

# NIOSH Engineering Controls Program Innovative Technologies for Safeguarding Worker Health



*NIOSH Engineers measuring carbon monoxide emissions from a marine generator on a Lake Mead houseboat.*

## Our Team

We are an interdisciplinary team of engineers, industrial hygienists, and scientists at the National Institute for Occupational Safety and Health (NIOSH) who work closely with partners in field evaluation and engineering control technology research to reduce hazardous exposures in the workplace. We are the largest research-based Engineering Controls Program in the United States focused on the elimination of occupational diseases, injuries, and fatalities. As part of our program, we plan and conduct engineering control research to prevent worker exposures to hazards, while promoting the application of effective engineering control technology. To help complete our research, we have access to state-of-the-art ventilation laboratories and computer modeling capabilities for developing and testing engineering controls.

## Our Research

Our research includes a diverse portfolio of projects spanning multiple industry sectors:

- Computational fluid dynamics modeling for air contaminants
- Control of styrene exposures in boat manufacturing
- Diacetyl engineering controls research
- Engineering control technology tracking and database management
- Engineering controls for nanomaterial handling
- Silica exposures in asphalt milling
- Dust controls for dowel drilling in construction
- Controlling airborne exposures in commercial aircraft and healthcare settings
- Controlling airborne exposures of emergency responders (pandemic influenza)
- Prevention through Design
- Managing workplace electromagnetic fields

## Our Impact

Through highly successful collaborations, our activities have demonstrated significant impacts in workplace safety and health:

- An asphalt paving partnership led to the installation of engineering control systems on all new paving equipment
- Building protection research resulted in guidance for the enhanced protection of workers in commercial buildings from chemical, biological, and radiological threats
- Carbon monoxide and marine engine research brought about industry design changes to prevent poisonings
- Airborne disease research resulted in the development of new guidance and prevented the transmission of tuberculosis in healthcare settings and prisons
- Isolation bed research led to the development of an innovative control to protect caregivers during disease outbreaks.

## Partner With Us

To learn more about the NIOSH Engineering Controls Program or to become a partner, contact us at 513-841-4221 or refer to [www.cdc.gov/niosh/topics/engcontrols](http://www.cdc.gov/niosh/topics/engcontrols) for more information.



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