APPENDIX B
Submitted Written Public Comments*

(Additional Written Public Comments from the September 13, 2004 Meeting may be found on the 911 Environmental Action Website: http://911ea.org)

***THE FOLLOWING PUBLIC COMMENTS WERE RECEIVED AT THE EXPERT TECHNICAL PANEL REVIEW MEETING #6. NOTE, THE MEETING IS NOT A PUBLIC HEARING TO HEAR TESTIMONY, BUT RATHER A TECHNICAL MEETING FOR EXPERT PANEL MEMBER DISCUSSIONS WITH TIME SET ASIDE TO HEAR COMMENTS FROM THE PUBLIC ON DISCUSSION TOPICS.**

STATEMENT OF ROBERT GULACK, UNION STEWARD, U.S. SECURITIES & EXCHANGE COMMISSION, AT THE EPA TECHNICAL REVIEW PANEL

FOR IMMEDIATE RELEASE **FOR MORE INFORMATION, CONTACT:**
September 13, 2004 Robert Gulack, (201) 794-9322

Response to the Latest EPA Testing Proposal, After Three Years of Deception and Stalling

In Manhattan, in the summer, we all heard this panel say,
"Test in Brooklyn!"
"Why not Brooklyn?"
"Test in Brooklyn right away."[1]
But the EPA still stands there, unresponsive, mute, and grim;
And it's clear that very little that we say gets through to him.
For the White House holds his gonads, in the famous Cheney grip;
The White House holds his gonads and it will not let them slip.
The White House holds his gonads and puts fingers in his ears.
While this panel offers wisdom, there is little that he hears.
And the White House tells this panel, in a wordless voice that cries –
"You are but the window-dressing for our silence and our lies.
We will flatter and renew you,
For the two months that remain.
But if you think we'll *listen* to you,
You are bears of little brain."

In this hall, we all discussed it. Various issues were addressed:
"Do not let abusive landlords hide when we come by to test" --
"Test for all the COPCs[2] – not a few you pick and choose" --
"Do not hold off on the testing till the whole thing's last year's news."
Now the EPA has surfaced – two more long months have gone by –
It's as if nobody heard a word we said here in July.

[1] See http://www.epa.gov/wtc/panel/meeting-20040726.html.
[2] Contaminants of Potential Concern.

And the White House speaks distinctly (to him who has an ear to hear):
"We will not permit inspection during this election year.
Delay will be our attitude
Till the voters have their hour.
Rest assured, you have our gratitude
For keeping us in power."

What if babies are born stunted?[3] What if children gasp and choke?[4]
The Neros in the White House laugh as if this were a joke.
They boast of what they're proud to call their anti-terror success,
But will not lift one finger to clean up al-Qa'ida's mess.
Spin doctors rule the nation: Real doctors are ignored.
We cry in pain: the White House yawns as if they're vaguely bored.
Mere inaction can be murder, while self-interest holds sway.
The EPA castratti
Are as lethal as John Gotti –
They can kill while sipping latte
In their office on Broadway.
And somewhere in this city, a child is breathing in Advair ®.
And somewhere in this city, a student swallows Singulair ®.
They will take their medications all their lives without a fuss.
They don't know who has betrayed them. Please don't let on it was us.

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[3] G. Berkowitz, M. Wolff, T. Janevic, I. Holzman, R. Yehuda and P. Landrigan, "The World Trade Center Disaster and Intrauterine Growth Restriction" (letter) *JAMA* 290(5): 595-96 (Aug. 6, 2003).

[4] Anthony Szema, *et al*., "Clinical Deterioration in Pediatric Asthmatic Patients After September 11, 2001," *J. Allergy Clin. Immunol.* 113(3):420-26 (2004).

September 13 2004 WTC Expert Technical Review Panel

Three points:

1. Deutschebank. Heavy metals coat the structural steel. During demolition, the bending of the steel will cause these metals to flake and powder which will pose a danger to residents (on top of the astronomical levels of contaminants in the building.) The building should be encased in Tyvek as was done after a release of asbestos in Gramercy Park. Similar protocols were used on the George Washington Bridge. Please recommend this to LMDC.

2. The cost of healthcase for those who will be affected by the environmental disaster of 9/11:
Dr. Frank Goldsmith, Director of Occupational Health for the Transport Workers' Union, Local 100, recommends using veterans' hospitals for the administration of drugs. This would also facilitate future health studies. I hope he'll be able to come at some later date to elaborate on this idea more fully.

3. [holding brochure] This is a helpful EPA brochure called Protect Your Family from Lead in York Home and the following are quotes from it:

1. "Lead dust which you can't always see can be a serious hazard." One wonders, then, why, in its initial cleanup, EPA recommended visual inspection.

2. The brochure talks about the dangers of lead to children which include not only cognitive damage but also hearing loss. And it says that lead is also harmful to adults. This was news to me. "Adults can suffer from:

difficulties during pregnancy; other reproductive problems in both men and women; high blood pressure; digestive problems; nerve disorders; memory and concentration problems;" etc.

The WTC contained approximately 50,000 computers each made with between four and twelve pounds of lead. And none of these calculations ever take into account WTC 7 [let alone 3, 4, 5 and 6.] But by even the most conservative estimate, 200,000 pounds of lead from the computers alone was pulverized on 9/11 and we know from previous testing that some of it landed in people's apartments. So two things are indisputable:

1. WTC lead is in people's homes.

2. It's dangerous.

How, then, can we justify ignoring it? That it lacks some ineffable 'je ne sais quoi' marking it as uniquely WTC in origin? This is why the fingerprint [or today the 'signature'] metaphor is misleading and dangerous. The WTC was a building like any other. The only unique thing about it is that it was really big. Apart from that, its lead was indistinguishable from any other lead. So it is disingenuous of EPA to ignore lead exceedances in Lower Manhattan because the particles failed to arrive individually stamped "WTC."

I also take issue with the statement that you already have the fingerprint for WTC dust. You only have it, possibly, for the immediate vicinity of the site. It's impossible to establish a universal fingerprint, if such a thing exists, BEFORE you've done representative testing.

2000 years ago Cato the Elder ended each Senate meeting with the words "Et Carthago delenda est;" "And Carthage must be destroyed." By the end of the year, the Senate took the hint and voted to destroy Carthage. Likewise at each panel meeting we say to you, "Having been destroyed, Carthage must be representatively tested."

Jenna Orkin
World Trade Center Environmental Organization

Testimony of Jo Polett
EPA World Trade Center Expert Technical Review Panel
September 13, 2004

My name is Jo Polett. I'm a downtown resident and a member of 9/11 Environmental Action.

The title of the document dated September 1, 2004, "Proposed Monitoring Program to Determine Extent of WTC Impact", is misleading and requires revision. It's been three years since the World Trade Center was attacked and collapsed. It's been two and a half years since the fires stopped burning. Because EPA refused to conduct comprehensive testing of buildings potentially affected by the collapse and subsequent fires within a reasonable time frame, we will never know the geographic extent of WTC impact on building interiors, or be able to assess the level and nature of the contaminants to which people were exposed as they heeded false safety assurances and returned to their homes, schools, and workplaces. That information is lost and cannot be retrieved. The title of the document should accurately reflect the limits and purpose of the sampling program; I suggest, " Proposed Monitoring Program to Determine the Geographic Extent and Nature of WTC Dust and Smoke Residue Remaining in Buildings Potentially Affected by the Environmental Aftermath of 9/11 More Than Three Years After the Event."

Other revisions of the document required by the assumption that factual accuracy is an essential part of the process in which this panel is engaged are as follows:

In the fourth paragraph, EPA has quoted the White House CEQ letter citing, *"The peer reviewed 'World Trade Center Indoor Air Assessment and Selection of Contaminants of Potential Concern and Setting Health-based Benchmarks,' which concluded asbestos was an appropriate surrogate in determining risk for other contaminants."* The cited document came to no such conclusion. It was EPA's "Residential Confirmation Cleaning Study," a document that could not get within a mile of a respectable peer review and survive, that attempted to support EPA's irresponsible and unscientific contention that asbestos was a surrogate for other contaminants. EPA should either delete the above quoted misstatement of the facts, or add a qualifying statement that makes it clear that the Chairman of the White House Council on Environmental Quality doesn't know what he's talking about.

Also in that paragraph EPA has attempted, for a third time, to mischaracterize the conclusions of the asbestos as a surrogate peer review panel which inconveniently found that asbestos was not a surrogate for determining either the efficacy of cleaning or the risk from other contaminants. I ask that in the future EPA leave misguided public relations considerations out of the drafting of these documents.

Regarding the technical aspects of the proposed sampling program, I'd like to add one point to those raised in the community presentation. It's a step in the right direction that the plan seeks to characterize buildings but the voluntary nature of the program will result in the "self-selection bias" noted by EPA on page 4. This is likely to skew private building selection toward cleaner buildings and leave us with a non-representative cohort

of buildings. Hopefully, at the next meeting EPA can present us with possible solutions to this problem.

Regarding signature, I would like to make the panel aware of a significant historical fact. EPA established a signature for the World Trade Center Dust Cleaning program and used it to evaluate HVAC systems before abandoning it several months into the program. On page 11 of the document titled, "ADDENDUM #2, World Trade Center Dust Cleaning Program, Monitoring Scope of Work," EPA states, *"Dust will be considered WTC-related if: pH is 9 or above; fibrous glass content is between 30 and 40% and crystalline silica content is 5% or greater."* Numerous HVAC systems were rejected for cleaning on the basis of this signature before EPA replaced it with visual inspections that were equally effective at finding that HVAC systems were free of WTC-related contaminants. Though EPA led us to believe that monitoring and cleaning scopes of work were available to the public on the EPA website, ADDENDUM #2 was never posted to the website.

Not only did EPA conceal this document from the public, but EPA concealed the fact that a WTC signature had been established from the peer review committee that met October 21st and 22nd of 2002 to consider EPA's, 'World Trade Center Indoor Air Assessment and Selection of Contaminants of Potential Concern and Setting Health-based Benchmarks'. I attended the meeting as a public observer and though I'd been told that a protocol for the sampling and analysis of HVAC system dust was described in a document that had not been released to the public, I did not manage to get a copy of it until October 23. The question of a WTC signature, or fingerprint, was raised by members of the peer review committee several times during the meeting. I waited for EPA toxicologist, Mark Maddaloni, who was a lead author of the document, to acknowledge that a signature had been established and was currently in use. He did not. Finally, during the last comment period on the afternoon of the 22nd, I said I'd heard that EPA had established a fingerprint for evaluating HVAC systems. Dr. Maddaloni chose to remain silent, as did the other Region 2 and Washington, D.C. based EPA scientists who were in attendance.

Dr. Paul Lioy, Vice Chair of the panel and a member of the panel's signature sub-group, is also familiar with this fingerprint. I'd met him at a Community Forum earlier in October of 2002 and I wrote to him on Nov.1. In the letter I described the fingerprint and expressed my concern that HVAC systems that were clearly impacted were being rejected for cleaning on the basis of it. When I called him several weeks later he told me that he was aware of the fingerprint and that it was reliable.

