

Lone Star Chapter Sierra Club

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National Academies of Sciences Engineering and Medicine Panel on Review of TCEQ's Ethylene Oxide Development Support Document  
Comments emailed to: [EtOReview@nas.edu](mailto:EtOReview@nas.edu)

Question: Why is the Texas Commission on Environmental Quality (TCEQ) seeking a NASEM review of its 2020 Ethylene Oxide Development Support Document (DSD) in efforts to gain support for a weaker ethylene oxide (EtO) standard than the EPA's IRIS cancer risk factor?

Attention NASEM Panel members:

The TCEQ's EtO proposal to NASEM is not surprising to me as a former TCEQ regional investigator of chemical plants and later in clean air advocacy with Sierra Club's Lone Star Chapter in Texas.

Since 1980, I have observed both by working inside and outside the TCEQ that the agency has a historical practice dating back to 1971 of giving a high priority to the Air Permitting Programs, including Toxicology and Air Modeling, to support the industrial sector to expand chemicals production, including EtO synthetic process units.

My concerns have persisted about the TCEQ as a regulatory agency watching its tendency to lean more often in favor of the regulated industry throughout the state, including the Texas chemical industry. At the same time, I closely networked with the environmental justice communities along the Gulf Coast of Texas and other areas in dozens of cities and towns with large industrial plants.

In fact, Texas has ~300 major chemical plants and the Texas chemical industry carries a lot weight at TCEQ and in the Texas legislature, the Governor, with many elected officials strongly supporting rapid air permit approvals.

TCEQ's environmental policy efforts tend to favor the industrial sector over fence line communities and neighborhoods

My 12 years working in chemical and industrial plant investigations in the field at the TCEQ and 32 years in EPA and TCEQ environmental policy with the Sierra Club's Lone Star Chapter taught me that TCEQ places an emphasis in air permit approvals over the people who are living in the fence line communities suffering with unacceptable air pollution impacts as noted in more than 173,000 air permits issued since 1971 or ~3,300 air permits a year and air permit denials are rare.

TCEQ's officials including toxicologists routinely perform environmental policy work that is not in the public interest such as joining with industry efforts to attack the EPA's proposed health-based ozone standards in favor of weaker ozone standards as TCEQ did in 1997, 2008 and 2015 as examples, because stronger EPA ozone standards required the industry sector to reduce thousands of tons of precursor emissions of nitrogen oxides and volatile organic compounds and costing industry in high ozone cities billions of dollars to install air pollution control systems to help reduce ozone.

As a result, legal challenges have often been filed against the EPA's new air quality standards and new EPA industry air toxics rules by requesting the Texas Attorney General to sue the EPA in federal court.

TCEQ openly supports legal challenges by suing the EPA by industrial organizations with large plants in Texas

TCEQ willingly intervenes with industry organizations like the American Petroleum Institute, American Chemistry Council, Texas Chemistry Council, and similar groups in suing the EPA.

However, I do not recall a single example of TCEQ intervening on the side of public interest groups such as Sierra Club, American Lung Association, and others.

In 1997, a new Governor G.W. Bush appointed TCEQ Commissioner and ex-Monsanto chemical engineer Ralph B. Marquez testified in Congress against new EPA ozone standards by emphasizing his chemical engineering opinion that ozone was a "relatively benign pollutant". He had previously worked at a Monsanto chemical plant near Houston sited in the large 8-county Houston-Galveston-Brazoria ozone nonattainment region and new ozone rules meant that this major Clean Air Act chemical plant would need to install more pollution controls to reduce its ozone-forming emissions of NOx and VOCs.

Former TCEQ chief toxicologist Dr. Michael Honeycutt publicly spoke against the EPA's proposed ozone standards in 2008 and 2015. The TCEQ's email records show that he strongly advocated internally and externally against the EPA's proposed IRIS risk factor on EtO in 2019-20. Instead he clearly advocated for the TCEQ's own 2020 Ethylene Oxide Development Support Document that the NASEM panel is tasked with reviewing.

Recently on January 12, 2024 in support of TCEQ's environmental policy position opposing EPA's IRIS risk factor for EtO, the TCEQ (via the Texas Attorney General Ken Paxton) filed an amicus brief (friend of the court brief) to support the

chemical industry petitioners in *Huntsman Petrochemical LLC, American Chemistry Council, and Louisiana Chemical Association v. U.S. Environmental Protection Agency* in case 23-1045 in the U.S. Court of Appeals for the District of Columbia Circuit.

