



March 4, 2025

Abigale Tardif
Principal Deputy Assistant Administrator
Office of Air and Radiation
Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

RE: Request for Extension of the Compliance Deadline and Letter of Support for ACC/AFPM Petition for Reconsideration In Re: New Source Performance Standards for the Synthetic Organic Chemical Manufacturing Industry and National Emission Standards for Hazardous Air Pollutants for the Synthetic Organic Chemical Manufacturing Industry and Group I & II Polymers and Resins Industry (89 Fed. Reg. 42932). Docket ID: EPA-HQ-OAR-2022-0730 ("HON rule").

Dear Principal Deputy Assistant Administrator Tardif:

We are writing on behalf of The Dow Chemical Company ("Dow") to thank you for meeting with us on February 18th to discuss our concerns with the final HON rule and express our support for the petition for reconsideration filed by the American Chemistry Council ("ACC") and the American Fuel & Petrochemical Manufacturers ("AFPM") urging the Environmental Protection Agency ("EPA") to reconsider its final HON rule. First and foremost, Dow requests immediate relief and a one-year extension to the impractical compliance deadlines, which are fast approaching, as the final rule's deadlines are unrealistic and cannot be met. Without an extension, this will lead to facility shutdowns and jeopardize important ethylene oxide supply chains including military jet fuels, aircraft deicing fluids, semiconductors, pharmaceuticals, and sterilization.

We also support the call to revoke the regulatory provisions promulgated under Clean Air Act section 112(f) because they exceed EPA's statutory authority and do not comply with the requirements of reasoned decision-making. While the petition filed by ACC and AFPM speaks to the general need for immediate relief and the rule's consequences from a national perspective, we wanted to ensure that you also had input from a regulated entity that is subject to EPA's final HON rule. The final rule's deadlines are unrealistic and there is a need for immediate relief. The final rule also harms the national interest because it exceeds EPA's statutory authority and imposes undue burdens and costs that impede private enterprise and far outweigh any public benefit.

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General Business

Sierra Club FOIA Request:
2025-EPA-04193

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Dow and its subsidiaries have long been committed to high operational and safety practices that consistently meet or exceed regulations and applicable laws wherever it operates. Dow works proactively and collaboratively with regulators to ensure compliance with all applicable federal, state, and local regulations and continues to advocate for sensible, risk-based emissions standards based on the best available science. Long before EPA promulgated its final HON rule, Dow established an Ethylene Oxide (EO) Emissions Reduction Program overseen by the Corporate EO Steering Team, which consists of members from the company's business, engineering, procurement, strategy, and leadership teams. The Corporate EO Steering Team has focused on five key steps (1) compliance (establishing confidence in EO emission data); (2) robust operation (preventing EO releases and limit exceedances); (3) risk reduction (preventing unplanned events resulting in EO emissions); (4) operating discipline (accomplishing sustained improvement); and (5) communications. Dow's efforts to implement these steps significantly decreased EO emissions. In 2021, Dow's EO emissions declined by more than 70% from a 2018 baseline¹. Dow has also engaged with its local communities to listen to the concerns, questions, and needs of community members.

EPA Should Extend Upcoming Deadlines

Dow and its subsidiary (which will send its own separate communication), have submitted requests to extend the compliance deadline of July 15, 2026 by one year for five of their twenty-eight projects that are being implemented to comply with the ethylene oxide provisions of the HON rule. We are continuing to work with EPA on their request for more information related to these extension requests.

In preparing to comply with the HON rule, Dow has undertaken an extensive amount of work to sample and test individual process vents and process wastewater streams to determine if these sources meet the definition of "In Ethylene Oxide Service". Dow has also expended significant financial resources on project scoping and engineering for all the projects, and devoting significant employee time, including new hires and reallocation of human capital away from other workstreams. Beginning in April 2024, Dow commenced comprehensive sampling and monitoring at two of its facilities (and two of its subsidiary's facilities) to identify which projects would need upgrades to comply with the HON rule and which projects are "in ethylene oxide service" (meaning that the projects include equipment that processes ethylene oxide ("EO")). Because of the sheer number of product lines and the vastness of Dow equipment that is involved in EO-related processes, those efforts remain ongoing. The breadth of projects that Dow must implement to comply with the final rule is constantly evolving, as Dow has been forced to add and subtract projects as new sampling information becomes available.

Dow is required to undertake an extensive assessment process to determine whether equipment is in EO service, and how Dow can and should upgrade its equipment to meet the HON rule's extraordinarily stringent limits. That process requires (1) testing vents for flow rate and composition; (2) scoping out potential solutions to bring EO emissions into compliance with



the final rule; and (3) sourcing bids from external vendors who may be able to develop the required technology. Each of these steps presents significant practical challenges. For example, there are few vendors who are qualified to build the necessary devices and, because every EO emitting industry needs to comply simultaneously, industry faces a significant backlog. Similarly, some of the technologies needed to comply with EPA's requirements have known reliability issues.

In addition to this detailed assessment process, each of the five separate projects, for which Dow seeks an extension, independently require (1) six months to determine if equipment is in EO service; (2) 12 months for front-end engineering design; (3) nine months of detailed design engineering; (4) 19 months for procurement of vendor bids, vendor questions and selection, equipment fabrication and delivery (overlaps with front end engineering design); (5) ten months for construction of required equipment, piping, and instrumentation (overlaps with detailed design engineering); and (6) 1-1.5 months to develop operating procedures, commissioning the equipment, and placing it into service. This information was provided to EPA several times with our comments on the rule and in meetings with the Agency.