The fingerprint was abandoned, I was told, for three reasons, one of which was that it was different everywhere it was measured. Though I'm encouraged that USGS is involved in the ongoing research to discover if it is possible to validate a signature for WTC dust, I'll close by responding to the comment Dr. David Prezant made earlier this morning on the political nature of the community's opposition to signature. Our opposition to signature is not essentially political. We want a signature if there is a signature. Our concern is that EPA, and some members of this panel, have decided that we need a signature regardless of whether there is one.

Sept. 13, 2004

My name is Yvonne Brooks. For nearly 18 years, I have lived with my family in the Financial District of Lower Manhattan; our building is one block east of the World Trade Center. I appreciate the opportunity to speak directly to this panel, and the public, about the effects of the 9/11 attacks on my own health, and, I fear, the health of many others.

On Sept. 11, 2001, at 8:46 a.m., my husband and I were in our living room when the first plane struck the North Tower. We were standing on Cortlandt Street when the second plane hit the South Tower. We spent part of that morning reassuring relatives and ascertaining the safety of our three children. Our neighbor, a nurse, was assigned to emergency duty that day and couldn't leave her post; she asked us to retrieve her 5-year-old twins from P. S. 89. On our way to the West Street school, we watched the South Tower disappear in a column of smoke and dust. Seconds later we, and everyone in the Downtown area, were covered in dust and ash. My throat and chest tightened as pulverized concrete, burning plastics, asbestos, fluorescent lights, office supplies, fuel oil from office generators and melting electronic equipment engulfed us and the people running from the World Trade Center site.

Arriving at I. S. 89, we found the two five-year olds and agreed to take another group of terrified children with us, away from the school. My husband and I led this group through thick clouds of dust past Chambers Street, through Chinatown, and later reunited them with their parents. Heading east with the children, I remember people on the street yelling "cover their eyes" and "don't let them look"--warning us to shield the children from the sight of people jumping from the flames which engulfed the top of the remaining tower. When a new cloud of ash and people surged in our direction, the older children turned back and realized the North Tower had also collapsed.

Now it was impossible to return home to our 19-year-old daughter who had been forced to evacuate without us. There was no way to determine her whereabouts or her safety. We later learned she had been caught in the ash and dust within one block of the disaster site. Our daughter was pulled to safety by a neighboring doorman but she, like so many others, was exposed to large amounts of contaminants.

I am grateful no one in my family was killed <u>that</u> day. However, what I continue to fear is that the long-term damage was much greater than you, or I, or any of us here realize. The media has been filled with reports that we have not reacted to this event with close, careful scientific analysis. There was a reported rush to "get back to business," regardless of the consequences. Those who worked directly at the recovery site now report difficulty breathing and greater susceptibility to respiratory illnesses. Nearly 3,000 people died that day. Shouldn't we know how many more lives will be lost, shortened, or severely diminished? Shouldn't we begin to estimate the real toll? If we have a chance, now, to avert this second wave of unforeseen consequences from the terrorist attack, shouldn't we react now, while we have time?

In an effort to enlist your assistance, I would like to outline the continuing impact of that attack on my life and ask that you take immediate action.

After Sept. 11, we had the dust and ash cleaned from every inch of our apartment and we installed air purifiers with hepa filters in each room. Still it was difficult for me to return to the neighborhood and physically impossible for me to stay in our apartment. The ash and smoke from the fires were everywhere and each time I returned I could feel the choking, burning sensation signaling a potential asthma attack. After 5 months we returned home, installing new windows to prevent downtown pollutants from entering our apartment; we continue to use air purifiers with hepa filters.

Residents can clean, paint, install air purifiers and pay for new windows, but we don't have the resources or expertise required to determine the attendant health risks and assess what remedial efforts should be undertaken. We don't have the ability to inspect and clean every inch of the ventilation system in our building or our neighbor's buildings. Since Sept 11, 2001, there has only been a visual inspection of our building's air ducts: a visual inspection only. We need HVAC cleaning for our entire duct system and we need it immediately. Completely cleaning the dust from the air ducts in our building is the only way to remove residual particles. As a downtown resident, my family, my neighbors, and myself deserve home environments free from Sept. 11th contaminants.

After three years, I continue to be hyper-sensitive to nearly all environmental contaminants. The smallest trace of solvents, smoke, or chemicals brings on the all-too-familiar constriction in my lungs. I've experienced numerous restrictions on my activities due to these health issues. These problems are also aggravated by the continued presence of Sept. 11th pollutants in our downtown neighborhood. I can't walk west on Liberty Street past the Deutsche Bank or west on Vesey Street toward the park without risking an asthma attack. How can I teach my children about recovery when their own neighborhood, their own home, poses a physical threat to them? I believe our home should be a shelter, a haven—not a source of danger to myself and my family.

Of course smoke, flames, decimated buildings, and injured people inspire and require immediate action. For some dangers, however, action has been delayed too long. Cleanup efforts for residents living near the World Trade Center site must continue. Please help downtown residents combat the unseen, long-term health consequences of Sept. 11. Thank you for your time and consideration.

Yvonne Brooks
212-608-3329
917-568-3688
ydbrooks@aol.com

Testimony of the Professional Staff Congress/CUNY
Fiterman Hall at the World Trade Center

Delivered by Dr. Joan Greenbaum, PSC Health and Safety Coordinator

Good afternoon. Thank you for giving me this opportunity to testify and for holding this public hearing. I am Joan Greenbaum, Co-Chair of the Professional Staff Congress Health and Safety Committee.

Fiterman Hall, a 15-story building owned by the Borough of Manhattan Community College, CUNY, was structurally damaged by falling steel during the collapse of 7 World Trade Center on September 11, 2001. Environmental tests conducted in early 2002 found high levels of dioxin in the dust sampled within the remains of the building. Dioxin, a serious carcinogen, results from a number of sources, including burned plastics. In air monitoring following September 11th, the EPA noted elevated levels of dioxin at two sites-one of which was on Barclay Street, where Fiterman Hall's damaged structure remains.

Without Fiterman Hall, the 20,00 students and 2,500 faculty and staff of Borough of Manhattan Community College have been crammed into the main college building at 199 Chambers Street. Efforts have been made recently to secure additional space, but BMCC remains dangerously overcrowded. The effect on learning and research is palpable: classrooms so crowded that it's difficult to teach; part-time faculty, who do the majority of the teaching, working with 60 people to one office. The Administration of the City University of New York, along with the Dormitory Authority of the State of New York (DASNY)-the agency that conducted the $60 million renovation of Fiterman just before the WTC collapse-have been waiting since 2001 for insurance adjusters to issue a final determination on the building.

The Professional Staff Congress (PSC), the union representing the faculty and staff of BMCC in contractual issues of health and safety, has serious concerns about the ability of our members to teach and our students to learn in the overcrowded conditions at the college. Three years is long enough to wait for a determination of the future of Fiterman. Nearly every other building damaged in the terrible attack of September 11 has now been demolished or repaired. As Co-Chair of the union's Health and Safety Committee, I am deeply concerned both about the conditions our members and students face and about the effect on the local environment of the continued presence of Fiterman Hall. A three-year delay is not acceptable for people close to lower Manhattan.

We recognize that the CUNY Administration has been working to reach a resolution, but we urge CUNY to redouble its efforts to secure an immediate determination from the insurers. We ask the EPA and DASNY to work with us to assist CUNY in reaching a resolution immediately. The contaminants in Fiterman may be comparable to those at

Deutsche Bank, and thus there is a clear case for immediate action on Fiterman. Can we allow another anniversary of September 11 to come and go with no action on this ravaged building?

Our concerns, then, are threefold.

- First, we demand swift action to relieve the overcrowding at BMCC caused by the loss of Fiterman and persisting despite the Administration's ability to find some other space this year.
- Second, we have grave concerns about the damage to people's health that may be ongoing right now because of the present state of Fiterman, especially given the population density in the area.
- And third, less tangible but equally important, we are aware of the symbolic effect of allowing a blackened, broken building to stand three years after the terrorist attacks. Such a building is not an appropriate reminder of the superb work of thousands of CUNY students, faculty and staff during those terrible days, nor is it consonant with the complex message of resurgence that has been planned for the new buildings on the WTC site.

For all these reasons, we call on CUNY to press for a swift resolution to this issue and a clear determination on a future for Fiterman that serves the needs of our students and our community.

PSC/CUNY contact information:
25 W. 43rd St. 5th Fl
NYC 10036
212-354-1252

Statement by Former NYC Councilmember & Chair of the Council's Committee on Environmental Protection Stanley E. Michels before the World Trade Center Expert Technical Review Panel on 9/13/2004

In the immediate aftermath of 9/11/, as Chair of the New York City Council's Committee on Environmental Protection, I held the first public hearings on the air quality and environmental impacts of the World Trade Center disaster on November 1st and 8th. Over two days we heard extensive testimony from 36 witnesses who were environmental scientists, community leaders, concerned citizens and government agencies. And we issued a series of recommendations for action.

Now, nearly three years after the release of our report, two glaring truths have emerged. First, the EPA and the Bush administration were engaged in a massive cover-up of the true health and environmental impact of 9/11, and second, the efforts at clean up to date have only begun to scratch the surface of what is necessary to protect the health of those who live in, work in or visit New York City.

A reading of the EPA testimony at our hearing makes it abundantly clear that the Bush administration was minimizing the extent of the environmental damage. The EPA representative testified that the vast majority of its tests determined that the levels of asbestos, fine particles, lead, benzene, PCBs, and other dangerous substances posed no significant long-term health risks to residents, employees, and visitors beyond Ground Zero. The EPA testified that particulates were below the level of concern even for "groups more sensitive to air pollutants" such as seniors and children. The EPA fostered a false sense of security by not even considering the synergistic effects of all of these substances acting together. They told us that the air was safe to breathe and that it was OK for people in Lower Manhattan to go back to their offices and their apartments even though we who lived or worked downtown could smell and taste the foul air.

Today, looking back, one can only say "how dare they endanger the lives and health of so many on the basis of such perfunctory and incomplete testing! How dare they cover up the true environmental and health impact of the World Trade Center disaster." The EPA's own Inspector General, The National Institute For Occupational Safety and Health, the Sierra Club, the New York Environmental Law and Justice Project and dozens of scientific studies provide strong evidence of the cover up and the fact that both the testing and the clean up remain totally inadequate.

The December 2001 report of my committee made a number of recommendations to the EPA, the State of New York, and the City of New York, that, if implemented, could have avoided the mess we find ourselves in today. We stated that the EPA had a responsibility to tell New Yorkers the truth about the dangers in the fumes and the dust, and to carry out proper testing and clean up so that every home, school and workplace in the affected area could be made safe again.

We recommended establishing indoor air quality standards, developing cleanup and post cleanup protocols for monitoring and testing indoor spaces, developing health and safety

standards for those toxins for which no standards exist and reexamining existing standards, studying the short-term and cumulative impacts of the air contaminants, I am pleased that your panel has finally taken our advice from three years ago and proposed to expand testing beyond Canal Street and to include testing of commercial buildings and schools. But, much more is needed:

Believe it or not more than 80% of the apartments eligible for the EPA's residential cleanup have never been cleaned or tested for the presence of toxic contaminants. That is stunning commentary on the EPA's outreach to lower Manhattan. Since EPA has never conducted a representative testing program, the extent of the contamination has not yet been scientifically determined. Indoor spaces beyond lower Manhattan, those above Canal St. and in parts of Brooklyn, where the toxic plume also dumped dust and debris on 9/11, have never been tested or cleaned. It's time for the EPA to get to work and do the job right.

