State of Practice/Hospital, Medical, & Infectious Waste Incineration: Environmental Research & Education Foundation Report



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The Environmental Research & Education Foundation ("EREF") issued an April 2026 report titled:

STATE OF PRACTICE: HOSPITAL, MEDICAL & INFECTIOUS WASTE INCINERATION ("Report").

EREF describes the organization's mission as to:

… advance scientific research and create educational pathways that enable innovation in sustainable materials management practices.

The Report assesses the modern hospital, medical, and infectious waste ("HMIW") sector using:

- Regulatory records.
- Facility-level permit documentation.
- Emissions inventories.
- Freedom of Information Act responses.

The Report notes, for clarification, that it uses:

… the term medical waste …to describe healthcare-generated wastes broadly, while hospital, medical, and infectious waste (HMIW) is used when referring specifically to incineration and the associated federal air quality regulatory framework.

The Report documents four central outcomes in regard to incineration:

- Substantial sector contraction.
- Sustained emissions reductions attributable to federal policy.
- Improved environmental performance associated with centralized treatment systems.
- Persistent disconnect between current operating conditions and how the sector is often characterized in academic and public discourse.

Key points raised in the Report include (but are not limited to):

- Successive federal air quality regulations promulgated under Section 129 of the Clean Air Act fundamentally reshaped the sector, referencing the 2013 New Source Performance Standards for HMIW.

- Contemporary medical waste incineration system bears little resemblance to the decentralized, lightly controlled landscape that characterized the pre-regulatory era.
- Sinc early 1990's the number of medical waste incineration units in the United States has declined by more than 99% (noting the retirement of thousands of small, hospital-based incinerators).
- Facility-level regulatory data show reductions exceeding 99% for key hazardous air pollutants relative to pre-NSPS conditions.
- On-site treatment via incineration continues to serve a limited role for specific applications such as pathological waste that pose a serious infectious disease risk.
- Routine medical waste streams are stated to be the environmentally preferred model under current regulatory conditions.
- Despite the documented regulatory transformation/emissions outcomes, legacy statistics and descriptions originating from the pre-NSPS era continue to circulate in academic literature, policy discussions, and public-facing materials, reinforcing outdated assumptions about the modern incineration sector.
- The modern incineration sector operates under substantially different regulatory and technical conditions than those reflected in much of the legacy literature.

A copy of the Report can be found here.