The *Huntsman Petrochemical LLC* legal case pertains directly to the EPA's final IRIS risk factor EtO standard, because the chemical industry and TCEQ support a federal appeals court's legal review of the final Clean Air Act EtO rule promulgated by EPA entitled "*Reconsideration of the 2020 National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing Residual Risk and Technology Review*," published at 87 Fed. Reg. 77,985 (Dec. 21, 2022) ("Reconsideration Rule"). The chemical industry federal rules regulate EtO air pollution from the chemical industry with Texas having numerous EtO chemical plants under the TCEQ's regulatory authority.

The "Reconsideration Rule" reaffirms (1) EPA's use of the Integrated Risk Information System ("IRIS") cancer risk value for ethylene oxide and (2) EPA's rejection of the Texas Commission of Environmental Quality's ("TCEQ's") 2,000 times weaker cancer risk value for ethylene oxide in setting the 2020 Miscellaneous Organic National Emissions Standards for Hazardous Air Pollutants ("Miscellaneous Organic NESHAP" or "MON" standards), published at 85 Fed. Reg. 49,084 (Aug. 12, 2020) ("2020 Final Rule"). Accordingly, the Reconsideration Rule made no changes to the MON standards. 87 Fed. Reg. at 77,985.

**Recommendation:** The NASEM's EtO panel needs to reject the TCEQ's 2020 EtO DSD proposal as flawed science, biased and cherry picked evidence selected by the American Chemistry Council that is 2,000 times weaker than the EPA's EtO IRIS risk factor, because the TCEQ is collaborating to support the ethylene oxide chemical companies in Texas.

### Ethylene Oxide Chemical Sector in Texas

Texas ranks #1 in the U.S. with 60 major Clean Air Act regulated chemical and petrochemical plants emitting or having the potential to emit the carcinogen EtO from EtO synthetic process units and/or emitted as an intermediate chemical where the C2 hydrocarbon ethylene is produced.

This gives TCEQ Commissioners, air permit writers and toxicologists 60 reasons to strongly support the state's EtO chemical industry for thousands of industry jobs and significant economic impacts on the Texas economy. Plus the fact that the TCEQ Commissioners and staff are routinely lobbied by chemical industry representatives and lawyers as public records reveal.

TCEQ maintains a large industrial plant inventory — the Point Source Emissions Inventory — that annually averages over 1,900 plant sites in Texas, and is by far the largest major Clean Air Act plant inventory in the US supported by the large oil and gas sector which in turn provides critical chemical feedstock materials and combustion fuels to be able to synthesize EtO from feedstock chemicals like ethane and ethylene.

The TCEQ's annual Texas industrial point source emissions trends are available for searching types of major industrial plants such as Chemical Plant sites. Cite: <https://www.tceq.texas.gov/airquality/point-source-ei/psei.html>

The TCEQ's online Summary Industrial Point Source emissions inventory lists six criteria pollutants: volatile organic compounds (VOC), nitrogen oxides (NOx), sulfur dioxide (SO<sub>2</sub>), carbon monoxide (CO), lead, and particulate matter less than ten microns in diameter (PM<sub>10</sub>) and PM<sub>2.5</sub>. Detailed annual plant emissions inventories are available upon request to the TCEQ's Emissions Inventory group.

#### Texas Communities with People of Color Citizens Living next to the Ethylene Oxide Chemical Sector: Where is Environmental Justice in Texas?

On the other hand, the environmental justice (EJ) community health concerns over EtO impacts appear to have been downplayed and largely ignored by the TCEQ toxicologists in its EtO standards review, because the TCEQ's EtO DSD fails to consider the health impacts and demographics of the many Texas EJ communities where EtO air pollution is occurring. Who did the TCEQ toxicology group interview on EtO? Not one single community interview of affected EJ persons was conducted by the TCEQ's toxicologists in the EtO review as if it was intentionally ignoring the EtO impacts in EJ communities.

In my TCEQ investigative experiences and my Sierra Club visits to EJ communities, I directly learned from the EJ leaders, mothers and community members about the "sacrifice zones" of Texas typically found within the industrial areas of the state.

