

NYCity Council Hearing on Post-9/11 Remediation of WTC Contamination (revised)

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I am Marjorie J. Clarke, Ph.D., Scientist-in-Residence and adjunct assistant professor in the City University of New York system. I was co-author of a National Academy of Sciences report on the Health Effects of Waste Incineration and teach a course on urban environmental health management. I have written extensively on incineration emissions and their control:

<http://geography.hunter.cuny.edu/~mclarke/resume.htm>

Background

In addition to being a tragedy of global proportions, as an environmental disaster, the collapse of the three World Trade Center buildings and subsequent fires from all eight buildings produced uncontrolled emissions equivalent to dozens of asbestos factories, incinerators and crematoria as well as a volcano. But the governmental bodies responsible for protection of public health and the environment, emergency response and evacuation planning, and policy planning to prevent future mishandling of an event of this magnitude, have all made mistakes, and lessons still have not been learned in order to reduce problems should a natural disaster or terrorist incident occur anywhere again. If the US Attorney General's statements can be taken at face value, we can expect worse terrorist attacks in the future. It is not unlikely that any future attacks will involve some degree of environmental contamination. Many scenarios for future attacks would involve some of the same issues as are being dealt with here (indoor contamination, removal, not just wetting of outdoor contamination). In addition to terrorist attacks, environmental disasters can and have occurred in other ways: industrial accidents, natural disasters (e.g., major earthquakes in urban areas, tornadoes, fires, hurricanes). The City Council has held two hearings on this and I haven't seen the important changes in policy and law that are required to prevent health impacts from future disasters. I hope this City Council will remediate this, and that you will be able to point to legislation, resolutions, and appropriations soon.

Recommendations

The Precautionary Principle needs to be applied to disaster response decision-making. The aim should not be either to reassure the public at all costs or to rush people back into their homes and businesses for the sake of the stock exchange or similar. The evacuation zone should extend to where there is no evidence of environmental impact (e.g., no air pollution odors, no dusts, no immediate health impacts – e.g. coughing, nosebleeds, etc). For example, the NYC DOH asked citizens who were forced back into a hazardous situation (their homes and offices) and told to remediate toxic waste with wet rags. This actually Caused additional exposure to hazardous air pollutants of thousands of people, and exposes the City to lawsuits. And though the Fire Department was heroic in their rescue attempts, they were ill-equipped, not trained, or even asked to try to totally extinguish the fires which caused a huge on-going source of hazardous air pollutants. The City Council needs to address these problems once and for all, and to codify, in law, requirements to assure that adequate precautions are taken so that protection of public health

and safety is paramount priority above everything else in disaster response. This includes prevention of additional exposures to air and water pollutants. This priority should continue until sufficient data have been collected and analyzed to make certain that no danger exists.

Evacuation Drills involving residents and workers, as well as emergency response personnel. The City may be conducting drills, but if the average person has no idea of what to do in a disaster, or confidence that anything has been planned, what's going to happen? We never practice evacuating part of the city much less individual buildings or subway stations. In two years of working at WTC 1 – 83rd floor, we had only one drill, consisting of walking down to the 77th floor. This accomplishes nothing. Actual large- and small-scale evacuation drills need to be practiced. The City Council should provide funds for such planning and drills.

Resolution: To recommend that the National Academy of Sciences conduct a risk assessment of the public health impacts due to the air pollution caused by the 9/11 attacks.

Sharing health information with the public. The City Council needs to enact laws to ensure that sharing of correct health info with public (air quality data, air quality alerts, emergency and evacuation info) occurs immediately after the start of any environmental emergency. Such an emergency could be a spill, explosion, collapse, or terrorist incident. The information should be included on public websites and via the media.

Sharing health information with physicians and hospitals. To ensure that guidance is disseminated to all physicians and hospitals in the area to look for and properly treat those exposed to WTC air. According to Mt Sinai 2/4/02 memo to help physicians determine whether pulmonary symptoms are related to WTC, some symptoms from exposure can begin as late as 3 weeks after exposure or cessation of exposure. If physicians had to be given guidance on these issues, many of those exposed are likely not to realize their symptoms are WTC-related. Why didn't the City, State or Federal government issue this memo in September? Efforts are not being made to locate all those who were exposed and to characterize their exposures and register their symptoms over time.

Use of similar laws. The City Council should enact a law to require that any existing laws and regulations to prevent and control emissions from hazardous waste incinerators, ash management facilities, and other sources of pollution be applied to environmental disasters. For example, WTC ash and debris were not transported in sealed trucks or moved to barge in sealed facilities, even though this is required for less toxic incinerator ash.

CUNY Research facility. The City Council should fund the City University of New York to create a new research center on Governor's Island to address the many gaps in scientific understanding related to the health and environmental impacts of disasters. One of the gaps was lack of sufficient standards for air pollutants and dusts generated by the collapses and fires. Though the federal government should be writing new standards to reflect short-term residential exposures to high concentrations of many hazardous air pollutants as well as synergistic effects of combinations of such air pollutants, it is not. Therefore, the City Council should take the lead in seeking funds from federal, state, and local sources for this center to research the acute and long-term impacts on health of highly concentrated *combinations of pollutants* acting for a short

time, as well as chronic effects and cancers resulting from elevated or smaller levels of combinations acting for longer periods of time.

