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Pollution and Deception at Ground Zero

**How the Bush
Administration's
Reckless Disregard of
9/11 Toxic Hazards
Poses Long-Term
Threats for New York
City and the Nation**

Monday, Sept 17, 2001: The New York Stock Exchange reopens and workers return to a still-polluted Lower Manhattan financial district.

PREFACE

The Sierra Club, an environmental organization with over 14,000 members in New York City, wishes at the outset to honor the memories of those who died on September 11, 2001. These mothers, fathers, relatives and friends are profoundly missed. As we continue seeking to heal and move forward, we carry with us memories and feelings about these members of our many communities who will always be with us in spirit. We also give our condolences to the families who suffered that deep, personal loss, and wish for them peace of mind.

While we are still recovering from that severe loss, we must also turn to the task of caring for each other. We must demand federal action to meet the needs of what this Report calls the “Ground Zero community.”

Nothing in this report should be construed as a criticism of the hard-working staff in federal agencies, who in some instances risked their own safety to respond to the World Trade Center attack and the aftermath of the disaster. The report takes issue, rather, with policy decisions that were made at high levels of government which had the effect of prolonging the harmful effects of the attack.

About the Author

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INTRODUCTION

Many hundreds of people in New York City are sick today because of exposure to the pollution from the September 11, 2001 attack on the World Trade Center. Some suffer from shortness of breath, loss of lung capacity, chronic coughing, throat irritation or irritant-induced asthma; some suffer from gastroesophageal reflux disease. Many are so debilitated by their physical conditions that they can no longer do their jobs, and most of them no longer enjoy life as they used to. It is possible that many more illnesses will emerge in the coming years. People worry about cancer, weakened immunity, and reproductive effects, and many experts fear that these worries may well be justified. No one knows what tomorrow will bring for this exposed population.

If our federal government had responded to the crisis of the terrorist attack with proper concern for people's health, many of the exposures that caused these illnesses could have been prevented. In August 2003, the Inspector General for the federal Environmental Protection Agency ("EPA") released a disturbing 165-page report documenting the fact that the White House Council on Environmental Quality blocked health risk information that EPA sought to release to the public following the September 11, 2001 attack. That, however, is only part of the story.

This report picks up where the EPA Inspector General's report left off. It shows how the federal government – EPA and other key federal agencies – failed to take important actions after the attack to prevent more exposures to contaminants. It demonstrates why the federal government's failures cannot be excused by ignorance or surprise, or by blaming workers who didn't wear protective masks. It documents how independent researchers found a group of toxic pollutants that cause cancer and other genetic effects, while EPA wrongly claimed that it did not detect the presence of these pollutants at all. It exposes the fact that a survey of EPA's own employees, in a building several blocks from Ground Zero, showed that they were suffering health effects, yet EPA did not disclose its own survey results to the public.

This report explains how the federal administration's reckless disregard for the toxic hazards generated by the attack had disastrous consequences for many people who served on the front line of terror response and lower Manhattan's recovery. Most Americans are not fully aware of the wide range of workers and community people who have been afflicted by Ground Zero pollution; this report describes these people, their unmet needs and the continuing risks that threaten them.

Finally, this report alerts the public to a danger that should be of national concern: This report finds that the Bush administration's new emergency planning documents – from the Department of Homeland Security and the Occupational Safety and Health Administration – make some of the administration's worst 9/11 response failures into standard operating procedure for national emergencies. In other words, the prolonged harm that resulted from lack of proper action at Ground Zero could happen again, in New York City or in another location in the United States.

People following news stories about the Ground Zero pollution may wonder whether federal agencies realized at the time that health warnings were needed, or whether those who got sick were just recalcitrant individuals who failed to follow safety directions. This report answers those questions.

- The Ground Zero health risk cover-up did not result from a poorly informed government. The World Trade Center attack involved the open, uncontrolled burning and demolition of two huge buildings – conduct that would be illegal in any state of the Union because of the known risks to human health. This report finds that the federal government ignored its own long-standing body of knowledge about pollution from incineration and demolition. The notion that EPA had to wait for test data before telling people that the pollution posed health risks is absurd. EPA should have issued a health warning, based on its own knowledge of pollution, before any test data came in.
- EPA failed to investigate and disclose toxic hazards properly. Oddly, EPA’s website reports that it found no polycyclic aromatic hydrocarbons (PAHs) – cancer-causing chemicals generally released by combustion of mixed materials – “in any air samples,” although four independent tests found them at elevated levels and even EPA’s own research scientists reported in a scientific journal that they found them at levels that *Science* magazine deemed worthy of “the most serious kind of concern.”
- EPA failed to change its safety assurances even after it became clear that people were getting sick, and even after a survey of EPA’s own office employees at 290 Broadway revealed that they were suffering health impacts – a survey that, this report finds, EPA did not release to the public at the time. It was quietly published in a journal in 2002.
- Many Ground Zero workers did not have proper protection, especially in early weeks. This report explains that federal assurances of safety gave workers conflicting messages about the need for respirator masks, which are difficult and exhausting to wear.
- OSHA refused to enforce worker safety standards at Ground Zero. It wrongly claimed that it had no authority in national emergencies. It then continued this refusal long after the emergency had passed, and long after it became apparent that serious health and safety problems were occurring despite efforts by OSHA staff to advise safety.
- EPA and FEMA, in concert with New York City’s own health department, told families that they could clean up the contaminated dust themselves with wet rags. In fact, they actually discouraged area residents from wearing safety masks.

The Bush administration’s conduct is hard to understand given the fact that it had only recently learned some important lessons in a community contamination issue. Earlier in 2001, the federal government had finally responded to families in Libby, Montana, who had long been trying to get their attention, after a *Seattle Post-Intelligencer* reporter had exposed EPA’s prior inaction. The entire town – playgrounds, backyards and homes – was polluted by asbestos from a mine. EPA promised a full

clean-up. It was too late for some families; many people had already died of asbestos-related illnesses. At the time, EPA Administrator Christine Todd Whitman told the community:

I also want you to know what effect your experiences here are having on our work at the EPA. Because of what we've found in Libby, we are reviewing all of the scientific information about health risks posed by asbestos. We want to know if there are other problem areas out there. And if there are, we will take the appropriate steps to address them. I know it's small comfort, but your experience and your pain may help others facing similar situations.

Four days later, the September 11, 2001 attack occurred, releasing asbestos-contaminated dust over lower Manhattan and parts of Brooklyn. EPA ignored its own rules urging use of more modern asbestos testing equipment and failed to reverse course even when independent tests showed that it was failing to detect asbestos accurately. It failed even to alert the public that the dust was highly caustic.