These Texas communities present what I perceive as "sacrifice zones", because they are typically populated with thousands of EJ citizens and their children living on or close to the polluting plant fence lines and downwind pathways from large industrial facilities, including 60 EtO chemical pollution sites. And as I discovered, they frequently reported anecdotally suffering from high cancer rates, brain injuries, miscarriages, still births, respiratory illnesses, immune system illnesses, shortened life spans, children who are too sick to go to school, children with memory impairment and brain fog, children with learning and physical disabilities, skin problems, sleeping difficulties, and other adverse health effects.

Yet the staff in the TCEQ's Toxicology Division tend not to travel out in the field and certainly not to investigate industrial air pollution resulting in EJ impacts that, in my opinion based on years of visiting dozens of EJ communities and extensive academic and lab training in chemistry, are most likely linked to the thick plumes of invisible air toxics, smoking flares, and smelly criteria chemicals drifting 24/7 through these communities.

Fyi, since 1994, I have been involved with civil rights lawyers in filing a series of federal Title VI Civil Rights complaints against the TCEQ's permitting of disparate pollution impacts and skewed air permitting. Each Title VI EJ complaint was filed with the EPA's Office of Civil Rights. The EPA's Office of Civil Rights has accepted and investigated several of the Title VI complaints with this advocacy work ongoing. EPA Civil Rights staff did get TCEQ to address some EJ issues.

Note that Texas has 26 communities with 60 petrochemical units producing or using EtO, a carcinogen with adverse health effects and a more potent carcinogen than chemical plant pollutants such as benzene, vinyl chloride, 1,3-butadiene, formaldehyde, chromium VI, etc. Note many Texas communities with small commercial EtO sterilizer sites where they utilize large quantities of EtO.

#### What Texas communities have the largest group of EtO Chemical plants?

The greater Houston region is home to 38 EtO chemical plants sited in 12 Houston area communities, including the City of Houston (2.3 million), the E. Houston Ship Channel cities of Pasadena (147,000), Baytown (84,000), Channelview (43,000), Deer Park (34,000), La Porte (37,000) and Mont Belvieu (9,000) all located along or close to the Houston Ship Channel; more EtO plants in the N. Houston city of Conroe (102,000); S.E. Houston city of Texas City (56,000); S.W. Houston cities of Alvin (28,000) and Freeport-Lake Jackson-Clute (48,000); and S.W. Houston town of Old Ocean (200). The total population in the 12 Houston area communities is 2,850,200.

Moreover, 22 other EtO petrochemical plants are sited in 14 communities at Irving (255,000), Odessa (113,000), Beaumont (112,000), Longview (83,000), Victoria (65,000), Lufkin (34,000), Orange (19,000), Brownwood (19,000), Bay City (18,000), Borger (12,000), Port Lavaca (11,000), Bishop (3,000), Seadrift (1,000), and Point Comfort (600). Total population in 14 communities is 745,600.

Combined state population is 3,595,800 potentially exposed to EtO air pollution from 60 petrochemical plants in 26 Texas communities. The public concern is the 26 Texas communities will face higher EtO exposure risks if the TCEQ applies a weaker EtO standard 2,000 times weaker than the EPA's IRIS risk factor.

## TCEQ's June 2018 meeting with American Chemistry Council experts on EtO

Who wants to weaken EPA's IRIS Risk Factor for EtO besides TCEQ?

The American Chemistry Council (ACC).

The ACC is the major US lobby group for 60 Texas chemical plants with EtO emissions.

The ACC sent experts to Austin, Texas to meet TCEQ toxicologists on June 26, 2018 and show the ACC's 76 slide ppt (attached) to the Texas staff, clearly recommending a weakening of TCEQ's EtO standard and urging the TCEQ to aggressively lobby the EPA to back away from its EtO IRIS Cancer risk factor.

June 26, 2018 Ppt Title: *"American Chemistry Council – Ethylene Oxide Panel"*.

One year later on Friday June 28, 2019 after meeting with ACC experts in 2018, TCEQ released its proposed 2019 Ethylene Oxide standard that was *radically weaker than EPA's IRIS Risk Factor by a factor of 3,500 times*.

Coincidentally, in 2017, TCEQ's toxicologists had created an EtO factor that was only 65 times weaker and less-protective than EPA's IRIS Cancer Risk Factor, based on animal data from the IRIS assessment.