Standards Needed for Different types of exposure

Various governmental agencies have applied occupational safety exposure levels for specific pollutants to those exposed to WTC air. But there are several distinct groups of those exposed, and each group has had distinctly different exposures:

- Those working on the pile (Variables: the level of emissions have decreased over time as the fires decreased in extent, degree of protective respirator/masks used, amount of time spent)
- Those who were caught in the initial horrendous dust cloud, covered in dust, running away, breathing intense quantities of dust deeply into the lungs and ingesting dust particles.
- Those living in the area (Variables: level of emissions varies depending on specific location, on weather, and length of time since 9/11; degree of protective respirator/masks used)
- Those who cleaned apartments (level of exposure varying with amount of dust in apartment, method of cleaning, degree of protective respirator/masks used, amount of time spent in cleaning)
- Those working in the area - 8 hours a day five days a week; (Variables: degree of protective respirator/masks used)
- Those at risk: Children, Elderly, Compromised Immune systems, those with pulmonary problems are more likely to suffer more adverse affects than others for all the above categories.
- Handlers of disposed debris: shipments to India, S. Korea - no protection for workers offloading (no knowledge of contents).

Most of these groups of exposed cannot be compared with occupational exposure. Studies of occupational exposure assume 5 days a week, 8 hours a day exposure to adults (healthy males?) What about those who live there, those at risk, those caught in the initial cloud? This requires considerable investigation, and many new standards need to be created to address these different categories of exposure.

Research into and adoption of more protective building codes (less toxic materials, evacuable buildings, better fire drill and practice evacuations, better, more well-thought out announcement systems during emergencies. It is arguable that many people died in stairwells too small to evacuate everyone, especially since their capacity was reduced by half due to firefighters climbing them at the same time. It is arguable that some died when they heard Port Authority announcements to go back to their offices. Could the buildings be built with fewer toxics?

Getting to the Truth

EPA has set the scientific method on its head by letting policy (as handed down from the White House) determine conclusions that have enormous implications for New Yorkers' public health and safety, rather than the data. EPA's current propensity to practice junk science has been demonstrated more than once in the WTC issue. Not only did EPA conclude that the air was safe before gathering data, they issued belated reports to the public and media highlighting conclusions several months prior to beginning a scientific peer review on it (this is reverse of scientific practice), and they began a faux cleanup program months prior to having a peer review

of the Contaminants of Potential Concern document on which the cleanup was based. The peer reviewers have not heartily endorsed everything that EPA had done in its reports. EPA's procedures are backwards. They are a feeble attempt to cover up poor decision-making methods. The City Council should be aware of this and not assume that conclusions announced by EPA under the current administration are based on sound science. The following are links to my Comments on the EPA/NCEA document: "Exposure and Human Health Evaluation of Airborne Pollution from the World Trade Center Disaster"

<http://www.geography.hunter.cuny.edu/~mclarke/EPANCEAcomments-ClarkeRossolSingh.htm>, and <http://www.geography.hunter.cuny.edu/~mclarke/FurtherCommentsOnNCEAdocument.htm>

Further, since I and others have heard EPA's On Scene Coordinators (OSC's) say that City officials obfuscated EPA's initial attempts to assist in environmental assessments, etc., it is imperative that the City Council subpoena all the EPA OSC's to determine exactly what they were told and by whom. It is important because if we don't understand the failures of the last emergency, we will suffer the same failures for the next one.

Precedents and Perspective

It was asked, what could be done better in the event of a disaster, and why? First, it's important to look in perspective at the measures the US government has done to protect the health and safety of Americans since 9/11. Under the name of anti-terrorism and protecting the homeland from "Imminent Threat", the government has sent hundreds of thousands of troops into harm's way in Iraq and Afghanistan (and convinced foreign governments to do the same). This has cost billions. That New York City must be prepared to evacuate its citizens out of harm's way to safety in the event of a real and present danger to health resulting from environmental disaster should not be a lower priority, it should be higher. This requires planning. It is not impossible. Parts of Florida have hurricane evacuation routes with signage as well as designated shelters, and Washington state has signed routes for evacuation in the event of volcanic events. Plans could be made for where to house people while the government is using every piece of equipment and trained personnel to operate them as exist. If we don't undertake this planning now, the City could suffer unnecessary deaths and illnesses in the event of a major environmental disaster. I ask the City Council to subpoena Office of Emergency Management to ask the degree to which we have citizen-tested plans for evacuation due to environmental pollution, and to detail the evacuation plans for parts of boroughs and the city as a whole, to detail the plans to practice these evacuations and to educate / involve the public, and to detail the criteria by which evacuations would be implemented and by which citizens would be allowed to return (i.e. all is safe). If any drills that are done do not involve the public, what are they expected to do when there is an emergency? If these plans are found insufficient, I urge the City Council to legislate or appropriate funds to remediate them immediately to protect the citizens.

Conclusion

If the City Council can accomplish, via resolution, legislation, and appropriation the few recommendations given above, the citizens of New York City will be in much better shape in the event of future environmental disasters. I look forward to working with the Council on these solutions.