At the very least, our federal government should have considered the pollution dangerous unless rigorous testing proved otherwise. It did not. Instead, EPA and OSHA – under the White House Council on Environmental Quality's direction – behaved as though they had never seen pollution before, as though they did not know their own regulations, as though they were unfamiliar with current scientific knowledge, and as though the asbestos disaster of Libby, Montana, had never happened.

The Bush administration declared that no expense would be spared in helping the affected communities to recover. Nevertheless, its action has fallen far short of the mark. It has resisted calls for proper cleanup of the toxic dust still present in homes and buildings even though over 2,700 children under ten years old live in the community around Ground Zero. Also, it has not provided adequate long-term health monitoring and care for the people exposed to the pollution. These failures have prolonged the harm to this "Ground Zero community" and impaired New York City's recovery from the attack.

Now, the Bush administration apparently plans to turn its missteps at Ground Zero into standard policy for any future national emergency.

- Its new occupational safety emergency planning document institutionalizes its failure to enforce safety and health laws for response workers.
- Its Department of Homeland Security emergency planning document solidifies the administration's insistence on centralized political control of all hazard communications during an emergency – without providing strong policies to protect the public against false assurances.

This means that the Bush administration has learned nothing from the illnesses and hardships suffered by the Ground Zero community. Rather, it plans to perpetuate them in any future national disaster, anywhere else in the United States.

SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

Lesser Known Hazards from Ground Zero

The attack on the World Trade Center (“WTC”) released toxic vapors and airborne particles that were hazardous to human health, including a toxic, caustic dust that settled on outdoor and indoor surfaces and often became airborne again through disturbances at Ground Zero.

- The Ground Zero fire emitted polycyclic aromatic hydrocarbons (PAHs), a group of chemicals including substances that cause cancer and may cause other genetic impacts that can affect children subjected to pre-natal exposure. PAHs generally are produced by combustion of mixed materials. (See below for details on EPA lack of disclosure.)
- Much of the WTC dust was as caustic as ammonia, and in some cases as caustic as drain cleaner. The federal government knew this, but did not tell the workers or the public. A carpenter and emergency medical technician, John Graham, comments:

I was at all the safety meetings, but they never told us what was really going on. Now I’m a walking pharmacy. I have a chest infection, ear, nose and throat problems. . . . My tonsils look like strawberries – red and pitted. I guess drain cleaner would do that to you.

- Despite assurances that “most” WTC dust particles were too large to penetrate the lungs, evidence reveals that some did. The larger caustic particles also “burned” the nose, throat and upper airways, and some people inadvertently swallowed WTC dust.

What the Federal Government Already Knew About the Hazards

No one expects perfect safety practices immediately following such an unexpected and devastating attack. Palmer Doyle, rescue worker and recently retired firefighter from Coney Island Engine number 254, Ladder number 153, explains:

During the first few days, we ran down there. I was there when the second building came down. I worked from 9:45 to 2:30 AM. I came back again at 9 AM and worked until very late. By Friday, you could see the shoulders sagging. We knew no more survivors were likely. By Sunday, the adrenaline was spent. Sunday was torture. But we rallied ourselves. We said, “Let me get something for the family to bury.”

Unfortunately, the federal administration chose to respond in ways that further endangered human health. Its conduct prolonged hazards from the attack and promoted unsafe work conditions at Ground Zero that increased human exposure to pollutants.

The WTC disaster was new in scale but not completely new in character. The federal government already knew many of the dangers from uncontrolled combustion and demolition, but did not warn the public against them. Philip McArdle, Health and Safety Officer for the Uniformed Firefighters Association, points out:

We talk about preparing for disasters, but if we don't use what we already know, when are we going to be prepared for a disaster? . . . The World Trade Center disaster was new in scale. But buildings have burned before. Planes have crashed and burned. Structures have collapsed in earthquakes. We've seen these kinds of hazards before, and we look to the agencies to tell us what the hazards are. These are things that federal agencies plan for all the time, so why weren't they ready?

In fact, EPA knew from the outset that uncontrolled burning of building materials releases toxic chemicals, and that cement dust typically is very caustic, because it has studied incineration, demolition, and the pollution and debris that they generate for decades. For example, following the catastrophic year of 1989, when both the California earthquake and Hurricane Hugo destroyed buildings and a steam pipe exploded in the Gramercy Park neighborhood of New York City, EPA produced a document called *Guidelines for Catastrophic Emergency Situations Involving Asbestos*, in which it warned of the potential for such emergencies to create asbestos contamination problems.

What the Federal Government Failed to Disclose or Find

- EPA misrepresented the meaning of asbestos test results by knowingly mischaracterizing its own technical detection limits as health standards.
 - The White House Council on Environmental Quality provided misleading data to U.S. Senators Hillary Rodham Clinton and Joseph Lieberman in a letter which implied that only extremely few homes were contaminated by asbestos from the WTC dust. (The senators were not dissuaded from pursuing their concerns about the need for proper testing and cleanup.)
 - EPA did not find health hazards because it did not look for them, or failed to look for them properly.
- (1) As noted above, EPA did not report any testing of the WTC dust for harmful organic chemicals such as PAHs. In fact, PAHs were present at high levels, according to an independent test. Also, this Report discloses that private tests of dust from firefighters boots found toxic PAHs at levels 115 and 422 times higher than EPA's health-based criteria for soil cleanup.

EPA's website reports that it failed to detect PAHs in the air in any air samples, yet a recently released study of "window film" in lower Manhattan after the attack found

PAH levels at 10 times greater than urban background levels, and a new study analyzing the small dust particles gathered in EPA air samples revealed significant levels of PAHs. Also, EPA researchers themselves published a study of PAHs in air in late September and mid-October, finding levels higher than a serious photochemical smog episode in Los Angeles.

- (2) As has been reported before, EPA used an older, less effective testing method for asbestos in dust even though it had advised schools seven years earlier against using that technology. EPA did not change its method after independent tests found higher levels of asbestos using the newer method that EPA itself recommends for schools. Yet, the federal government used the newer method at EPA's own office building – and this Report finds that EPA ordered an asbestos cleanup of its lobby without even waiting for test results, based only on the presence of visible WTC dust.
- (3) EPA failed to test for the very tiny and more hazardous airborne particles that are likely to result from a hot combustion, as occurred at Ground Zero, even though this Report finds that it knew of the more precise equipment required to do so. Jimmy Willis, a 9/11 rescue worker and Assistant to the President for the Transport Workers Union observed:

What EPA did was like using a colander with giant holes, and then saying, 'Look, there's no spaghetti.' It was a test to find nothing.