After meeting in June 26, 2018 with the ACC experts, TCEQ's EtO proposal got worse: TCEQ's draft Development Support Document *June 28, 2019 was 3,500 times weaker than the EPA IRIS value. 0.0000014 per ug/m3*.

Sierra Club took action and filed Monday July 1, 2019 the first of several Texas Public Information Act requests to TCEQ seeking to review and analyze all documents used in its June 28, 2019 EtO draft proposal called the Development Support Document.

We had serious concerns about how the TCEQ had reached decisions to issue such a flawed science review of a potent human carcinogen as EtO.

As a result, Sierra Club asked July 1, 2019 for... *"information and documents that TCEQ has cited, considered, and relied upon in regard to its Proposed Development Support Document and cancer risk factor for Ethylene Oxide."*

But TCEQ's Toxicology staff had a surprise: they decided to hide 6414 pp. of EtO documents from the public review that were used in its draft proposal.

*This is clearly not Science in the Public Interest!*

When TCEQ sought an opinion from the Office of Attorney General, Sierra Club submitted a letter in August 2019 to the Office of Attorney General explaining why it should advise TCEQ to disclose all responsive information.

However, the public comment deadline on the DSD closed on September 26, 2019, and as of September 26, 2019, the TCEQ has still not released all responsive information as required by the Texas Public Information Act on the 6414 pp. of EtO documents. What was the TCEQ Toxicology staff hiding?

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After TCEQ asked the Texas Attorney General for an exception to keep 6414 pp. of EtO documents confidential, the Attorney General replied on September 24th.

September 24, 2019, the Texas Attorney General sent a letter to the TCEQ stating the Office of the Attorney General (OAG) found that:

*TCEQ failed to meet the procedural requirements of the Public Information Act; the requested information is legally presumed public; TCEQ “failed to establish a compelling reason” to withhold the information from disclosure; thus, “no portion of the submitted information may be withheld under section 552.111.”*

*TCEQ “must release” the responsive information (other than the username and password).*

*However, TCEQ continues to unlawfully withhold such information in direct conflict with the OAG’s clear ruling.*

After the Texas Attorney General ruled on September 24, 2019 in the Sierra Club’s favor that TCEQ needed to make the 6414 pp. of EtO documents public, the TCEQ filed a request on September 30, 2019 asking the Texas Attorney General for reconsideration.

On October 4, 2019, the Sierra Club filed an Open Records Complaint to the Texas Attorney General’s Open Records Division:

*Proposed Cancer Risk Factor for Ethylene Oxide Open Letter Ruling OR2019-26474 (ID# 787094) TCEQ PIR No. 19-48291.*

But the TCEQ went ahead and filed a state lawsuit October 4, 2019 against the Texas Attorney General over its EtO documents ruling.

December 18, 2019: Sierra Club filed to intervene in the state lawsuit of TCEQ vs. Texas Attorney General seeking access to 6414 of secret TCEQ Toxicology documents

Next, Sierra Club filed suit in December 18, 2019 over the 6414 pp. of secret EtO documents hidden by the TCEQ's Toxicology staff.

To date as of May 9, 2024, Sierra Club and our legal team have won all three Texas Court rounds after TCEQ's appeal was denied in December 2023 at the Texas Supreme Court.

First at the Travis County State District Court where the judge ruled May 5, 2021 for TCEQ to release all 6414 pp. of secret EtO records and pay attorneys fees to Sierra Club.

Then TCEQ filed an appeal to a three-judge panel of the Third Court of Appeals in Austin on March 7, 2022, and lost its appeal on November 22, 2022.

A panel of Third Court of Appeals justices ruled 3-0 and upheld the trial court's decision in 2021 ordering the TCEQ to hand over specific information requested by the Sierra Club related to the agency's development support documents titled "Ethylene Oxide Carcinogenic Dose-Response Assessment."

We are waiting for the final denial any day from the Supreme Court of Texas, because the TCEQ had nothing new as far as legal issues to present in its motion for reconsideration this spring.

Hopefully, the TCEQ will then be ordered by the Third Court of Appeals to produce the 6414 pp. of secret EtO documents for public review and pay fees.

This whole TCEQ legal matter since July 2019 reveals that the agency prefers to operate in its 2019 Ethylene Oxide proposal in secrecy, which is not in the public interest and is not how science operates.

Respectfully,

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