The new round of tests should utilize the more sensitive and accurate test methods used by EPA at other hazardous sites around the country. The protocols for monitoring and testing are still needed to carry out the present work and in case, god forbid, another terrorist attack should occur.

The EPA must conduct dust tests for all contaminants known to be present including lead, mercury, asbestos, dioxins and PCBs.. Examine ventilation systems and duct work. Establish the protocols for monitoring and testing

The Mt. Sinai World Trade Center Screening and Monitoring Program must be expanded, as we recommended three years ago, to include all those who may have been affected by pollution from 9/11. Federal funding should provide full medical coverage and treatment for all health problems resulting from the disaster.

The collection and publication of scientific data and research related to 9/11 must be openly and centrally organized, federally funded, and made easily accessible to the public through a web site and other means.

And, finally, adequate funding must be provided to carry out the extensive program of testing and remediation that is necessary to protect the health and safety of New Yorkers and our visitors.

In conclusion, three years after the WTC attack, and the release of hundreds of tons of asbestos, fiberglass, lead and many other toxic substances, the tens of thousands of workplaces and the vast majority of residences and schools and workplaces in Lower Manhattan remain untouched by the EPA.

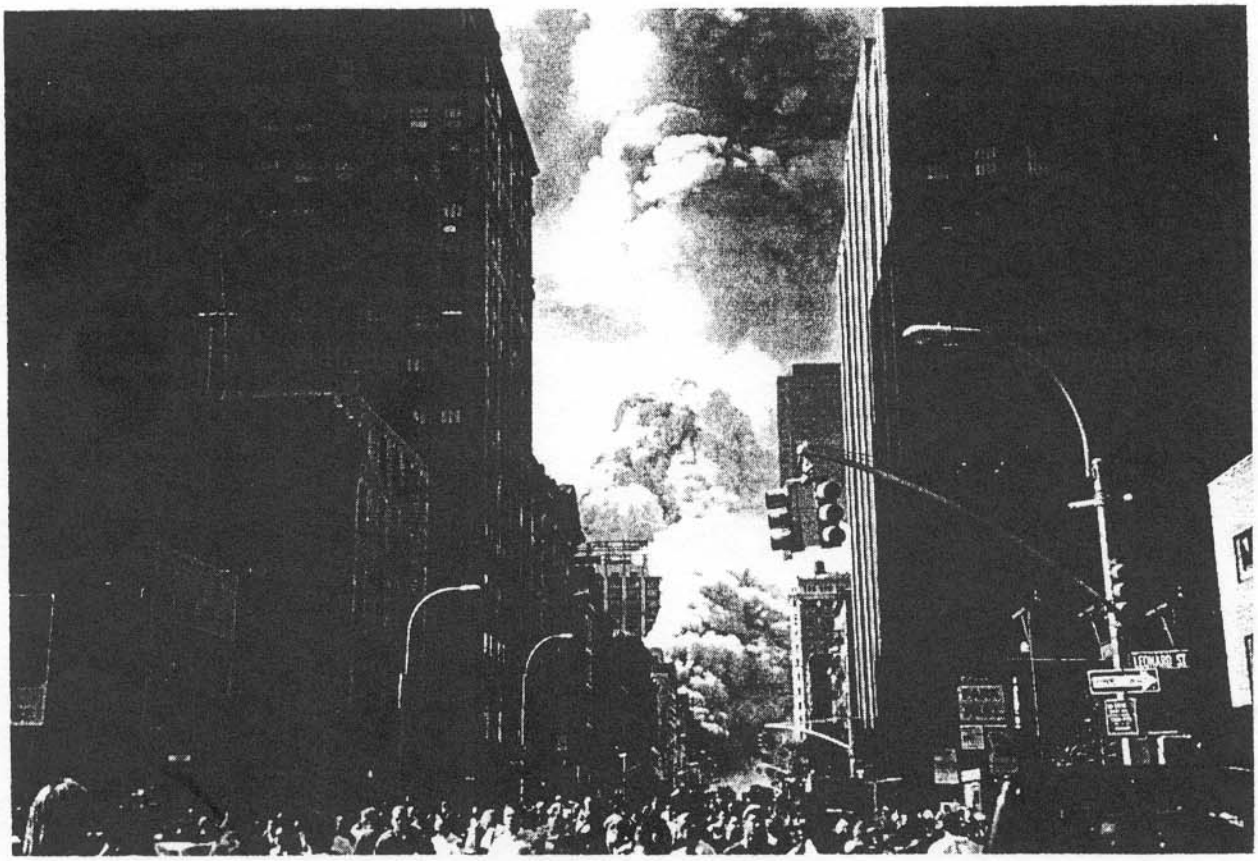
Because EPA has failed to conduct a comprehensive testing and cleanup program to address the ongoing contamination, hundreds of thousands of people are still facing an undetermined threat to their health and safety. Your panel can begin to right a grievous wrong inflicted on New York City not just by the terrorists attacks but also by the

continuing failure of the United States government to live up to its responsibility to protect the lives and health of our citizens.

Thank you.

New York City Council

Report of the Committee on Environmental Protection Chairman Stanley E. Michels



Air Quality and Environmental Impacts Due to the World Trade Center Disaster

December 2001

Members of the Committee on Environmental Protection 2001

HON. STANLEY E. MICHELS, CHAIR

HON. TRACY BOYLAND

HON. ADOLFO CARRION, JR.

HON. KATHRYN E. FREED

HON. SHELDON S. LEFFLER

HON. HELEN M. MARSHALL

HON. JOHN D. SABINI

Report Prepared By:

Staff of the Infrastructure Division

Mary Mastropaolo – Director
Jeffrey Haberman – Counsel and Deputy Director
Allison Rosen – Counsel to the Committee
Roberto Ragone – Special Assistant to the Director
Elizabeth McLaughlin - Legislative Assistant

Staff of Council Member Stanley E. Michels:

Steve Simon – Chief of Staff

Additional Members of the Committee Task Force:

Robert Gormley – Office of Oversight and Investigation
Rica Rinzler – Communications Division
Steven Solomon – Finance Division

Cover Photo by Mark Mozaffari

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I. Overview

The horrific terrorist attack on the World Trade Center (WTC) on September 11, 2001 stunned, outraged and saddened all New Yorkers. This despicable, inhumane act was not simply an attack upon the United States but against civilized people all over the world. The events of that day have changed our lives, leaving an indelible mark on us all. Thousands died, tens of thousands face futures without a loved one or friend, and millions have been left with a new perspective on the dangers confronting us in the world today.

For those who live, work or go to school in lower Manhattan, the after-effects of the World Trade Center tragedy were unavoidable. Their everyday lives were disrupted; many of them no longer had access to their homes, schools or work places. Those who ventured to this area saw signs of the disaster everywhere they looked. As smoke and acrid odors wafted daily over lower Manhattan, including City Hall, residents and workers naturally grew increasingly concerned about the impact of the poor air quality on their health, as well as other environmental impacts on their living or working conditions. There were also concerns regarding how agencies at all levels of government were handling the cleanup and air testing procedures at and around the WTC site.

In the weeks following the collapse of the Twin Towers, significant quantities of smoke, dust, asbestos, dioxins, polychlorinated biphenyls (PCBs), lead, furans, volatile organic compounds, heavy metals, and various other potentially hazardous substances were released into the air. These contaminants became, and continue to be, a source of great concern to the public due to their potential adverse effects.

With the recovery operation still paramount in importance, no one has sought to impede the valiant efforts of the rescue and recovery workers at Ground Zero. However, serious environmental issues exist concerning not just the air quality but also the health of the rescue workers, residents, office workers and students, as well as the issues of noise, dust and other problems associated with the debris removal.

People were looking for answers to a wide range of questions, and meetings were held in the community at which government officials tried to reassure local residents. Nevertheless, many questions still remained as sharply conflicting opinions continued to be expressed.

On November 1 and November 8, 2001, the City Council's Committee on Environmental Protection conducted extensive oversight hearings on the environmental impacts on lower Manhattan due to the terrorist attack on the WTC. Hoping to gain insight into the responses by government agencies to this critical issue as well as the short-term and long-term impacts of this unprecedented event, the Committee heard testimony from 36 witnesses, whose names appear in the Appendix to this report, and received written testimony from others.

These hearings brought together City, State and Federal agencies responsible for gathering and analyzing air quality data in the wake of the WTC disaster, medical experts and others who are also monitoring aspects of the impact and the people who live or work in lower Manhattan. It is believed to be the first time that all the agencies appeared together in a public forum and responded to questions. It was reassuring to learn at the hearings that officials from all three levels of government were in daily contact and working closely together – closer perhaps than they ever had before.

An important objective of the Committee was to determine the responsibilities of the different agencies for testing and cleanup procedures, the protocols being employed, the coordination of activities and the enforcement of relevant laws and regulations both at the WTC site and in the surrounding neighborhoods. It had been widely reported that people felt that the agencies were not testing for all of the appropriate substances and were not releasing significant information to the public, or were releasing incomplete data. Concerns were also raised that government agencies were only testing outdoor air, while indoor air testing and building cleanup were being left to poorly informed and unsupervised building managers.

This report incorporates testimony delivered at these hearings and offers a series of recommendations the Committee believes the City should adopt in light of the unprecedented environmental issues facing not only downtown Manhattan but all of New York City. Some of these recommendations are also based on observations made by Committee Members and staff on a recent visit to Ground Zero and Pier 25 on December 14, 2001. At that time, it was observed that none of the rescue workers and other on-site personnel appeared to be using the protective respiratory gear. However, we did take note of the fact that the workers had to pass through a wash facility before they could enter the Salvation Army cafeteria and dump trucks removing debris from the site were hosed down and, when appropriate, covered with tarpaulins on West Street as they left Ground Zero. We were told that there had recently been a dramatic increase in the United States Occupational Safety and Health Administration (OSHA) personnel on-site.

While the attack will continue to have far-reaching repercussions for our City, State and Nation for years to come, it is the Committee's hope that the continued environmental impacts on lower Manhattan and the rest of the City will be minimal. Nothing less is essential for the rapid recovery and rebuilding of this vital community. It is also our fervent hope that, while we will learn many lessons from this experience, we will never have to resort to them.

II. Summary of Testimony

Below we have incorporated highlights of the testimony from the hearings that the City Council's Committee on Environmental Protection conducted. Representatives of Federal, State and City agencies testified about the roles they played in the cleanup and testing in the area surrounding the World Trade Center (WTC) site as well as what they envision as their continuing role. Medical experts, scientists, Community Board members and other residents living around the site also testified. They provided the Committee with detailed accounts of their experiences as well as various recommendations on what should be done in the aftermath of the collapse of the towers. The statements and summaries below are attributable to the witnesses as indicated and do not necessarily reflect the views of the Committee. A full transcript of each of the hearings is available for review through the City Clerk's office.