Very small particles are more dangerous because they are more easily inhaled deep into the lungs and also tend to contain higher concentrations of toxic chemicals.

- (4) EPA failed to conduct scientific sampling to determine the extent of indoor contamination from the WTC pollution. It even neglected to test most of the apartments in its limited cleanup program before cleaning them. This failure to measure WTC pollution in residences made it impossible to assure their safety.
- The federal administration failed at least a dozen times to correct its improper assurances of safety even after information and data on health risks became known and even after news began to emerge about people getting sick.

By September 27, 2001, the federal government had test results confirming that the WTC dust was highly caustic – as caustic as ammonia, and in some cases as caustic as drain cleaner. The pH of ordinary urban soil generally ranges from 6.7 to 7.3, but the pH of WTC dust ranged from 9.0 to as high as 11.5. *This Report finds that EPA and OSHA did not warn the public about this in a press release or, apparently, even in directives to union health and safety officers.*

This Report finds that EPA had direct information that area employees were at risk from the WTC pollution by early 2002, because a December 2001 survey of its own Region 2 office employees at 290 Broadway found that 65-69 percent of workers suffered worsened symptoms of cough, shortness of breath, chest tightness, wheezing, and severe headaches, and 81 percent suffered worsened eye irritation following September 11, 2001. *EPA did not notify area residents and workers of the results of this survey.*

- Both FEMA and EPA failed to warn residents that they should not just clean up the contaminated indoor WTC dust themselves – even though EPA has publicly denied this. Indeed, even after EPA launched an indoor cleanup program, it continued to assure residents that such cleanup was not really needed. The federal agencies failed even to give special instructions to prevent exposure of children and people with respiratory, immune system or heart disorders, who would be more vulnerable to the WTC pollution.

The desire to reopen Wall Street cannot justify placing civilian safety at risk. The EPA Inspector General's report stated:

[W]e fully recognize the extraordinary circumstances that existed at the time the statement was made about the air being safe to breathe. It continues to be our opinion that there was insufficient information to support the statement.

The government has a higher duty to protect its citizens' health and safety. Civilians are not soldiers. They are supposed to be protected, not put in harm's way. And one of the most important jobs of the federal government in the event of an attack on a civilian target should be to control and limit the harm to human health and safety of that attack. Instead, the Bush administration's response to the September 11th attack furthered the danger to public health.

Speculative fear of public reactions does not justify suppressing warnings. Some may argue that there was a need to "soften" the message about pollution to prevent public panic. Yet, no one would advocate keeping silent about a fire in a building. People should be warned when they need to take action to protect themselves, and warning people about Ground Zero pollution would not have caused widespread, uncontrollable frenzy. Despite the myth of public panic, experts state that such conduct is rare, that people more consistently tend to bind together in the aftermath of disasters to restore their communities. Many disaster experts urge that treating the public with respect and forthrightness is the best approach. *Albany Times Union* columnist Fred LeBrun made this comment:

Did Washington think we'd panic over the toxic possibilities, or that Manhattanites would stop breathing? Or that the cops, firefighters and rescue workers would stop sifting the rubble 24/7 for their comrades and other victims? Not a chance.

There is no question that the rescue and recovery work would have proceeded. But if proper warnings had been given, it would have proceeded more safely. Also, the emergency conditions of the first few

days certainly cannot justify the continued suppression of health warnings that this Report documents occurred during the many weeks and months that followed the attack.

How the Federal Government Failed to Carry Out Its Own Duties

The federal government failed to carry out its own duties to protect the public from the toxic aftermath of the terrorist attack.

- The federal administration chose not to enforce worker safety standards at Ground Zero. OSHA has authority to enforce the federal Occupational Safety and Health Act, and primary responsibility for worker safety and health during national emergencies. Yet both FEMA and OSHA took the position, wrongly, that OSHA had no authority to enforce federal standards in emergency rescue operations.

OSHA neglected to assert enforcement authority even after it became obvious that safety enforcement was failing at Ground Zero, and it continued to take no enforcement action long after rescue operations had ceased.

- The federal government failed to respond properly to the toxic release as a terrorist attack and illegal action. The President has broad powers to respond to pollution from terrorist attacks and to releases of hazardous substances, and these powers are delegated to EPA. EPA acknowledged as early as November 2001 that it had the lead responsibility to clean up buildings contaminated as a result of terrorism, but did not launch an effort until summer 2003, and that effort was highly flawed. This inaction left both families and workers at risk.

(1) Most residences in EPA’s chosen Ground Zero “cleanup zone” (below Canal and Pike Streets) were not cleaned by trained environmental workers, and WTC dust very likely permeated some buildings outside the zone in Manhattan and Brooklyn.

(2) The FEMA-funded EPA indoor cleanup program completely excluded non-residential buildings, and it did not ensure that those workplaces were made safe.

(3) EPA even refused to clean the firefighters’ contaminated firehouses.

Why the Federal Failures of Ground Zero Put the Nation at Risk

Most disturbingly, the Bush administration plans to make the mistakes of Ground Zero into policy for all future national emergencies. A future disaster could release toxic substances again. Most important buildings nationwide contain asbestos, lead, plastics, and other substances that could create hazards in a fire or collapse. For example, 84 percent of tall office buildings, 64 percent of short office

buildings and 43 percent of transportation and government buildings in New York City contain asbestos. Nevertheless:

- The Bush administration is eliminating OSHA’s enforcement role at all future national emergency sites. Under OSHA’s new *National Emergency Management Plan*, the agency will not enforce safety rules, but rather will provide only technical assistance. The foreseeable result of this approach is insufficient protection for the hard-working and courageous Americans who respond to local disasters.
- Nothing in the Department of Homeland Security’s new national emergency planning documents – the *National Incident Management System* or *Initial National Response Plan* – provides the assurance that the public should receive that the missteps of Ground Zero will not happen again in New York City or in some other town or city of our nation. Indeed, *Inside EPA* reports that the Bush administration is considering developing standards for toxic cleanup in national emergencies that may be weaker than Superfund standards, thus leaving communities at risk.

Based on the experience at Ground Zero, the Bush administration’s new policies would dramatically increase the health risks to Americans unfortunate enough to experience future national emergencies.

Why the People Exposed to WTC Pollution Need Health Monitoring and Further Cleanup

If the Bush administration had provided proper warnings, it is likely that better precautions would have been taken in many circumstances, and that people would have been safer in several ways.

