EPA Science Forum 2003

Partnering to Protect Human Health and the Environment

Environmental Monitoring and Modeling Associated with National Emergencies

Experiences Gained from the World Trade Center Disaster

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Homeland Security

WORKSHOP OVERVIEW

A workshop was held to discuss how the Office of Research and Development (ORD) can best apply its expertise for human exposure and risk assessment during an emergency response to protect human health.

Workshop hosted by ORD in Research Triangle Park, NC on November 18-19, 2002.

Over 50 participants attended from across EPA, other Agencies and academia

Major themes discussed:

- Measurement techniques and strategies for airborne hazards
- Modeling – transport and dispersion, and human exposure modeling
- Risk assessment and communication
- Challenges of integrating research into an emergency response

Major recommendations will help ORD focus its efforts and resources in the most appropriate manner for future responses

Peer-reviewed report summarizing the recommendations currently in draft form and expected to be finalized during summer 2003.

RECOMMENDATIONS FROM THE WORKSHOP

From a human exposure and risk assessment standpoint, some of the issues that arose during the response to the WTC disaster involved roles and responsibilities, coordination, and communication.

ISSUE	RECOMMENDATION/ACTION
Roles and responsibilities of on-scene responders at WTC not well established prior to 9/11	ORD working with Regions and Emergency Response Teams (ERT) to better define its role in an emergency response.
Delays encountered in implementing ORD's monitoring plan	ORD scientists engaged in discussions with ERT at workshop to better understand how we can work together. ORD scientists continue to work with the ERT by recommending sampling equipment to collect early environmental exposure data.
Communicating scientific results to the public during an emergency response posed a significant challenge	Results should be communicated by a single visible spokesperson through periodic briefings. An incident command center should be established where the media and the public may obtain information.
Valuable time was lost identifying experts, authorities and resources	ORD preparing a directory of experts and resources that can be accessed quickly in the event of an emergency response. This effort is also being undertaken Agency wide.
Lack of available health benchmarks or background information to compare air pollutant levels. Public's exposures to most air pollutants occurred in an acute or short-term manner while available benchmarks were for chronic or long-term exposures	Sub-chronic benchmarks need to be developed to compare air pollutant levels for better exposure and risk assessment. The Acute Exposure Guideline Levels (AEGL) are a promising resource that is currently under review. Catalog of background levels for urban areas should be developed for easy access.
Information flow between on-scene responders and experts needs to occur more frequently during the emergency disaster	Feedback loops need to be developed between modeling and measurement results so that refinements can be made in monitoring strategies to provide better information for exposure and risk assessments.

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