The United States Environmental Protection Agency

Kathleen Callahan, Acting Deputy Regional Administrator of the United States Environmental Protection Agency (EPA), stated that EPA is the lead agency for environmental testing. Besides conducting its own tests, the agency will receive the results of tests done by other agencies and evaluate those results. EPA will eventually centralize the database and make it available to the public.

EPA found that the vast majority of its tests determined that the levels of asbestos, fine particles, lead, benzene, polychlorinated biphenyls (PCBs), and other dangerous chemicals and substances posed no significant long-term health risks to residents, employees and visitors beyond Ground Zero. Particulates have been below the level of concern even for "groups more sensitive to air pollutants," such as seniors and children. While readings at the WTC site sometimes exceeded federal regulations, these "snapshots of the levels of certain chemicals associated with burning," changed with the weather and other conditions. There is concern for long-term exposure on and at the edge of the pile, where reoccupancy is currently not permitted. EPA found very low levels of dioxins and PCBs in most test samples of off-site material, a good indicator of what the community would be exposed to.

Drinking water was tested for a wide range of contaminants, none of which exceeded permissible levels. A one-time sampling of 13 areas around the City typical of sampling intake points showed contaminants in the water supply to be within standard levels. EPA found contaminants in one test of river water that was determined to be material running off from the WTC site. Subsequent testing did not show any elevated levels of contaminants in the Hudson and East Rivers.

The standards of the EPA and the United States Occupational Safety and Health Administration (OSHA) "are set many times below the level at which you would expect health impacts." As of the hearing dates, out of more than 1,300 air samples taken at 26

monitoring stations in and around the site, only 30 samples had levels of asbestos that exceeded Asbestos Hazard Emergency Response Act (AHERA) standards. AHERA sets standards for indoor levels and is used to determine whether children can re-enter a school after asbestos has been removed or abated. Where elevated levels of asbestos were found or reported in lower Manhattan, EPA used its large high-efficiency particulate air (HEPA) vacuum truck to pick up dust and clean sidewalks, the promenade at Battery Park City, local playgrounds, parks and sandboxes.

Workers at the site are adequately protected if they wear respirators. EPA and other agencies have provided thousands of respirators and other gear. They have set up washing stations where workers should wash and change clothes. Signs directing workers to wear protective gear are posted at wash stations.

In its testing, EPA (or other agencies) has not tried to distinguish between those pollutants emanating from the fire and the debris of the World Trade Center and those resulting from the heavy machinery and diesel engine trucks being used in the recovery operation. The changing weather patterns from summer to winter will more likely "invert" air substances closer to the ground where the air is more static, thereby increasing the public's exposure at street level. However, EPA did additional sampling in early October where the agency observed inversions to try to identify the implications. EPA did not perform indoor sampling but testified they would find out whether tests are conducted at night.

Callahan denied an allegation that EPA has refused to give out the results of its testing, explaining that technical glitches sometimes delayed getting this information onto its website. The agency, she said, would make print copies available upon request.

United States Occupational Safety and Health Administration

Patricia Clarke, New York Regional Administrator OSHA, testified that, while levels of air contaminants outside the site were considered safe, rescue workers occasionally have been exposed to unsafe levels of dioxins, carbon monoxide, heavy metals and other potentially damaging pollutants. OSHA's standard risk level assessment is based on a 40-hour week, 50-week year over a lifetime exposure. OSHA used a sampling methodology to identify the levels of contaminants from highest to lowest, and responded accordingly to provide protection for people, prioritizing by level of risk. OSHA continued sampling outside and inside some buildings where cleanup was underway until the agency was "comfortable" about "what the characterization was in those buildings."

She also testified that the WTC plaza area is the only area where fires were still burning. Out of concern for the effects of volatile organics from the fire, OSHA conducted samplings within the plume and a few feet away. The agency detected benzene and dioxins within the plume but none ten feet away. Carbon dioxide (CO_2) levels at the site were found to be generally low. None of the 293 samples of heavy metals collected

showed traces of mercury.

OSHA continued to recommend the use of properly fitted, effective, respiratory protection that is practical for use by those employees working on/near/below the rubble pile. OSHA believes that, for the vast majority of situations, the degree of respiratory protection currently being used is adequate based on the concentrations of air contaminants present, the duration of employee exposure, and the work practices being utilized at the site.

All Freedom of Information Law (FOIL) requests are referred to EPA, which has the most comprehensive data and can expedite these requests most efficiently.

Agency for Toxic Substances and Disease Registry

Dr. Robert Johnson of the Agency for Toxic Substances and Disease Registry (a branch of the United States Department of Health and Human Services) stated that fiberglass does not pose "as much of" a health problem since the body "can handle it." Although fiberglass can irritate the eyes, nose, and throat, causing a cough or bronchitis, the substance's fibers are relatively large and do not intrude deeply enough into the lungs to pose a significant danger. However, the body does not similarly handle fine silica and asbestos particles, which can cause fibriotic lung cancer. Consequently, these two substances received far more attention. Because children and the elderly are more susceptible than others to the dangers caused by these contaminants, and because of the lack of knowledge of the synergistic effects of the various substances, standards are set "usually hundreds of times below a level that is known to cause a health effect."

New York State Department of Environmental Conservation

Mary Ellen Kris, Regional Director of the New York State Department of Environmental Conservation (DEC), testified that, to strengthen enforcement of proper procedures, armed personnel would begin to ensure the removed debris is watered and covered with tarpaulins. DEC was asked by the New York City Department of Environmental Protection (DEP) to install additional monitoring equipment for asbestos. There are now 20 monitors in lower Manhattan, nine of which were installed, operated and maintained by DEC. Technical and law enforcement inspectors are working 24 hours a day, seven-days-a-week, monitoring debris removal from Ground Zero, its placement in the staging area and its shipment to Fresh Kills. The agency has "a group of people" at Fresh Kills, and a "minimum of one or two people" each at the transfer stations at 59th Street, Pier 25 and Pier 6 in Manhattan, and at Hamilton Avenue in Brooklyn. These DEC personnel have required rescue workers to wet down the material, "tarp" the trucks, and have ordered trucks removed from service when necessary.

In response to demands by the community and elected officials, DEC has discussed using additional uniformed and armed law enforcement officers and fewer civilian personnel to strengthen enforcement of regulations in order to prevent the dispersal of dust and other contaminants during the debris removal process. In response to questions by Council Member Michels, Kris agreed that increased enforcement would include issuing tickets for uncovered or idling trucks and failed engine inspections.

New York City Department of Design and Construction

Robert Adams, Director of Environmental Health and Safety Service for the New York City Department of Design and Construction (DDC), testified that all other agencies involved recognize DDC's designation as the lead agency on safety matters and understand this does not reduce their jurisdiction. Although workers at the site are still required to wear respirators and other protective gear, the data indicate that even unprotected workers would not experience long-term health risks from the levels of contaminants detected. It is possible to work in certain areas without having to wear the equipment. Workers continue to use protective gear because conditions could change. Workers are instructed to use their masks and equipment, and occasionally have been told to leave the site when they do not comply. DDC has not found any change in conditions that would require modifying the protective equipment.

The agency has a group monitoring Freon (a trademark for a class of compounds known as chlorofluorocarbons) to develop a strategy should it pose a problem. Freon was stored below street level and is "very difficult to get to". The agency was "pretty certain" the substance was "fairly well controlled at the moment," but would continue to monitor it. Additionally, a review found the diesel fuel tanks below street level to be "secure."

DDC was in the process of developing worker safety training and orientation to instruct new workers on the safety risks. The agency has been working on specialized safety training, in conjunction with operating engineers and other trades, on excavation, crane operations, and heavy equipment and continues its spill prevention program for avoiding hazardous material accidents. Specialized training is planned pertaining to confined space entry. Tarpaulins have sometimes caught fire because most of the material coming out of Ground Zero is still "very hot." The agency is refining alternative methods for cooling down the steel and debris in collaboration with DEC. Flatbed trucks are washed down, but not "tarped". DDC plans on winterizing the stations to better control run-off and prevent sprayed water from freezing.

The three-foot thick foundation wall (also known as the "slurry wall" or "bathtub"), built to hold back the Hudson River, has developed leaks over time, but contaminants are not seeping into the river. Pressure causes water to pour in through the wall, while keeping the contaminants from seeping out into the Hudson.

The City is exploring building a giant umbrella over Ground Zero so cleanup can continue through the winter. DDC has met with experts who were involved in England's Millennium Dome.

New York City Department of Health

Dr. Jessica Leighton, Assistant Commissioner for Environmental Risk Assessment at the City's Department of Health (DOH), testified that in the first two weeks following the disaster, the Health Department provided 24-hour coverage to make sure workers had the proper protective equipment.

Early tests had recorded occasional spikes in the levels of various contaminants, including asbestos, at some locations at or near the site. As time passed, levels have been below standards. Lead levels have been "really quite low." Long-term health risks are associated with consistent exposure over a 30-year period. People near Ground Zero are safe at the present level of these contaminants "as far as the science has shown us right now."

The sore throats, headaches, coughs, and other ailments are not being caused by asbestos, but by the smoke in the air. Once the fires have been extinguished, releases of chemicals such as benzene, dioxins, PCBs and furans will not be a concern. Consequently, many health effects reported by people working or living in the community should then subside, although they may persist as long as the smoke and dust levels are present near the site.

The standards for safety levels of potential toxins have many safety factors built in that "hopefully...are protecting for synergistic effects" of the contaminants. However, the type of testing and "the science" is "not there yet" to know the synergistic effects of these substances.

The Health Department has been collecting Medical Assistance Team forms, which are filled out when workers report ailments on-site. DOH is reviewing these forms to assess any correlation between workers getting sick or developing ailments and the site's air quality. In response to questions, Dr. Leighton testified that the agency is not factoring into its analysis workers who call in sick or go to hospitals or private doctors for examination. To become better informed, DOH is developing a worker registry to improve tracking and coordination. The agency is also performing a needs assessment to look at issues that residents have raised. If DOH uncovers problems, it may have to revise its Permissible Exposure Limits (PEL) standards.

New York City Department of Environmental Protection

Diana Chapin, First Deputy Commissioner of the New York City Department of

Environmental Protection (DEP), said the agency had taken almost 1,000 samples from September 12th to the date of the testimony at about 37 testing stations near the WTC site. DEP's data also indicate that levels of contaminants in air and dust are not high enough or of sufficient duration to cause long-term health effects. DEP sampled outdoor air, indoor and outdoor dust and debris, runoff water and sediment. The major substances monitored by various agencies include:

- Phosgene by DEP
- Nitric oxide and dioxins by EPA
- Crystalline silica and lead by OSHA
- Ozone, particulate matter less than 10 microns and particulate matter less than 2.5 microns by DEC
- Carbon monoxide by OSHA and DEP
- Volatile organic compounds by EPA, OSHA, DOH, and DEP
- Sulfur dioxide by EPA and DEC
- Asbestos, hydrogen sulfide, cyanide and PCBs and all other metals by DEP and EPA

Robert Avaltroni, Deputy Commissioner of DEP, also testified and said that the agency has been working with the Real Estate Board of New York, realtors, and building owners with regard to proper clean up measures. DEP set up a Help Line and has tried to inform individuals when their buildings can be reoccupied. DEP will inspect buildings for individuals who approached the building owner or manager and are left unsatisfied. Buildings are being wet-washed before using pressurized air to clean them off.