- Many rescue, recovery and emergency services workers were given inadequate safety gear and conflicting messages about the need to use it. Despite government assertions to the contrary, many of these workers did not receive properly protective masks in the early weeks. Also, federal assurances of safety and lack of consistent warnings reduced motivation to use the safety gear, which was difficult and exhausting to wear. Volunteers helping with cleanup or servicing the rescue workers did not receive proper advance warnings about the hazards and often did not have any protective gear.
- Residents were not given the information they needed to make informed choices about how to protect themselves and their families. Some had to make hard decisions about whether to evacuate and when to return. Also, following government instructions to clean up the WTC dust in their homes themselves brought them into close contact with the dust, much of which contained asbestos.
- City sanitation workers who cleaned up WTC street dust and managed the WTC debris needed better protective gear; also, privately hired, low income dust and debris cleanup workers – many of them immigrants – often received no protective gear at all.

- No government agency ensured that contaminated workplaces were properly cleaned before employees returned; some employees cleaned up their own work areas, and some employees reportedly were forbidden to wear masks on the job.
- Many small business owners cleaned their own spaces, and some who sought a proper environmental cleanup had trouble convincing the insurer of the need to cover the cost.
- Charities were not alerted in a timely way about the need for long-term medical monitoring and long-term healthcare. As a result, comparatively little charitable giving was directed toward such needs during the first two and a half years after the disaster.

Some of the dust left behind by inadequate cleaning likely still remains in homes and buildings, and may still present a health hazard, especially to children.

- Harder-to-clean areas in homes can present a special exposure risk to children. Young children play on carpets and bounce on upholstered furniture. Their toys roll under radiators and behind appliances. They may inhale the dust that is disturbed by such activities, or accidentally ingest dust that gets on their fingers.
- Less frequently cleaned areas – such as bookshelves, the tops of molding and under radiators – can “store” WTC dust and become sources of future unexpected exposures.
- Lead, a toxic metal, is present in much of the indoor WTC dust, putting any very young children who ingest it at risk of lead poisoning, which causes permanent brain damage.

The scale of public exposure to WTC pollution has created an urgent need for medical monitoring and care. The “Ground Zero community” includes a wide range of people who now are at risk of adverse health effects from exposure to WTC pollution. That community encompasses residents, area employees, building cleaners, sanitation workers, communications workers, plumbers and electricians, firefighters, emergency medical technicians and paramedics, police officers, volunteer rescue workers and others. Medical screening has revealed a disturbing trend of long-lasting lung ailments and other symptoms among many of these people. No one knows what the long-term or delayed health effects of exposure will be. They may include not only cancer but also effects on the immune and reproductive systems, and possibly other genetic impacts.

People exposed to the WTC pollution need long-term health monitoring and other help. The federal government, however, has utterly failed to meet this need. (The widely-publicized government-funded “World Trade Center Health Registry,” provides no health services, and is probably too flawed even to satisfy the research purposes for which it was designed. *See* Appendix D of this Report.)

- The current WTC medical monitoring program is only funded for five years, even though cancers and certain other health effects may take from 10 to 30 years to appear.

- Many people who already suffer health effects from the WTC pollution have no health insurance or are under-insured.
- Some people who were harmed by the WTC pollution are too sick to work in the occupation for which they were trained, and are suffering economically.

Recommendations

The Bush administration must restore trust in its agencies charged with protecting health and safety and take action to mitigate the consequences of its own failure to provide proper warnings about the health hazards from Ground Zero. In particular, it must do the following:

- Take action *now* to prevent more harm from its failure to ensure proper cleanup of the WTC dust. A new cleanup must address both residential and non-residential buildings, and should include firehouses and emergency vehicles and equipment where needed.
- Fund long-term medical monitoring, treatment and assistance as needed to the people who suffer or are at risk from adverse health effects due to exposure to WTC pollution.
- Issue a retraction of its safety assurances; disclose and censure the top official involved in altering agency press statements to suppress 9/11 health warnings, to send a clear message that failing to warn the public truthfully about health hazards is unacceptable.
- Work with Ground Zero-affected communities, labor unions and environmental health advocacy groups to develop effective national policies and practices that promote truthfulness in the communication of health hazards and effective response actions.
- Abandon its plans to eliminate enforcement of federal safety standards for response workers and institutionalize political control of communications without providing strong policies to prevent issuance of false assurances of safety – actions that would transform the its missteps at Ground Zero into dangerous disaster policy for the rest of the nation.

BACKGROUND

On September 11, 2001, at about 8:45 a.m., a hijacked commercial jet struck the North Tower of the World Trade Center. Another hijacked commercial jet struck the South Tower at 9:03 a.m. Both buildings caught fire. The South Tower collapsed at 10:05 a.m, and the North Tower collapsed twenty-three minutes later. The collapse of each of these 110-story towers released a huge cloud of dust and debris from the glass, concrete, steel and other materials that made up the buildings. Each dust cloud was so thick and large that it temporarily blocked out the sunlight over lower Manhattan. The fire reached Seven World Trade Center, a 47-story building, at 4:10 PM, and caused its collapse by 5:20 PM. The remaining pile of rubble was estimated to weigh about 1.2 million tons. At least 2,726 people were killed that day. Among those were 341 firefighters from the Fire Department of New York, two paramedics from the Fire Department of New York, 37 Port Authority police officers and 23 officers from the New York City Police Department. Another 7,000 people were injured.¹

Despite the smoke and dust, the area quickly filled with people. During the first few days after the attack, thousands of firefighters, emergency medical services personnel, police officers, members of the Transport Workers Union, ironworkers, construction workers and others rushed to Ground Zero. First, they removed debris so that they could look for live victims. Then they took on the heart-breaking task of searching for the remains of those who had died. Workers also came into the area to restore electricity, mend telephone and cable lines; fix water and sewer lines, and repair broken windows and building damage. These people continued to come to the site over the weeks and months that followed. Low-income people took jobs cleaning area buildings of dust and debris. Within a week, employees re-entered the area to work, and most of the residents who had evacuated the area returned to their homes. Some residents, in fact, never left the area at all.

