U.S. Environmental Protection Agency
Office of Inspector General

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At a Glance

Why We Did This Audit

We conducted this audit to determine whether the U.S. Environmental Protection Agency's **residual risk and technology review**, known as RTR, process has sufficiently identified and addressed any elevated cancer risks from air toxics emitted by facilities.

The Clean Air Act requires the EPA to conduct residual risk reviews to assess the health and environmental risks that remain after implementation of technology standards limiting air toxics emissions. If health risks are determined to be unacceptable, the EPA is required to revise the standards to reduce the risks. Separately, the EPA is required to review each of the technology-based standards at least every eight years and, if necessary, revise them, considering developments in practices, processes, and control technologies. The EPA calls this the **technology review**. For efficiency, the EPA combines RTRs in the same regulatory package.

This audit addresses the following:

- *Improving air quality.*

This audit addresses a top EPA management challenge:

- *Integrating and leading environmental justice.*

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EPA Should Conduct New Residual Risk and Technology Reviews for Chloroprene- and Ethylene Oxide-Emitting Source Categories to Protect Human Health

What We Found

The EPA should conduct new RTRs for chloroprene- and ethylene oxide-emitting source categories to address elevated individual lifetime cancer risks impacting over 464,000 people, as found in a modeling tool, and to achieve environmental justice.

Results from the EPA's modeling and monitoring efforts indicate that people in some areas of the country may be exposed to unacceptable health risks from chloroprene and ethylene oxide emissions. Despite the EPA classifying chloroprene as a likely human carcinogen in 2010 and ethylene oxide a carcinogen in 2016, the EPA has not conducted new RTRs for most types of industrial sources, referred to as **source categories**, that emit chloroprene or ethylene oxide. The EPA should take the following steps to ensure its RTR process sufficiently identifies and addresses these emissions:

- Conduct new residual risk reviews for four major source categories that emit chloroprene or ethylene oxide using new risk values for these pollutants.
- Conduct a residual risk review for the hospital sterilizers area source category using the new risk value for ethylene oxide.
- Conduct overdue technology reviews for four source categories.
- Develop new National Emission Standards for Hazardous Air Pollutants, or NESHAPs, for chemical plant area sources that emit ethylene oxide.
- Develop a process to initiate timely reviews of existing and uncontrolled emission sources when new or updated risk information becomes available.

New RTRs should be conducted because the EPA issued new risk values for chloroprene and ethylene oxide in 2010 and 2016, respectively, to reflect their potent carcinogenicity, as found in newer scientific evidence. The EPA should exercise its discretionary authority to conduct new residual risk reviews under the Clean Air Act whenever new data or information indicates an air pollutant is more toxic than previously determined. Use of such discretionary authority is consistent with the Agency's position, stated in its April 2006 commercial sterilizer RTR rule.

Recommendations and Planned Agency Corrective Actions

We recommend that the assistant administrator for Air and Radiation (1) develop and implement an internal control process with specific criteria to determine whether and when new residual risk reviews of existing NESHAPs and uncontrolled emission sources are needed to incorporate new risk information; (2) conduct new residual risk reviews for Group I polymers and resins, synthetic organic chemical manufacturing industry, polyether polyols, commercial sterilizers, and hospital sterilizers; (3) revise the NESHAP for chemical manufacturing area sources to regulate ethylene oxide and conduct a residual risk review; and (4) conduct overdue technology reviews for the source categories listed in Recommendations 2 and 3. Recommendations 1, 2, and 3 are unresolved. Recommendation 4 is resolved with corrective actions pending.