New York Environmental Law and Justice Project

Joel R. Kupferman, Executive Director and Chief Attorney for the New York Environmental Law and Justice Project (NYELJP), testified that New York City has not shared its air monitoring information, and the state has not acted on the organization's FOIL request because the State asserted there was a "criminal investigation." He asked the City Council to request copies from DOH of the results of all testing done by a private environmental services company, ATC Associates (ATC), in the City.

Kupferman also testified that many people expressed to NYELJP their fears of working in the area and breathing the air and that their employers told them "to take the job or just leave." City, State, and Federal workers also spoke of being afraid. A Health Department worker was denied a request for time off and a mask. Anecdotal information indicates that low-cost "mitigation measures" are not being carried out. For example, police officers were not told that they "shouldn't take [their] uniforms home to wash with their kids' clothes." Other safety information or assurances are inconsistent or contradictory. While EPA "was saying that things were safe, workers in [EPA's] building were given masks to wear." Meanwhile, transit workers in subways said they were not wearing masks because the "EPA Commissioner said it's safe." Whereas the Attorney General's Office had HEPA filtration systems, other people do not know about HEPA vacuums and how to get them. Department of Mental Health workers on Worth

Street have complained about indoor dust. DOH has not created a registry of complaints, but has instead referred people to their private physicians, who are not getting any information from DOH or the State Health Department to monitor for symptoms.

Information from the EPA website indicated that there were samples in which regulated substances were found to be above acceptable levels. This included samples of dioxins, furans, benzene, chromium and asbestos. These findings, Kupferman asserted, raise concerns. ATC and a Virginia-based laboratory called Environmental Toxicology International (ETI) tested air samples and found high levels of asbestos and fiberglass. The companies wanted to conduct more tests, but were told by DOH not to do so. ETI was ordered to stop all testing, apparently because they are not certified in New York State. The NYELJP also found levels of dioxin, chromium, copper, lead and zinc in the Hudson River five times higher than DEC "had ever seen." Kupferman also testified that a tenants group on Duane Street informed an ATC representative that the group was allegedly told "not to do swipe samples anymore." Kupferman alleged both labs were being intimidated by an unnamed governmental entity.

Oversight agencies are trying to assure the public that the air is safe in order to encourage workers and residents to return to "so-called normal conditions." In addition, real estate interests want to ensure property values and rents remain high.

Arts, Crafts and Theatre Society

Monona Rossol, President of the Arts, Crafts and Theatre Society and Safety Director for the International Alliance of Theatrical Stage Employees (United Scenic Artists, Local 829), said government agencies are not adequately protecting workers. Contradicting its own regulations, OSHA inaccurately announced they were providing respirators and performing fit "checking" (i.e., testing to ensure a respirator fits as it should). However, OSHA regulations allow fit "testing" (i.e., testing to ensure a respirator fits without "breakthroughs"), but only if the agency has medically certified a worker "as capable of wearing a respirator without exacerbating a physical condition."

The correlation between urea-formaldehyde resins on fiberglass particles and respiratory problems was not being monitored. OSHA has proposed a standard of one fiber per cubic centimeter for fiberglass, but the industry has opposed instituting it. However, OSHA "knows that's what [the standard] should be [since] they've already proposed it." Monitoring would have found levels in excess of this tougher standard. The industry itself uses "threshold limit values," which is akin to one fiber per cubic centimeter and stricter than the current "permissible exposure limits."

Tests from apartment dwellers have found ranges of asbestos from only a trace to 4%. At such levels, instead of telling residents to wet-wipe the substance or use a HEPA vacuum, the State should be instructing people to have dust tested at an ATC lab. Residents and landlords are not being provided with the necessary information that will responsibly

guide them in cleaning up their homes. Besides the reasons given for restoring normality, Rossol testified this reassurance discourages residents and businesses from testing and identifying the substances at their locations and arranging for proper clean up costs.

Center for Constitutional Rights

Nicole Pollier, a legal intern at the Center for Constitutional Rights, testified that with the Bechtel Corporation bowing out, no company has developed an environmental safety and health plan for the World Trade Center site. While respirators, cartridges, hardhats and Ty-Vek overalls are available at the site, no organized training has been undertaken. According to a report by the National Institute of Environmental Health Sciences (NIEHS), the intensity of work and long hours have resulted in a very high injury and illness rate among workers. This is due to the lack of health and safety personnel and because OSHA's compliance officers on site have been limited by OSHA to providing "only technical assistance and support." OSHA has neither mandated training sessions nor enforced requirements pertaining to protective equipment or "exposure monitoring."

OSHA's Field Inspection Reference Manual says that the "authority to direct rescue operations" is the "responsibility of the employer and/or of local political subdivisions of State agencies." For OSHA to enforce its standards, the Center for Constitutional Rights recommends that the Council's Committee on Environmental Protection publicly state the need for the City to "move officially out of the rescue phase" and into the recovery phase of the operation.

The WTC disaster operation will not be conducted under the provisions of 29 CFR 1910.120---OSHA's hazardous waste operations and emergency response standard--which provides a comprehensive basis for worker training, medical surveillance and exposure monitoring. The New York City Department of Engineering (sic) and Construction refused to supply labor representatives with copies of a draft safety and health plan and refused to let them participate in the safety and health program development process.

Dr. George Thurston, Associate Professor, New York University School of Medicine

The population most vulnerable to the contaminants are those considered to be "at-risk people," such as those with pre-existing health conditions, such as emphysema or asthma. Recent literature has found that people with cardiac disease "could be at significantly more risk from just a few hours" of exposure. The school's study found about 99% of particles were larger than 10 microns, which "do not readily penetrate into the lung." None of the samples exceeded the 1% limit that would have defined it as an asbestos-bearing substance. No trace was found of asbestos that could "get deepest into the lung." Whereas the human body "accepts" neutral pH 7 particles, which are non-acid and non-alkaline, an acidity test found the dust to be very alkaline with a pH of 10 to 12.

This helps explain some of the symptoms people experienced. Yet the smaller particles measuring 2.5 microns, which are more likely to penetrate the lungs, fortunately, had a pH of "almost nearly" 7. Lead found in the dust was "within the restrictive standards for playground soil." However, the standards are stricter in a home with an infant, who is more at risk of exposure to lead where "a lot of this dust got in."

An analysis of the soot from the plume revealed higher levels of elemental and organic carbon at night than during the day. At night, the winds dropped down and (as mentioned in other testimony) inversions resulted from more static air. The plume has "meandered," particularly at night, and has "walloped" one area for a few hours before drifting. DEC's forecasts of stagnating air masses and higher air pollution potential should be considered daily in making deployment decisions at the WTC site, including whether to stop or cut back operations. Because of these weather patterns, people should keep their windows closed at night and open during the day. However, static air exposing people to more contaminants can also be caused by anti-cyclones, a high-pressure system associated with fair weather.

Dr. Stephen M. Levin, Medical Director, Irving J. Selikoff Center for Occupational and Environmental Disease (Selikoff Center), Mount Sinai Medical Center

The Selikoff Center's clinical data found the public health risks to be higher than the more optimistic assessments by the government agencies that have testified. The Selikoff Center found clinical problems such as acute sinus problems to upper airway discomfort, sore throats, hoarse voice and pressure in the upper chest and airways.

The Selikoff Center examined individuals who work in office buildings mostly two to four blocks east or "downwind" of the site, since the prevailing winds go from west to east. These people are experiencing not just irritants, like runny noses, or sore throats, but symptoms of "reactive airway disease." This is a form of asthma in which an individual experiences chest tightness, cough, wheezing, and an "inability to fill one's lungs with air." The latter is not a subjective symptom since the Selikoff Center has objective measures for testing "reactive airway disease." Officer workers "downwind" are manifesting objective evidence of upper airway dysfunction and asthma-like lower airway dysfunction.

The Selikoff Center has also seen an onset of asthma cases among individuals who were in "excellent physical condition" (some of whom were preparing for the Marathon) before September 11, but developed symptoms of "reactive airway disease" and a "tremendous decrease in exercise tolerance."

The Fire Department is the only agency with an active medical monitoring plan in place to track the development of symptoms or illnesses. People who have worked or continue to work, live or go to school at Ground Zero or in surrounding areas should be registered and offered medical surveillance. An effort should also be made to locate people who

have symptoms and need treatment because early treatment "can shorten the course [and] severity of these illnesses."

There are few studies of synergistic effects of these contaminants. A well-known study indicates the risk of lung cancer does not increase arithmetically, but "multiplies" as a result of exposure to both cigarette smoke and asbestos. Therefore, it is not unreasonable to assume that the exposure in this "complex environment" might have "some multiplicative effects."

Whereas respirators could protect us against dust inhalation, gas cannot be trapped by high-efficiency particulate filters. The Selikoff Center has been observing "reactive airway disease," sinusitis, and throat irritation "not primarily" from dust, but because of irritant gases. If the "correct" cartridge is used, cartridge respirators will protect against the particulates, including asbestos, concrete dust, and other dust materials, as well as gases, including acid mists and volatile organic compounds. If people have to be in the World Trade Center area and are experiencing respiratory difficulties, and do not wear that level of respiratory protection, their symptoms and underlying medical conditions might worsen.

Philip Landrigan, M.D., Chairman of the Department of Community and Preventive Medicine of Mount Sinai School of Medicine (This summary is taken from a prepared statement submitted after the hearings.)

Dr. Landrigan explained that there is a responsibility to undertake the studies that will answer questions concerning long- and short-term health consequences to the public and to convey the results of our work on a timely and ongoing basis to public health authorities, clinical colleagues, and the public. The ultimate goal is to guide the prevention of disease.

The long-term health risks of those exposures include lung cancer and malignant mesothelioma. Risks will be greatest for those with the most intense and prolonged exposures. Protection against these risks requires the provision of proper respirators to workers and the undertaking of health and safety training programs that emphasize the need for constant wearing of respirators, for proper fit testing, and for frequent changing and cleaning of filters. Workers at the site are also at risk of exposure to silica, lead, benzene, dioxin, and other combustion products. Fortunately, the same respirators and training programs that protect against asbestos will protect against most of those hazards.

To assess the long-term consequences, an urgent need exists to establish a registry of all workers and to conduct baseline physical examinations of those at highest risk. Detailed information needs to be collected on the timing and nature of each worker's job and on when and where he/she performed it. Time-activity logs need to be constructed and kept up. Respiratory questionnaires need to be administered, and function tests performed. Baseline chest X-rays may be desirable. Blood samples should be taken for analyses of

PCBs, dioxins, and other products of combustion.

A consortium of five National Institute of Environmental Health Sciences centers has already met under the leadership of Kenneth Olden, director of the NIEHS, to consider these issues. A collaborative plan for moving forward with an occupational health research program has been developed. Close liaisons have been established with the Centers for Disease Control and Prevention, the National Institute for Occupational Safety and Health, the Environmental Protection Agency, the New York State Department of Health and the New York City Department of Health, as well as with contractors and the major labor unions. Only through such a joint effort can this program succeed.