Fires continued to burn at Ground Zero until at least December 19, 2001,² and the recovery phase and cleanup work at the site did not end until May 30, 2002.³ It was, as Dr. Michael Weiden of the New York University School of Medicine and Medical Officer for the Fire Department of

¹ Rand Science & Technology Policy Institute, *Protecting Emergency Responders: Lessons Learned from Terrorist Attacks* (Proceedings, Dec. 9-11, 2001 conference)(hereafter, *Rand Report*), p. 6; National Clearinghouse for Worker Safety & Health Training, NIEHS, *Response to the WTC Disaster: Initial WETP Grantee Response and Preliminary Assessment of Training Needs* (Oct. 6, 2001)(hereafter, *NIEHS Report 2001*, p. 5; Philip Landrigan, M.D., et al., "Health and Environmental Consequences of the World Trade Center Disaster," *Envtl Health Perspectives* 112(6):731-39, 732 (May 2004). Five World Trade Center and the Marriott Hotel also were completely destroyed that day. One Liberty Plaza and the Four and Six World Trade Center buildings were partly destroyed. Nine buildings bordering the site experienced major damage. City subway and Port Authority commuter tunnels and stations, a six-level parking garage and a large concourse were destroyed. See Juan Gonzalez, *Fallout: The Environmental Consequences of the World Trade Center Collapse* (New York: The New Press, 2002), p. 35.

² *Rand Report*, p. 15.

³ U.S. Occupational Safety & Health Administration (OSHA), Press Release, "U.S. Secretary of Labor Elaine L. Chao Statement on Conclusion of World Trade Center Recovery" (May 30, 2002).

New York (“FDNY”) put it, “the largest single acute exposure to high-volume particulate matter, to dust, in a modern urban environment.”⁴

People in New York City felt great anguish over the sudden loss of so many lives. Flowered shrines and messages of comfort and hope sprung up, seemingly from nowhere, in parks, on walkways and outside homes and businesses. Many people felt a tremendous need to give, to help in some way. To raise personal health concerns, in some people’s minds, seemed almost trivial and selfish given the scale of the disaster and the nearly three thousand funerals that followed. Also, many people felt very reluctant to say anything critical about the federal government’s conduct during this period because the country had just been attacked. Under these circumstances, the people of New York were uniquely vulnerable. At such a time, the federal government should be more careful than ever to protect its citizens. Instead, it acted against their best interests and neglected their needs.

The destruction of the two 110-story towers of the World Trade Center was both a brutal demolition and a massive, uncontrolled incineration of mixed materials, many of which were toxic. The towers contained many hundreds of tons of asbestos, and housed tens of thousands of personal computers containing lead and mercury, hundreds of mainframe computers and copy machines, and many thousands of fluorescent lights containing mercury. The plastics, the polyvinyl chloride insulation of cables, the nylon carpeting and other materials produced dioxins and other harmful substances when burned, as did the jet fuel and petroleum products stored in the towers. Other, more unusual toxins were present in the World Trade Center as well. The towers housed a Secret Service shooting range that kept millions of rounds of lead ammunition on site and a U.S. Customs lab that stored thousands of pounds of arsenic, lead, mercury, and chromium.⁵

The levels of human exposure to contaminated dust and vapors from this disaster were unprecedented. Both the vapors and the dust blanketed the immediate area, and both traveled significant distances. The site smoldered for more than three months at temperatures that sometimes reached as high as 1800 degrees Fahrenheit,⁶ and the recovery and cleanup operations at Ground Zero, which lasted eight months, continued to disturb dust and present exposure risks.⁷

⁴ Testimony of Dr. Michael Weiden, Assistant Professor of Medicine and Environmental Medicine, Pulmonary Division, New York University School of Medicine and Medical Officer, Fire Department of New York, to House Committee on Government Relations, Subcommittee on National Security, Emerging Threats and International Relations (Oct. 28, 2003)(hereafter, Testimony of Dr. Michael Weiden to House Committee), p. 2.

⁵ Toxic Targeting, Inc., “Toxic Targeting Computerized Report – WTC Complex New York New York 10048, September 11, 2001” (Sept. 18, 2001)(produced for the New York City Department of Design Construction), cited in Joel Kupferman, “The Public Health Fallout from September 11: Official Deception and Long-Term Damage,” in Brown, C., *Lost Liberties: Ashcroft and the Assault on Personal Freedom* (New York: The New Press, 2003)(hereafter, Joel Kupferman in Brown, C., *Lost Liberties*).

⁶ Paul J. Liroy, “Characterization of the Dust/Smoke Aerosol that Settled East of the World Trade Center in Lower Manhattan After the Collapse of the WTC 11 September, 2001,” *Envtl. Health Perspectives* 110(7): 703-14 (July 2002)(hereafter, Liroy [2002]), p. 703.

⁷ Appendix A describes test results and potential risks of many pollutants released from Ground Zero during this period.

The fires from Ground Zero produced a mix of toxic gasses and ultra-fine “particulates” (a technical term for airborne dust) never seen before. Dr. Thomas Cahill, professor *emeritus* of physics and engineering at the University of California at Davis, reported that his air samples, taken from a rooftop a mile north-northeast of Ground Zero, showed “unprecedented ambient levels” of fine particulate matter, sulfur, acidic aerosols, heavy metals and other dangerous compounds. The results were higher than those he had measured at the Kuwaiti oil field fires set during the Gulf War in 1991.⁸

In addition to airborne pollution, the attack released toxic, caustic dust that settled on outdoor and indoor surfaces. Health and safety inspector John Moran, from the National Institute of Environmental Health Sciences, observed on September 22, 2001, ten days after the terrorist attack, that “[s]treet-level stores a block or more from the WTC Site have the windows blown out and the interiors are covered in thick layers of a grayish dust.”⁹ Greg Meeker of the United States Geological Survey explained that most of the six million square feet of masonry, five million square feet of painted surfaces, seven million square feet of flooring, 600,000 square feet of window glass, 200 elevators, and everything inside came down as dust – leaving only the towers’ 200,000 tons of structural steel.¹⁰ Consequently, huge amounts of dust were released.

Dust particles often became airborne through disturbances at Ground Zero during rescue/recovery efforts and as residents and employees tried to clean their homes and offices. This WTC dust contained, in varying quantities, highly toxic metals such as asbestos, lead, mercury, and cadmium, toxic organic compounds such as polycyclic aromatic hydrocarbons (PAHs) as well as harmful respiratory hazards such as fibrous glass and pulverized concrete.¹¹ People became exposed to it in several different ways, and each “exposure route,” in turn, led to different kinds of health effects.

A. Toxic PAHs – the Unmeasured Hazard

According to the best estimate, some 200,000 to 2 million pounds of polycyclic aromatic hydrocarbons were released in the first few days after the attack within half a kilometer of Ground Zero,¹² and at least 8,000 to 80,000 pounds of this is likely to have been attached to easily respirable,

⁸ Thomas Cahill, *et al.*, “Analysis of Aerosols from the World Trade Center Collapse Site, New York October 2 to October 30, 2001,” *Aerosol Sci. & Tech.* 38:165-183 (2004), p. 182. Laurie Garrett, “A ‘Chemical Factory’ in Skies,” *New York Newsday* (Sept. 11, 2003). Dr. Cahill took more than 8,000 air samples, starting October 3, 2001, from a rooftop on Varick Street in Manhattan.

