source" as defined by the Tennessee Air Quality Act. Tenn. Code Ann. § 68-201-102(2) (Air Contaminant Source is "any and all sources of emission of air contaminants, whether privately or publicly owned or operated. Without limiting the generality of the definition of air contaminant source, air contaminant source includes all types of business, commercial and industrial plants. . . ."). The "is causing" language in the ordinance mirrors "is presenting" in Section 303 of the Clean Air Act. *See* 42 U.S.C. § 7603 ("a pollution source or combination of sources (including moving sources) is presenting an imminent and substantial endangerment"). EPA's 1999 guidance states, "The 'is presenting' requirement is clearly met when there are ongoing emissions that endanger public health, welfare, or the environment."[42] As discussed in Section II.A, above, air modeling and toxicity information from EPA satisfy this element.

Sterilization Services of Tennessee's ethylene oxide emissions constitute an "imminent danger," even though the harm to children and other vulnerable residents discussed in Section II and II.A, above, may not manifest for several years. EPA's 1999 guidance states:

> Courts have interpreted the term 'imminent' under other environmental statutes to include situations where present conditions indicate there may be a risk to health or the environment, *even though the harm may not be realized for years*. It is not necessary for the endangerment to be immediate or tantamount to an 'emergency' to be imminent and warrant relief.[43]

Similarly, Tennessee courts have defined *imminent*—as in the phrase "imminent danger"—to require "a reasonable probability . . . as opposed to a mere possibility . . . ."[44]

EPA's updated toxicity analysis and air modeling demonstrates the imminence, or a reasonable probability, of harm. EPA's data also demonstrate the danger of Sterilization Services

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[42] 1999 EPA Guidance at 8.

[43] *Id.* at 6. (Emphasis added.)

[44] *State v. Payne*, 7 S.W.3d 25, 28 (Tenn. 1999) ("Therefore, for the threat of death or serious bodily injury to be 'imminent,' the person must be placed in a reasonable probability of danger as opposed to a mere possibility of danger.").

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of Tennessee's ethylene oxide emissions. "[C]ausing . . . danger" in the Memphis code mirrors "endangerment" in CAA § 303. "EPA interprets 'endangerment' under §303 to mean threatened or potential harm, as well as actual harm."[45] Likewise, "[c]ourts have consistently held that endangerment' means a threatened or potential harm and does not require proof of actual harm.'"[46] Under other environmental statutes, courts have found "endangerment" based on risk of cancer.[47] A federal appellate court emphasized that the danger—not the harm itself—must be imminent to issue an emergency order under the Safe Drinking Water Act's analogous provision.[48]

Because each of the elements of the "Imminent Danger" scenario are satisfied, the Health Officer should order Sterilization Services of Tennessee to discontinue operations immediately.

In summary, the South Memphis community should not be forced to endure several more years of unnecessary exposure to a cancer-causing chemical while EPA completes its rulemaking. The Shelby County Health Officer has the duty to order Sterilization Services of Tennessee to stop polluting South Memphis's air with ethylene oxide *now*.

For the health of South Memphis children and families, we urge you to act expeditiously on this petition.

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[45] 1999 EPA Guidance at 3.

[46] *Dague v. City of Burlington*, 935 F.2d 1343, 1356 (2d Cir. 1991) (applying "imminent and substantial endangerment" standard in RCRA case).

[47] *See, e.g.*, *Rsrv. Mining Co. v. Env't Prot. Agency*, 514 F.2d 492, 529 (8th Cir. 1975) (finding "endangerment" where "[t]he record shows that [defendant] is discharging a substance into Lake Superior waters which under an acceptable but unproved medical theory may be considered as carcinogenic."), *modified sub nom. Rsrv. Min. Co. v. Lord*, 529 F.2d 181 (8th Cir. 1976).

[48] *Trinity Am. Corp. v. EPA*, 150 F.3d 389, 399 (4th Cir. 1998) ("Because only the 'risk of harm' must be 'imminent,' EPA need not demonstrate that individuals are drinking contaminated water to justify issuing an emergency order. Rather, EPA must demonstrate the 'imminent likelihood' that the public may consume contaminated water unless prompt action is taken to 'prevent' a 'potential hazard from occurring.'") (quoting House Report).

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TABLE OF ATTACHMENTS TO MEMPHIS COMMUNITY AGAINST POLLUTION'S FEB. 7, 2023 PETITION FOR AN EMERGENCY AIR POLLUTION ORDER

Attachments available at:
https://southernenvironment.sharefile.com/d-s1957a1d38a704401ba7f82c4b6e4f2bf

Att. 1 Env't Prot. Agency, Frequent Questions About Ethylene Oxide (EtO), (Jan. 13, 2023)
Att. 2 Nat'l Ctr. for Env't Assessment, Off. Rsch & Dev., U.S. Env't Prot. Agency, Evaluation of The Inhalation Carcinogenicity of Ethylene Oxide: In Support of Summary Information on the Integrated Risk Information System, (Dec. 2016)
Att. 3 Ctrs. For Disease Control & Prevention, *Ethylene Oxide "Gas" Sterilization*, (Sept. 18, 2016)
Att. 4 Occupational Safety & Health Admin., *OSHA Fact Sheet: Ethylene Oxide,* (2002)
Att. 5 U.S. Dep't Health & Hum. Servs., *ATSDR Clinician Brief: Ethylene Oxide,* (2009)
Att. 6 Ill. Dep't Pub. Health, Cancer Incidence Assessment Near Sterigenics in Willowbrok, IL, 1995-2015 (Mar. 29, 2021)
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