The need also exists to take aggressive steps to minimize pediatric exposure and to create a registry of children of all ages who have been potentially exposed to dust. No physical examination or chest X-rays of these children is warranted at this time, but names and other identifying information should be held in a register with the goal of long-term follow-up.

Children are also at risk of exposure to toxic products of combustion that may have been generated during the explosions and fires. These materials include benzene, dioxins, furans, and polycyclic aromatic hydrocarbons. It may be advisable to obtain samples of venous blood from the children deemed to have been at highest exposure and then to analyze those samples for whichever toxic products of combustion are identified in environmental samples.

The possible consequences of physical and psychological exposures on pregnant women and their children are not known and need to be investigated. To this end, researchers at the Columbia University Center for Children's Health and the Mount Sinai School of Medicine have developed a joint proposal to examine infants born to women who were pregnant on September 11, 2001 and who were either acutely or chronically exposed. The acute exposure group will consist of pregnant women who actually were in the World Trade Center towers or in nearby office buildings at the time of the attacks. The chronic exposure group will consist of women who live and work in the communities of lower Manhattan. Samples of blood and other biological fluids will be taken from these women during pregnancy to assess their possible exposures. The infants will be evaluated at birth and periodically over the first several years of life. Psychological examinations of mothers and their babies will be conducted in conjunction with the physical assessments.

A major need exists in the United States to strengthen programs for disease tracking. The extremely sensible recommendations of the Pew Commission on Public Health need to be heeded by health officials at every level of government. Training programs need to be established for doctors, nurses, and other health care providers. Hospitals, particularly major hospitals in urban centers, need to be provided the resources and materials needed to develop response plans. These plans need to be closely coordinated with pre-hospital responders including fire departments, emergency medical technicians, and the Federal Emergency Management Agency.

Manhattan Borough President C. Virginia Fields

It is imperative that one agency – possibly the Environmental Protection Agency, or the City's Department of Environmental Protection - take on oversight of the recovery. The agency would be responsible for the environmental aspects of the contractors' work in performing the cleanup and removing the debris. This agency would have sole responsibility for establishing cleanup protocols, on and off-site, power to enforce compliance, and would act as the public information clearinghouse.

In the surrounding area, the most efficient methods of removing debris from building roofs and cleaning building facades and interiors must be determined. Taller buildings have less roof debris, but more façade to clean. There are entirely different requirements for cleaning residences, offices, commercial and retail spaces, and establishments preparing and selling food. These considerations reinforce the need for one environmental oversight agency.

The Borough President's office has also heard many complaints about the trucks removing debris from the site. Ideally, the contents should be containerized. At minimum, the debris should be watered down and securely covered, to prevent the escape of dust and other irritants. These trucks are driving through City streets, putting pedestrians and residents at risk and emitting diesel fumes, known to contain high levels of hazardous particulates.

Evelyn A. Mauss, Sc.D., Science Consultant to Natural Resources Defense Council

Federal, State, and City agencies must establish a program of comprehensive sampling and testing in and around residential sites in the neighborhoods at possible risk. Playschools, public schools, playgrounds and parks, generally, must be monitored. Children's blood lead levels must be recorded as widely as possible. Any remediation or abatement that is undertaken must adhere to certified protocols for safety.

Manhattan Community Board No. 1 (Written testimony was provided on November 1.)

Manhattan Community Board No. 1 represents the people who live in the vicinity of the WTC.

Dust cleanups should be conducted by an environmental contractor with expertise in asbestos contamination cleanup or remediation of hazardous materials. Contractors selected for this work should be licensed by the proper authorities in the City of New York and/or the State of New York for asbestos and/or hazardous material cleanup activities. Individuals working for these companies should be properly trained by completing asbestos training courses certified by the New York State Department of Health and licensed for asbestos activities by the New York State Department of Labor.

In lieu of this requirement, at a minimum, individuals should have awareness training in accordance with the OSHA Asbestos Standard, 29 CFR 1926.1101. The training should cover the potential exposures (such as asbestos and caustic irritant dust) that may be encountered during cleanup activities, appropriate personal protective equipment, and work practices.

Individuals performing the dust cleanup should be equipped with proper personal protective equipment to reduce exposure to asbestos-containing and alkaline dust. This equipment should include the use of half-face air-purifying respirators that are equipped with high-efficiency particulate air (HEPA) filters. The level of respiratory protection can be modified according to the conditions of worker exposure and the airborne level of asbestos. Respiratory protection should be provided in accordance with OSHA Standard 29 CFR 1910.134. Additionally, individuals should use protective clothing, such as disposable coveralls, or similar whole-body clothing including hoods, boots, and gloves.

To reduce dust recirculation, all surfaces (including those inside of cabinets, etc.) should be cleaned using vacuum cleaners equipped with HEPA filters. The surfaces should then be wet-wiped with amended water containing a non-sudsing surfactant. No surface should be dry swept or dusted because this will only reintroduce the dust into the environment. Upholstery and carpets should be HEPA-vacuumed and cleaned using either steam or a hot-water extraction method. All clothing, linens and other similar items should be laundered.

The heating, ventilation and air-conditioning (HVAC) system should be inspected. If the system was in operation during or after the September 11th incident, it may contain asbestos-contaminated dust. An environmental consultant should be consulted to determine the most efficient procedures to clean the system, including the air-handling unit and ventilation ducts (supply and return).

A suitable re-occupancy clearance criterion needs to be established. This criterion can be based on a thorough visual inspection and/or air testing.

To prevent or minimize the outdoor dust from entering the apartment: (1) keep windows closed and repair all broken glass; (2) set the air-conditioner to re-circulate air (with closed vents), change the filter initially and frequently thereafter; and (3) remove shoes before entering the apartment.

Madelyn Wils, Chairperson of Manhattan Community Board No. 1 (Oral testimony was presented on November 8.)

The City must take responsibility to oversee this cleanup and should create a new office, reporting directly to the Mayor, to monitor and enforce the proper removal of all WTC-related debris. This office should oversee the cleanup of residential and commercial buildings (inside, on the roof, ledges, windows, etc.), streets, parks and other public outdoor

spaces.

This new entity should also oversee the removal of debris from the WTC site itself, as there has been poor oversight of the protocols established to insure that trucks leaving the site with debris are covered and washed down to minimize debris flying into the air. While the washing down of the trucks has been done on a fairly reliable basis, the covering of the trucks with tarpaulins has definitely not. These trucks then generally proceed to the barges set up at nearby piers. The operation at Pier 25 has been particularly problematic in light of its location adjacent to Independence Plaza, a large residential complex, and near several public schools. When the trucks reach the pier, their debris is deposited into a barge and additional debris is released into the air. These barge transfer points should be enclosed to prevent this debris from becoming airborne into the community. Another issue of serious concern is the idling of many diesel-powered trucks throughout the area. The pollution created by these trucks further exacerbates the adverse air quality.

Maureen Silverman, Resident of Independence Plaza, Member of WTC Emergency Environmental Group and Co-Chair of The Outreach and Education Committee of the New York City Coalition to End Lead Poisoning

The EPA, DEC and City DOH should invite public input concerning site management at Ground Zero and with the help of that input, require improvements in site management to reduce pollution associated with the site itself and recovery and removal efforts.

Diesel trucks and equipment need to be replaced with cleaner fuels such as oxi-, bio- or low-sulfur diesel. The City, State and Federal governments should implement OSHA work safety standards at and near Ground Zero. The WTC Emergency Environmental Group recommends an on-site industrial hygienist for all workers in WTC cleanup with authority to implement precautionary health measures. Public health advice to workers in private buildings is also needed.

EPA, DEP, and City DOH must ensure that the public has direct access to all outdoor air test results and methods of testing used. The EPA, DEC and City agencies should disclose the approximate location of air monitors, note which ones are located at street/pedestrian levels and invite public comment on the air monitoring program. They should then develop a revised air testing program. The agencies should regularly report outdoor and indoor testing results to the public through TV and radio announcements and literature distribution, including information on safety standards for each contaminant in multiple languages - especially English, Chinese and Spanish.

The EPA, DEC and City DOH should make specific recommendations to the public regarding ways to reduce exposure to outdoor air emissions. The agencies should direct additional public education and interventions to at-risk groups such as those with pre-existing respiratory and heart conditions, those with suppressed immune systems, pregnant women and children. In addition, one agency should take responsibility to

ensure regular public service announcements and fact sheets are released informing the public of weather conditions that worsen pollution such as inversions. These announcements should provide precautions people should take, such as leaving the area, limiting outdoor activity, closing windows, and taking children to parks away from the affected areas.

The City, DOH and OSHA should coordinate to ensure that comprehensive testing is conducted in homes, workplaces and schools affected by the disaster. Some of the funds raised in response to the disaster should be earmarked toward defraying the costs of comprehensive and coordinated indoor testing for a variety of contaminants. The WTC Emergency Environmental Group also recommends checks by independent third parties to ensure accuracy. The discrepancies in testing results between EPA's and those of independent testers at Stuyvesant High School and Washington Market Park confirm the need for independent third party checks.

The WTC Emergency Environmental Group also recommends support for advocacy groups to help people apply for funds and services, navigate the bureaucracies and provide adequate information to those who need to relocate from the area.

Other recommendations included:

Establishment of an independent ombudsman, representing the public to oversee the conduct of the research and environmental clean up and report back to the public on progress and problems with the assistance and advice of a Scientific Advisory Board.

Implementation of environmental justice principles, with funding and support for low income communities of color affected by the disaster, including adequate attention to the Lower East Side, Chinatown and parts of Brooklyn.

Marjorie J. Clarke, Ph.D., Scientist-in-Residence at Lehman College and an adjunct professor at Hunter College

Since ambient air standards are for individual pollutants, it is imperative that research be done to assess the impacts on public health of combinations of pollutants. A temporary structure (e.g., a dome) should be erected over the site, and incinerator emissions controls should be installed to clean air inside the dome.

The City should release all data and interpretive guidelines on the Web. The Council should commit City funds and encourage the Administration to seek federal 9/11 grants to conduct ongoing, comprehensive surveillance of symptoms in affected populations; research the acute and long-term impacts on health of highly concentrated combinations of pollutants acting for a short time and elevated levels of combinations acting for longer periods of time; and write new standards to reflect short-term exposure to high concentrations as well as synergistic effects.

Robert L. Jaffe, Ph.D., Director, Environmental Toxicology Laboratory

The Environmental Toxicology Laboratory recommends the use of the Tetramitus Assay for toxicity analysis of air samples. Tetramitus is a free-swimming flagellate (protozoan) that ingests particles and produces a proportional concentration-response to toxic chemicals, both particle-bound and in solution. Other assays that test for particle-bound toxicity require the use of procedures for removing the toxic agents from the particles. These processes are often incomplete and greatly add to the cost of the test. Selective removal of only some of the particle-bound toxicants may destroy the synergistic effects found in the whole particle. The Tetramitus Assay measures the toxicity of whole, untreated particles. Particles collected from air sampling filters could be washed off the filters and directly parsed into Tetramitus cultures for toxicity analysis. Large numbers of samples could be tested on a daily basis. The use of the Tetramitus Assay can serve as a tool for environmental triage, thereby, expanding the ability to monitor more frequently and at a greater number of sites.