⁹ *NIEHS Report 2001*, p. 13.

¹⁰ Louisa Dalton, “Chemical Analysis of a Disaster: Scientists Struggle to Understand the Complex Mixture of Aerosols Released During and After the Destruction of the World Trade Center,” *Chemical and Engineering News* (Oct. 20, 2003).

¹¹ Liroy (2002); *Health and Environmental Perspectives*, p. 14.

¹² Liroy (2002); *Health and Environmental Consequences*, p. 17.

tiny particulates.¹³ Polycyclic aromatic hydrocarbons, also known as “PAHs.” are a group of over 100 different chemicals that are commonly formed by incomplete combustion of oil, gas, garbage and other organic substances. (They are one of the more toxic components of cigarette smoke, for example.) The federal Department of Health and Human Services has determined that some PAHs may reasonably be expected to cause cancer. Also, past studies on mice indicate that PAHs may impair fertility and cause birth defects.¹⁴ While PAHs can be “broken down” into safer compounds by microorganisms in the environment, PAHs sometimes take 50 years or more to degrade. Benzo[a]pyrene, a carcinogenic PAH found in WTC dust, is particularly persistent.¹⁵ Rates of breakdown can differ based on the conditions of the environment. When asked at what rate PAHs would degrade in an HVAC system, EPA advisor Dr. Paul Liroy responded, “I have no idea.”¹⁶

Two new studies have further solidified concern about the health impacts of exposure to PAHs because of genetic effects.

- A Canadian study of the impact of particulate air pollution on mice found that male mice exposed to higher levels of PAH-contaminated particulates (from a power plant) passed on genetic mutations at a rate that was 52 percent higher than for male mice exposed to rural background levels.¹⁷
- A new Columbia University study of non-smoking mothers and their newborns has found that babies exposed to PAHs while in the womb are susceptible to “pro-carcinogenic” DNA damage from PAHs – that is, damage that makes the individual more susceptible to cancer. It warns that individuals who experience prenatal exposure to carcinogens may have an increased cancer risk.¹⁸

¹³ Calculated estimate by David Newman, NYCOSH Industrial Hygienist, presented at Sierra Club forum on Ground Zero environmental issues, December 17, 2003.

¹⁴ U.S. Agency for Toxic Substances and Diseases Registry (“ATSDR”), “ToxFAQs for Polycyclic Aromatic Hydrocarbons (PAHs)” (Sept. 1996), pp. 2-3.

¹⁵ See, “A Natural Approach to Hazardous Waste Cleanup,” *Superfund Scoop: Newsletter of the UNC Superfund Basic Research Program* (University of North Carolina at Chapel Hill)(Winter 2003).

¹⁶ Presentation of Paul Liroy, Ph.D., regarding PAH contamination of WTC dust, at the fifth meeting of the EPA WTC Expert Technical Review Panel, July 26, 2004. This Panel was established in May 2004 at the request of Senator Hillary Rodham Clinton to revisit the issue of residential cleanup.

¹⁷ Christopher Sommers, *et al.*, “Reduction of Particulate Air Pollution Lowers the Risk of Heritable Mutations in Mice,” *Science* 304:1008-1010 (May 14, 2004); “Research Links Air Pollution to Genetic Mutations,” *USA Today* (Sept. 13, 2004). The daily PAH exposure was 33 times higher at the site near the power plant than in the nearby rural area (while overall particulate levels were only two to 10 times higher).

¹⁸ Frederica Perera, *et al.*, “Biomarkers in Maternal and Newborn Blood Indicate Heightened Fetal Susceptibility to Procarcinogenic DNA Damage,” *Envtl. Health Perspectives* 112(10): 1133-36 (July 2004). PAHs can cross the placental barrier. The study found that babies were more susceptible to such damage than their mothers. It also described animal studies indicating that PAHs may have a higher cancer-causing impact on offspring.

As explained in Part Seven of this Report, a medical expert cited in the *IG Report* has suggested the additional concern that there may be a synergistic (greater than merely additive) cancer impact from combined exposure to PAHs and asbestos, since PAHs resemble cigarette tar.¹⁹

Ground Zero certainly generated PAH pollution. It would be hard to burn any mixed materials without producing them. EPA's public information materials on its website report that it did not find them, but apparently everyone else who conducted tests did. As Part One of this Report discloses, EPA reports that it did not detect PAHs in any air samples even though an independent study found it attached to window "film" in the area at levels ten times what would normally be expected based on "background" contamination, even though later tests of particles captured by EPA air samples detected significant amounts of PAHs, and even though its own scientists published a paper describing the detection of PAHs in air samples. EPA, further, did not report the results of any tests of the WTC dust for PAHs at all, yet two independent tests of WTC dust found significant PAH contamination. In light of this information, there should be much more public concern about the long-term and delayed health impacts of the WTC pollution.

B. Caustic Dust – The Undisclosed Hazard

Very soon after the September 11, 2001 attack, the United States Geological Survey ("USGS") conducted tests and found that the dust generated by Ground Zero was highly caustic – and thus capable of burning moist tissue in the throat, eyes or nasal passages. Ordinary urban soil generally has a pH ranging from 6.7 to 7.3,²⁰ but the WTC dust had a pH that generally ranged from 9.0 to 11.0 in pH value, which is highly alkaline and comparable to ammonia. Some of the dust samples taken by the USGS on September 17 and 18, 2001, registered higher than 11 on the pH scale – as caustic as liquid drain cleaners.²¹ The USGS concluded that the dusts "can be quite alkaline." It noted that indoor dust samples (not diluted by rainfall from the September 14 rainstorm) had the highest pH levels (11.8).²²

Unfortunately, no one bothered to tell either the treating physicians or the workers at Ground Zero. The USGS reported this information to the WTC emergency response teams, including EPA, the Federal Emergency Management Agency ("FEMA"), the federal emergency response coordinator and others on September 27, 2001, less than two and a half weeks after the attack.²³ on a

¹⁹ *IG Report*, p. 13.

²⁰ Mary Ballard, "World Trade Center Dust: Its Potential to Interact with Artifacts and Works of Art," AIC (Stanford), App. I ("Normal Industrial Urban Dirt"), Table I (available at <<http://aic.stanford.edu/health/wtc1.html>>).