Without an extension, Dow will not be able to meet the compliance timeline and potentially will have to shut down some of its facilities until we complete these projects. Dow will also be forced to implement projects at a rate that increases safety risks; diverts resources from other previously planned projects; and limits Dow's ability to innovate and develop new products to help the American people in everyday life. Therefore, an extension is needed **now** to avoid expending significant resources to comply with the final rule's unreasonable deadlines.

EPA Should Grant the Motion for Reconsideration

EO serves as an important chemical precursor used to produce a wide range of other chemicals, including home and personal care products, pharmaceuticals, agricultural products, antifreeze, military jet fuels, plastics, detergents, and textiles. It also performs a crucial role as a sterilizing agent for heat-sensitive medical equipment that cannot be sterilized with steam or radiation. Dow estimates that its U.S. manufactured EO supplies the requirements of 75% of the U.S. government's jet fuel additive, 35% of the osmotic laxative market, 25% of the automotive brake fluid market, and nearly 10% of aircraft deicing fluids—all essential products required for national safety and the smooth functioning of the U.S. economy.

Dow may have to shut down some facilities that produce or use ethylene oxide in the second half of 2026 to comply with the HON rule, which is likely to have downstream impacts on the derivatives of EO with consequences for all of the sectors mentioned above. If Dow were to shut down the facilities simultaneously, the cascading impacts of the loss of EO production would be widespread and felt throughout the U.S., both economically and from an essential products perspective. During these outages, hourly employees will also face loss of work, negatively impacting the local community and individual American families' households.



There are several provisions of the final rule that are untenable. Two of the most challenging are EPA's decision to regulate process wastewater streams at a level of 1 ppmw without any allowance for low mass flows or any consideration that some of the ethylene oxide in the process wastewater streams will react with water to form ethylene glycol. EPA's assumption that 50% of the ethylene oxide in the wastewater streams will be emitted to the atmosphere is much higher than fraction emitted values calculated by Dow's estimating tools, which predict 5 to 15% will be emitted. These wastewater streams require additional unit operations to react or remove the ethylene oxide from the process wastewater. In addition, EPA's decision to regulate small process vent streams at a level of 1 ppmv without regard to the stream pressure, flowrate or net heating value also create engineering challenges when determining how to collect and transport these streams to a control device and then what type of control system to design.

In addition to these engineering concerns, EPA has finalized requirements that would actually increase ethylene oxide emissions. For example, EPA has eliminated the Delay of Repair option for addressing small equipment leaks. This means that if a manufacturer cannot fix a small leak within fifteen days, the entire plant must be shut down to address that leak. By removing this delay of repair option, manufacturers estimate this could lead to 4-6 more plant shutdowns a year. Shutting down and starting up plants would emit more ethylene oxide emissions than allowing a small leak to continue until it can be safely fixed. And this may not only impact the ethylene oxide unit but could also force units offline that rely on ethylene oxide as an input in making other products.

In addition, EPA has finalized requirements that are not technically feasible. For thermal oxidizers, EPA is requiring continuous monitoring of flue gas. Flue gas temperatures are 1300 – 1600°F for smaller thermal oxidizers with no heat recovery. Technology is not available to continuously measure flowrates at these high temperatures. This makes compliance impossible.

EPA has finalized a fence-line monitoring action level of 0.2 μm^3 of ethylene oxide based on a new ambient air monitoring method (Method 327). There are many technical concerns with the new Method 327 and the ability of commercial labs to run the new method and analyze the number of canisters required for each site. The final action level is also below background levels taken at areas where there is no ethylene oxide being manufactured or used. This makes compliance impossible.

Finally, these requirements are all based on an overly conservative scientific assessment. EPA is relying on a risk value from the EPA EO IRIS assessment, which has been challenged as flawed and overly conservative. Further, EPA is utilizing this IRIS value without taking other scientific and peer-reviewed data into consideration. The IRIS risk value is 23,000 times lower than what is naturally occurring in the human body and below background levels.ⁱⁱ



Despite the critical role EO plays in everyday life and the substantial work Dow has taken to reduce EO emissions, EPA refused to incorporate several of Dow's comments into the HON rule. Nor has it adequately addressed the objections that EPA has exceeded its authority and imposed burdensome regulations that do not reflect the best and most appropriate reading of the statutory requirements. The rule imposes significant costs that are not outweighed by the expected public benefits, and it will harm national interests. As a result, EPA should grant the petition for reconsideration and take time to impose a HON rule that is appropriate, cost-effective, and consistent with the national interest.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Louis Vega".

Louis Vega
President, Dow North America

Cc: Aaron Szabo, Senior Advisor to the Administrator, Office of the Administrator
Sean Donahue, Principal Deputy General Counsel, Office of General Counsel
Alex Dominguez, Deputy Assistant Administrator for Mobile Sources, Office of Air and Radiation
Peter Tsirigotis, Director, Office of Air Quality Planning and Standards
Penny Lassiter, Director, Sector Policies and Programs Division, Office of Air Quality Planning and Standards
Patrick Lessard, Refining and Chemical Group Leader, Office of Air Quality Planning and Standards
Andrew Bouchard, General Engineer, EPA Office of Air Quality Planning and Standards

ⁱ EPA used 2017 data in this final rule, which does not accurately estimate current risk since many facilities began emission reduction programs in 2018 when the new risk value was announced.

ⁱⁱ <https://www.americanchemistry.com/chemistry-in-america/chemistries/ethylene-oxide>