Lowell Peterson, Esq., represents Local 78 of the Asbestos, Lead & Hazardous Waste Laborers, AFL-CIO ("Local 78" or the "Union")

Local 78 believes, with solid scientific support, that the dust from the WTC site and in buildings in the area must be removed by trained, certified contractors and workers using full abatement procedures. The continuing cleanup efforts at the WTC site are stirring up more asbestos-containing dust, which is spreading throughout the area. Tests performed by impartial, out-of-town firms have proven that there are huge numbers of tiny asbestos particles in the WTC dust. This creates a significant danger which can only be reduced by full abatement procedures. The DEP must act aggressively to ensure that the dust is abated properly and that steps are taken to minimize the amount of dust dispersed as the rest of the debris is removed from Ground Zero. The oversight agencies must ensure that dust is properly abated and removed when it settles in offices, stores, and homes.

Peter Iwanowicz, Director of Environmental Health with the American Lung Association of New York City

Because of periodic, short-term (lasting a couple of hours) spikes in the particulate emissions being monitored in and around the site, the American Lung Association of New York recommends that certain, high-risk populations and their caregivers take note of conditions in lower Manhattan and work very closely with their healthcare provider if they are experiencing an increase in respiratory symptoms.

Additionally, the American Lung Association of New York fully agrees with the requirements that workers at the site wear proper respiratory protection since they are the ones most directly exposed to the chemicals and particles associated with the plume and the dust. The workers must take extreme precautions to limit their exposure to the

chemicals released at the site.

The American Lung Association of New York encourages the City and State agencies to post more of the information on-line on a "real time" basis. The Association also believes that federal and state agencies should publicly post data related to toxic components of the plume, in addition to the samples of particulates 2.5 microns or smaller that have been collected. By posting this information in its entirety, the public will be better positioned to assess the risk associated with the smoke emanating from the debris.

The American Lung Association of New York recommends that all equipment and vehicles running on diesel fuel be supplied with low-sulfur fuel (30 parts per million). New York City Transit is currently running all of their diesel buses on low-sulfur fuel so it is readily available from local suppliers.

The American Lung Association of New York believes that the EPA should use this already existing program to work with owners of the vehicles and equipment involved in the World Trade Center cleanup and recovery and install after-treatment devices to reduce the diesel exhaust emissions.

Patrick L. Kinney, Sc.D., Associate Professor, Mailman School of Public Health at Columbia University

Potential risks appear to be much less serious for the general public in the areas downwind of the site.[1] The good news is that there is no indication from these data that air pollution is reaching levels that would be associated with serious health effects in the long term. Pollutants that have been examined include asbestos fibers, fine particulates (those of 2.5 microns or smaller), lead, PCBs, dioxins, volatile organic compounds, and others. He testified that while a few short-term air samples measured close to the site have shown relatively high levels, he was aware of none that have shown violations of health-based air quality standards for outdoor air. On the other hand, short-term irritation of the upper respiratory tract is an ongoing complaint of many who live, work, or go to school in the area. What is causing that irritation remains unknown.

This is an area where study should be directed. For now, scientists speculate that certain components of the dust, including fiberglass fibers and cement particles, may be responsible for these complaints. However, because the upper respiratory system is well-designed to deal with exposures of these kinds, scientists do not anticipate any serious health consequences of exposures to large particles like these.

In spite of all the monitoring that's been taking place, the public release of data has been rather limited. This has hampered the ability to draw firm conclusions regarding the levels of exposure and potential risk. Agencies responsible for data collection should be encouraged to

[1] This appears to contradict the testimony of Dr. Stephen Levin, who said people three or four blocks downwind are vulnerable and have shown symptoms of "reactive airway disease".

provide more timely and complete data on air quality monitoring, as well as on the sampling procedures and methods used to collect the data.

Paolo Toniolo M.D.; Professor of Epidemiology at New York University School of Medicine and the Associate Director for Population Science at the NYU Cancer Institute

Dr. Toniolo testified that there are three main parts to the first, and most urgent, set of interventions in order to assess the health of lower Manhattan residents: 1) investigate possible respiratory ailments; 2) monitor changes in blood lead levels in young children; and 3) monitor levels of toxic compounds in the blood of adults. The NYU Cancer Institute (Institute) has built a strong community component into this effort and has asked for the community's input on issues to be studied, including the cultural traditions that must be respected. (Jo Wiederhorn, Deputy Director of Operations of New York University School of Medicine's Institute for Urban and Global Health, said the focus of the study was based on concerns expressed by the community at forums held in Battery Park City, Tribeca and the Lower East Side. Chinese and Spanish-language translators were available. The effects of possible exposure to dioxin emerged as among the higher concerns.) The Institute will also report back to the community at regular intervals and provide information and education sessions to keep community members apprised of all current health-related findings.

The Institute's goal is to quantify potential health problems, if any, gather evidence in support of possible corrective measures and address the concerns of the community. It will gather information from approximately 2000 residents of selected housing units in Battery Park, the Financial District, Tribeca and Chinatown through questionnaires designed to record new and/or changing respiratory conditions. A draft of the questionnaire is being discussed with local community boards and community organizations to elicit their feedback before the project is launched.

The Institute will also assess whether children from 12 to 48 months of age living in the community may be at increased risk of exposure to potentially dangerous levels of environmental lead, a known neuro-toxicant, especially for small children. This exposure appears to be present now at relatively low levels in environmental samples, but may increase over the next months as young children ingest more and more dust and dirt contaminated with lead.

While the Institute continues to monitor environmental levels of potentially dangerous chemicals and toxins at various sites, efforts are under way to determine whether residents may be exposed individually to abnormal levels of chemicals known to be related to an increased risk of long-term health events, such as impaired immunity, altered hormonal balance, or increased risk of cardiovascular accidents or cancer. The list of compounds of interest includes dioxins and heavy metals, such as nickel, cadmium and chromium.

David Newman Industrial Hygienist on the staff of the New York Committee for Occupational Safety and Health (NYCOSH)

The heaviest exposures to airborne asbestos take place in indoor settings where settled dust and debris from the collapse of the World Trade Center are disturbed and made airborne again. Consequently, NYCOSH is particularly concerned about workers in the area whose job it is to clean offices and apartments where dust from the collapse of the World Trade Center has accumulated. Similarly, it believes that residents who return to their residences and engage in the cleanup activities may be exposing themselves and their families to hazardous levels of toxic substances.

There are loopholes in Federal, State and City asbestos regulations, which leaves these workers unprotected:

First, EPA only classifies dust as asbestos-containing material (ACM) if it contains more than 1% asbestos. The agency refers to dust with less than 1% asbestos as "safe." This classification is not based on studies of the health of people exposed to such dust. The 1% cutoff was established decades ago to characterize the potential risk posed by the asbestos contained in solid materials, such as ceiling tiles. Working with a ceiling tile that contains 1% asbestos is entirely unlike working with dust that contains 1% asbestos. Workers can inhale a very significant amount of asbestos when cleaning up dust that contains 1% asbestos or less.

Second, according to NYCOSH's discussions with the New York City Department of Environmental Protection, the job of cleaning up offices and apartments, even if the dust contains more than 1% asbestos, does not trigger New York City's Asbestos Control Law. Consequently, employers are not obligated to provide workers involved in the cleanup of office buildings and/or apartments with training about the health hazards of exposure to asbestos or about the appropriate work practices for handling asbestos. In addition, employers are not obligated to provide appropriate personal protective equipment, facilities for decontamination or training about how to properly use such equipment.

Third, there are no standards for the cleanup of offices or apartments in which asbestos containing materials are found.

Fourth, there is no clearance standard for reoccupancy of buildings contaminated by dust from the World Trade Center catastrophe. Consequently, workers and individuals whose residences have been contaminated by the dust resulting from the collapse have no recourse when their employer or landlord tells them that the cleanup job has been completed and that re-entry to the previously contaminated area is "safe."

Therefore, NYCOSH believes that the City Council should immediately require the appropriate New York City agency to:

- require training of all workers engaged in the cleanup of dust that resulted from the

collapse of the World Trade Center. The training should cover the health hazards of exposure to asbestos and other toxic substances in the dust; appropriate usage of personal protective equipment and decontamination; and appropriate work practices. The City should consider requiring that work be done by workers licensed under New York City's Asbestos Control Law.

- require the appropriate City agency to promulgate protocols for cleanup. At the very least, the City Department of Health, which recommends that employers and residents employ "professional cleaners," should issue best-practice protocols, so employers, workers and residents can assess the adequacy of any cleanup and demand that cleaners adhere to appropriate work practices.

- promulgate a clearance standard for reoccupancy of buildings contaminated by dust from the World Trade Center catastrophe. NYCOSH believes that it is inappropriate to use the OSHA asbestos standard as a clearance standard and suggest that the AHERA clearance standard be adopted for all residences and workplaces and public places.

III. Recommendations

After reviewing the testimony from the hearings and observing the rescue operation at Ground Zero and at Pier 25, the Committee on Environmental Protection believes the City should implement the following recommendations in order to protect the people living, going to school or working around the area of the WTC and to be better prepared in the event of another environmental catastrophe. The Council's Committee on Environmental Protection should hold at least one additional oversight hearing within six months to check on the progress concerning the numerous air quality, health and general environmental issues and recommendations contained in this report.

1. Establish Indoor Air Quality Standards.

Testimony noted that a large variety of hazardous substances, such as carbon monoxide, asbestos, lead, fiberglass, dioxins, PCBs and benzene, were found in the dust that spewed from the WTC buildings and infiltrated office buildings, schools and residences as their ventilation systems pulled in outdoor air. Not all of the chemicals, particulates and other pollutants to which people were, and may continue to be exposed, have precise standards against which the risk to public health may be measured.

Health and safety standards must be established for those known toxic substances or other pollutants for which specific indoor standards have not yet been established. There should be two reference levels, an "action" level that would trigger an emergency response, and a performance level that has no adverse health or safety effects and that is the standard that should be attained. For those substances for which such standards exist, those standards must be reexamined to determine if they are sufficiently protective of public health and safety.

2. Develop Cleanup and Post-Cleanup Protocols for Indoor Spaces

Contamination in residences and office buildings is not a problem that individual apartment dwellers, office workers and even most building managers can address on their own. Trained personnel are needed to adequately collect environmental samples. If hazards are found, special cleanup techniques (e.g., the cleaning of ventilation ducts) and special equipment (e.g., high-efficiency particulate air [HEPA] vacuums) are needed. Untrained individuals using improper techniques could make a situation worse by attempting a cleaning that leaves invisible hazards behind.

The Committee is particularly concerned that involved agencies have largely ignored these indoor places and have done little monitoring and testing inside buildings and exercised little oversight of the monitoring and testing done by private property owners. One agency, the Department of Environmental Protection, should be responsible for ensuring that a building is cleaned properly before it may be reoccupied or is deemed safe

for continued occupancy and that periodic post-cleanup monitoring and testing are performed.