²¹ Roger Clark, *et al.*, "Environmental Studies of the World Trade Center Area After the September 11, 2001 Attack" (USGS, Open File Report OFR-01-0429)(<<http://pubs.usgs.gov/of/2001/ofr-01-0429/>>)(hereafter, *USGS Report*), p. 4; *Health and Environmental Consequences*, p. 16; Juan Gonzalez, *Fallout*, p. 88. (By way of further comparison, natural rainwater is slightly acidic, generally having a pH value of 5.6 or 5.7.)

²² *USGS Report*, p. 4; See Andrew Schneider, "Caustic Dust Blankets World Trade Center," *supra*.

²³ See Air Quality Research Subcommittee, Office of Science and Technology Policy (White House), *Preliminary Survey of Air Quality and Related Health Studies Conducted in the Vicinity of Ground Zero* (Dec. 2002), App. B, p. B-10 (<www/ostp/gov/NSTC/html/GrndZero%20final%20%20ALL%201_22_03.pdf>). See also

“government-only” website on September 27, 2001 – and according to an internal document, EPA staff referred to the USGS data in an October 8, 2001 conference call.²⁴ Yet, neither EPA nor OSHA notified the public in any of their press statements during those early months following the terrorist attack. The fact was first disclosed in the public media more than four months later by *St. Louis Post-Dispatch* reporter Andrew Schneider in a February 9, 2002 article.²⁵ John Graham, a rescue worker, carpenter and emergency medical technician, comments:

I was at all the safety meetings, but they never told us what was really going on. Now I’m a walking pharmacy. I have a chest infection, ear, nose and throat problems. I have sinusitis, gastrointestinal reflux disease. We got skin burns, too, especially working at the bottom of the pit, where sometimes we were standing in pools of water that probably was full of chemicals. My tonsils look like strawberries – red and pitted. I guess drain cleaner would do that to you.²⁶

Medical researchers concluded, “The high alkalinity of WTC dust produced bronchial hyperreactivity, persistent cough and increased risk of asthma.”²⁷ Dr. Robin Herbert of the Mount Sinai School of Medicine reported:

What we’re finding is incredible irritation to the lungs, throat and nasal passages. Some of the tissue is cherry red, vivid, bright, and we’ve never seen anything like it before.... The high pH in the dust may be part of the answer. If the government had these pH readings of 11 and 12, the public and their physicians should have been told.²⁸

Andrew Schneider, “Caustic Dust Blankets World Trade Center,” *St. Louis Post-Dispatch* (Feb. 9, 2002) (quoting Geoffrey Plumlee, a geochemist who determined the pH levels, on distribution of the information).

²⁴ U.S.E.P.A., “8:00 AM Conference Call, Region II – Conference Call Summary: October 8, 2001” (EPA60)(released in response to Sierra Club Freedom of Information Act request).

²⁵ *Id.*; Andrew Schneider, “Public Was Never Told that Dust from Ruins Is Dangerously Caustic,” *St. Louis Post-Dispatch* (Feb. 10, 2002); “Scientists Knew WTC Air Posed Health Risk,” *New York Newsday* (Feb. 12, 2002). Oddly, EPA apparently responded to a question from a reporter about what it did with the USGS data by stating that it evaluated the data and found it consistent with its own findings, then asserted that USGS itself “distributed its findings directly to the press” (see “Response to Questions from Andrew Schneider, *St. Louis Post Dispatch*, February 1, 2002” - provided in response to Sierra Club Freedom of Information request), but a review of USGS’s press releases from 2001 and 2002 reveals no such release.

²⁶ Telephone interview of John Graham, rescue worker, carpenter and emergency medical technician, July 27, 2004.

²⁷ *Health and Environmental Consequences*, p. 12. See also, Lung Chi Chen and George Thurston, “World Trade Center Cough,” *The Lancet Supplement* 360: s37-s38 (Dec. 2002).

²⁸ Andrew Schneider, “Caustic Dust Blankets World Trade Center Area,” *supra*.

EPA scientists subsequently confirmed – in a comment buried deep within a lengthy document – that their chemical analysis of the WTC dust “generally agrees with the extensive analysis of WTC PM [particulate matter] performed by the USGS.”²⁹

C. Glass Fibers – The Unacknowledged Hazard

When I saw the smoke, I ran to the windows to close them. It was the strangest sight. The sky was sparkling. I had never seen anything like it before. Now I realize – it must have been the glass.³⁰

Nina Lavin
Resident of Tribeca Towers, lower Manhattan

While most of the environmental test results released by EPA addressed only asbestos, another very harmful fiber was in the air and in the dust. Unfortunately, significant amounts of this harmful material were found in the pollution released from Ground Zero:

- Within days after the attack, the New York Environmental Law & Justice Project took outdoor WTC dust samples from several locations in lower Manhattan and sent them to two respected laboratories. One sample showed an unusually high 90 percent fiberglass content. *Daily News* columnist Juan Gonzalez reported the findings on September 28, 2001.³¹ Later samples taken by the organization from fire engines found fibrous glass ranging generally from 45 percent to 55 percent.³²

²⁹ U.S.E.P.A., *Toxicological Effects of Fine Particulate Matter Derived from the Destruction of the World Trade Center* (EPA/600/R-02/028)(2002a)(available at < http://www.epa.gov/nheerl/wtc./WTC_report_7b3i.pdf >)(hereafter, *EPA Report on Toxicological Effects of WTC Fine Particulates 2002*), p. 44. Dr. Paul Liroy also confirmed in 2002 that the street dust had an alkaline pH, ranging from 9.2 to 11.5. Liroy (2002), p. 707. The two outdoor dust samples taken by ATSDR and the City that were analyzed for pH value registered at 8.6 and 9.8 on the pH scale. ATSDR, NYC Dept. of Health and Mental Hygiene, U.S. Dept. of Health and Human Services, and Public Health Service, *Final Report of the Public Health Investigation to Assess Potential Exposures to Airborne and Settled Surface Dust in Residential Areas of Lower Manhattan* (Sept. 2002)(hereafter, *ATSDR and City Health Department Residential Dust Study 2002*), p. 5.

³⁰ Personal interview of Nina Lavin, resident of Tribeca Towers, 105 Duane Street, May 10, 2004. In addition to fiberglass products, the towers contained 600,000 square feet of glass. *ATSDR and City Health Department Residential Dust Study 2002*, p. 55.

³¹ Juan Gonzalez, “Health Hazards in Air Worry Trade Center Workers,” *Daily News* (Sept. 28, 2001); Juan Gonzalez, *Fallout*, p. 6. The sample was taken at the corner of Church and Vesey Streets, at the northeast corner of the WTC site. Personal interview of Joel Kupferman, Esq., Executive Director, New York Environmental Law & Justice Project, April 19, 2004.