Protocols should be established for the cleanup and post-cleanup monitoring and testing of buildings. The agency should require training of all workers engaged in the cleanup of dust. The training should cover the health hazards of exposure to asbestos and other toxic substances in the dust and proper cleanup procedures. The City may want to require that work be done by workers licensed under New York City's Asbestos Control Law or establish a comparable regulatory structure. The Council should consider enacting legislation to grant this authority. DEP should have primary responsibility for providing information to building owners and managers on proper cleanup procedures as well as overseeing and monitoring the cleanup efforts.

The Council should enact legislation mandating the owner, manager or other person in control of the property to perform the required testing, to certify to DEP that all portions of all buildings meet or exceed permissible levels for air contaminants and to perform and report on on-going monitoring. When those responsible for the cleanup fail to meet their obligations, the legislation should mandate that DEP perform such testing itself or be authorized to direct the owner, manager or other person in control of a property to perform such tests and report the results and to perform and report on subsequent monitoring. The agency would, in all cases, have to affirmatively authorize reoccupancy or continued occupancy for buildings affected by the WTC disaster or the like.

3. Study the Short-term and Cumulative Impacts of the Air Contaminants

The WTC site is a unique source of air pollution that created pollutants of a number and diversity that is unprecedented. Given that ambient air standards are for individual pollutants only, governmental agencies at all levels need to develop greater expertise in evaluating the short-term and cumulative health and environmental effects of exposures to multiple pollutants. Consequently, it is imperative that research be initiated immediately to assess the scope and nature of the impacts on people from combinations of pollutants and to write standards that adequately assess and address these impacts.

Due to the necessary scope of such testing with its attendant cost, the federal government, rather than the State or City, should undertake and/or fund the full panoply of required studies regarding the cumulative impact of the combination of these contaminants in the air. The results of these studies should be released as they are completed and recommendations founded upon those studies should be developed immediately thereafter.

4. Expand a Planned Central Medical Registry

While there was testimony from a representative of DOH that the agency is developing a

central medical registry for rescue and recovery workers at the WTC site, such a registry should also include residents of the WTC area, others who work in the area and students of the many schools in the area with health complaints, within specific geographic boundaries to be established by the agency. (Many of the students, such as those at Stuyvesant High School and Borough of Manhattan Community College, do not reside in the area, yet are in the general area for extended periods of time.)

All levels of government must also work with area hospitals, health care centers, private physicians and universities, such as Mount Sinai, New York University and Columbia University, whose staffs are treating and evaluating residents and workers who are getting ill from the effects of the collapse of the WTC. They must study the data collected by these health care providers and universities in order to get a better understanding of the short- and long-term effects from exposure to the air.

This central registry should be maintained by DOH, in consultation with those health care providers and universities, for a period of at least twenty years, and should contain data relating to those health complaints. The data should be accessible to all legitimate medical personnel. Specific consideration should be given to including data relating to newborns whose mothers were exposed to WTC contaminants. Appropriate accommodations should be made for information subject to doctor-patient confidentiality.

5. Designate DEP as the Lead Agency to Handle Environmental Issues Affected by the WTC

To encourage greater accountability, coordination and action from governmental agencies, one agency, DEP, should be designated to ensure better coordination of testing, cleanup and data collection. There must be effective and continuous enforcement to ensure that these workers are wearing proper gear.

a) Greater protection should be provided to rescue and recovery workers and the community during the cleanup and removal of debris. Public education materials should be provided to all workers involved in the cleanup effort, including building maintenance workers. Workers at the site must be required to wear proper respiratory protection as they are most directly exposed to the chemicals and particulates associated with the plume and dust.

b) All data and analyses of that data should be available on a single website, or at least linked to other websites, to facilitate their availability. The public has a fundamental right to know about all environmental testing that is performed at the site of an environmental disaster and is being performed specifically in the downtown area, including up-to-date testing results.

c) Education materials should be widely disseminated with public health advice about limiting exposures and reducing risks particularly for those at higher risk---pregnant

women, the elderly, young children, and those with respiratory, cardiac or other illnesses that might make them more susceptible to the effects of pollution.

d) A written report that describes the coordinated plan for testing and cleanup of the WTC and all downtown buildings should be provided to the Council, the Mayor, the Manhattan Borough President, Community Board No. 1 and other interested parties.

6. Containerize Debris at Pier 25

The debris removal operation at Pier 25 has been especially problematic in light of its close proximity to Independence Plaza, a 1350-apartment complex housing more than 5000 people, and several public schools. When the trucks reach the pier, the debris is dumped into a barge and, in doing so, additional dust and other particulate matter are released into the air. To the maximum extent possible, the City should containerize the debris transfer at Ground Zero to facilitate the loading of the barges and to minimize the amount of particulate matter that becomes airborne into the community.

7. Expand Outdoor Air Quality Testing

There should be testing in other locations within Manhattan beyond the vicinity of the WTC site, in other boroughs (especially in areas in the path of prevailing winds) and along the routes used by trucks carrying debris from the work site. Agencies must test on a real-time basis and provide results expeditiously. Much of the data from particulate monitors installed since the attack is several days old when it is posted on websites.

Residents' complaints of eye, throat and respiratory irritation appear to contradict government reports on air quality. Monitors are usually located on rooftops. For that reason, there can be a difference between air at the monitors and air inhaled at ground level that is further affected by car exhausts and construction activities. Testing devices should be located on the ground as well as on rooftops.

A long-term program with full spectrum air quality testing should be established that will define the baseline of air quality in all areas of the City. This is particularly true of known "hotspots", such as Superfund sites or State-designated hazardous waste sites, but will assist in identifying other "hotspots" that may require some variety of remedial activity. Similarly, two reference levels should be established, an "action" level that would trigger an emergency response and a performance level that has no adverse health or safety effects and that is the standard that should be attained.

8. Require Mitigation or Reduction of Pollutants from Trucks

There must be a mitigation or reduction of the diesel exhaust from vehicles and

generators involved in the cleanup and recovery. All equipment and vehicles running on diesel fuel should be supplied with low-sulfur fuel (30 parts per million of sulfur) or lower. New York City Transit is currently running all of its diesel buses on low-sulfur fuel so it is readily available. Technologies should be installed to further reduce unhealthy emissions, such as attaching filters directly to the tailpipes of the vehicles.

9. Improve Enforcement of Existing Laws

The City should enforce existing laws and regulations relating to protecting workers, restricting the idling of trucks, and transporting debris. A monthly report of notices of violations should be given to the Council, the Mayor, the Manhattan Borough President and Community Board No. 1.

10. Establish Hotline and Provide Air Quality Reports

A central hotline should be established for individuals to call for information regarding testing, cleanup and air quality reports.

11. Enhance Community Participation

The City should enlist more community participation in the decisions made regarding WTC environmental issues. This should include semi-monthly community meetings between government agencies and community residents and workers regarding environmental concerns. Alternatively, the Office of Emergency Management and other agencies, such as DOH and DEP, should meet on a regular basis with Council Members, the Manhattan Borough President's Office, Community Board No. 1 and local organizations to ameliorate complaints about noise and other relevant matters.

12. Dedicate Funding for Businesses and Residences

A dedicated Disaster Fund should be established that would specifically be earmarked for addressing the environmental concerns related to the WTC disaster, including cleanup, testing and on-going monitoring.

APPENDIX

Witnesses at the Hearing of November 1, 2001

C. Virginia Fields
Manhattan Borough President

Kathleen Callahan
Deputy Regional Administrator, Region II
U.S. Environmental Protection Agency

Patricia Clarke
Regional Administrator, New York Region
U. S. Occupational Safety and Health Administration

Dr. Robert Johnson
Agency for Toxic Substances and Disease Registry
U.S. Department of Health and Human Services

Mary Ellen Kris
Regional Director
N.Y.S. Department of Environmental Conservation

Diana Chapin
First Deputy Commissioner
N. Y. C. Department of Environmental Protection

Robert Avaltroni
Deputy Commissioner
N. Y. C. Department of Environmental Protection

Jessica Leighton, Ph.D.
Assistant Commissioner, Environmental Risk Assessment
N.Y.C. Department of Health

Robert Adams
Director, Environmental Health and Air Safety
N.Y.C. Department of Design and Construction

Joel R. Kupferman
Executive Director
New York Environmental Law and Justice Project

Monona Rossol
Industrial Hygienist
President, Arts, Crafts and Theater Safety

Nicole Pollier
Legal Intern
Center for Constitutional Rights

George D. Thurston, Sc.D.
Associate Professor
New York University School of Medicine

Patrick Kinney
Associate Professor
Division of Environmental Health Sciences
Columbia University School of Public Health

Paolo Toniolo, M.D.
Professor of Epidemiology
New York University School of Medicine
Associate Director for Population Science
NYU Cancer Institute

Jo Wiederhorn
Deputy Director, Director of Operations
Institute for Urban and Global Health
New York University School of Medicine

Alan J. Gerson
Council Member-elect

Marc Ameruso
Member, Community Board 1-Manhattan

Witnesses at the Hearing of November 8, 2001

Peter M. Iwanowicz
Director of Environmental Health
American Lung Association of New York

David Newman
Industrial Hygienist
New York Committee for Occupational Safety and Health

Diane Lapson
Independence Plaza North

Lowell Peterson
Meyer, Suozzi, English & Klein, P.C.
Representative of Local 78, Asbestos, Lead and Hazardous Waste Laborers, AFL-CIO

Stephen M. Levin, M.D.
Medical Director

Irving J. Selikoff Center for Occupational and Environmental Medicine
Mount Sinai School of Medicine

Catherine McVay Hughes

Ann Arlen
2nd Vice Chair, Community Board 2-Manhattan

Dr. Evelyn A. Mauss
Natural Resources Defense Council

Marjorie J. Clarke, Ph.D.

Robert L. Jaffe, Ph.D.
Environmental Toxicology Laboratory, LLC

Maureen Silverman
WTC Emergency Environmental Group

Madelyn Wils
Chairperson, Community Board 1-Manhattan

Rochelle Kalish
Stuyvesant H.S. Parent

Joel Kupferman
New York Environmental Law Project

Kimberly Flynn
New York Environmental Law Project

Lois M. Sturm
East River Environmental Coalition

Saul Fishman
Civil Service Bar Association, Local 237

Marc Ameruso
Member, Community Board 1-Manhattan

Joan Simon Faulkner

Janice Brown Spitzmueller

TESTIMONY OF ALEX SANCHEZ
TO THE EPA WORLD TRADE CENTER TECHNICAL EXPERT REVIEW PANEL
SEPTEMBER 13, 2004

My name is Alex Anthony Sanchez. My co-worker's name is Manuel Checo. We are here today to inform this panel that we spent 7 months working at building sites surround Ground zero. Our job duties were cleaning air ducts, A.C. units, defogging and decontamination of buildings. We worked 12 to 14 hours daily, 6 days a week. We were exposed to massive WTC dust. We were not given the proper gear to perform our duties. Today we both suffer from occupational asthma, acid reflux disease, and post traumatic stress disorder. We suffer from severe sleeping disorders due to the fact that we witnessed the immense destruction of the towers. Our daily activities are nothing compared to pre-9/11.

We are extremely grateful to the WTC workers and volunteers program at Mt. Sinai; also to the New York City executive of the Sierra Club, Suzanne Mattei and this Panel for giving Manual and me the opportunity to express our immediate concern.