³² Scientific Laboratories, Inc., “PLM Bulk Asbestos Report” (July 20, 2002)(analysis of samples from fire engines taken for the New York Environmental Law & Justice Project).

- Nine samples of indoor WTC dust samples taken on September 16, 2001, by a private firm at an office about six blocks away from Ground Zero, measured fibrous glass at levels ranging from 30 to 35 percent.³³
- The joint study by the federal Agency for Toxic Substances and Diseases Registry and City health department of WTC dust in homes found that fiberglass and similar material ranged from 2 to 35 percent in nearly half of its indoor samples. By comparison, it did not find fiberglass at all in “background” homes that it tested north of 59th Street.³⁴ This study may understate the exposure risk that existed immediately after the attack, since most dwellings had already undergone some cleaning before samples were taken.
- Indoor WTC dust samples taken by a private firm at 80 John Street (several blocks away from Ground Zero) at the request of tenant attorney Jack Lester about five months after the attack found that fibrous glass ranged from 10 to 15 percent.³⁵

When glass fibers are small enough to be inhaled, they are very harmful. Glass fibers can cause respiratory irritation in humans and fibrosis (a scarring or thickening of tissues deep in the lung, impairing respiration) in animals.³⁶ Glass fibers also are a significant eye irritant, and may be responsible for much of the eye discomfort that rescue workers felt. Robert Ortiz, a Transport Workers Union Safety Representative who served as a rescue worker, recalls, “It felt like a needle

³³ Advanced Environmental Corporation, “Asbestos Bulk Sample Results - Dust from World Trade Center Disaster, 132 Nassau Street, New York, New York” (Sept. 17, 2001).

³⁴ The study tested for “synthetic vitreous fibers,” which can include glass wool (fibrous glass), mineral wool and refractory ceramic fibers. The majority was fiberglass. No ceramic fibers were detected; mineral wool was found in four of the 30 buildings at levels ranging from one to seven percent. Samples were taken from November 4 through December 11, 2001. *ATSDR and City Health Department Residential Dust Study 2002*, pp. 5, 20 and 36.

³⁵ New York Lab, “Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method Using Polarized Light Microscopy” (Feb. 5, 2002), in I.H. Consultants, Environmental Assessment Report, 80 John Street (2002). Indoor samples taken on December 17, 2001 at Tribeca Towers, 105 Duane Street, similarly showed 10 and 15 percent fiberglass in two of four samples. *See*, Letter from industrial hygienist Monona Rossol, M.S., ACTS: Arts, Crafts and Theater Safety, to Joel Kupferman, Executive Director, New York Environmental Law & Justice Project (Dec. 24, 2001).

³⁶ ATSDR, “ToxFAQs for Synthetic Vitreous Fibers” (Sept. 2002). The question of whether or not they can cause cancer is a subject of debate. The National Toxicology Program lists respirable size glass fibers as “reasonably anticipated” to cause cancer, as does the American Conference of Governmental Industrial Hygienists. American Lung Association, “Facts About Fiberglass”; American Conference of Governmental Industrial Hygienists (ACGIH), “TLV Documentation: Manmade Vitreous Fibers (MMVF)” (2001). The International Agency for Research on Cancer (“IARC”), however, recently removed very thin glass fibers from its list of substances that it deems “possibly carcinogenic to humans.” International Agency for Research on Cancer (“IARC”), *IAC Monographs on the Evaluation of Carcinogenic Risks to Humans, Vol. 81, Man-Made Vitreous Fibers* (Oct. 2002).

pricking the eye. My eyes were stinging most of the time.”³⁷ The dust also contained silica, mineral wool, and “grit”³⁸ that could irritate or in some instances even scar respiratory system tissue.

Both EPA and the federal Occupational Safety and Health Administration (“OSHA”) failed to disclose in their press releases the presence of significant levels of glass fibers in WTC dust, revealed by early dust test results. The New York Environmental Law & Justice Project tried to raise concerns about the issue based on an analysis by industrial hygienist Monona Rossol, M.S., of an arts, crafts and theatre safety organization known as ACTS. She had warned that private tests at a building in lower Manhattan revealing fiberglass contamination.³⁹ The Project’s Executive Director, Joel Kupferman, and volunteers handed out fliers with warnings to individual workers that they encountered in the Ground Zero area. Their abilities as nonprofits to publicize the warnings, of course, were limited.

D. Big and Small Dust Particles – The Penetrating Hazards

One firefighter from the Ground Zero rescue effort who contracted acute eosinophilic pneumonia, a condition that can be associated with high dust exposure, was examined by a team of doctors. They found that metal particles, silica, ash, degraded glass, and both chrysotile and amosite asbestos fibers (amosite fibers are more strongly correlated with mesothelioma) had reached this firefighter’s lower respiratory tract. They identified in this person’s lungs more than 300 times the amount of asbestos fibers that are considered to present a significant risk for asbestosis.⁴⁰

Agency officials had assured the public that most of the dust did not present a health hazard because the individual particles were so large that a person’s respiratory defense responses (including sneezing and coughing) would prevent the particles from reaching the lungs. As explained more fully in Appendix A, this assertion was not accurate.

- There was so much dust that even the relatively “small” portion of tiny, easily inhalable particles actually constituted a large amount of pollution. Although an EPA scientist acknowledged this fact in a scientific journal, EPA never disclosed it in a press release.⁴¹

³⁷ Personal interview of Robert Ortiz, rescue worker and Safety Representative, Transport Workers Union, June 3, 2004.

³⁸ See Charles E. Gilbert, Ph.D., M.S., “Health Testing at Ground Zero, New York City” (presentation at The Johnson Conference, American Society for Testing and Materials, Johnson College, VT)(July 22, 2002); R.H. Granger, *et al.*, “Preliminary Health Hazard Assessment: World Trade Center” (submitted to American Industrial Hygiene Association)(Oct. 2, 2001)(found that larger particles of settled dust consisted primarily of mineral wool fiber aggregates), p. 5.

³⁹ ACTS and New York Environmental Law & Justice Project, jointly-released flier: “Downwind from Disaster” (October Update)(Oct. 2001); See also, letter from industrial hygienist Monona Rossol, M.S., ACTS: Arts, Crafts and Theater Safety, to Joel Kupferman, New York Environmental Law & Justice Project, *supra*.

⁴⁰ William Rom, *et al.*, “Acute Eosinophilic Pneumonia in a New York City Firefighter Exposed to World Trade Center Dust,” *Am J Respir Crit Care Med* 166:797-800 (2002).

⁴¹ See Appendix A of this Report.

- The larger dust particles caused health problems even without penetrating the lungs. Many were trapped in the nose, throat and upper airways. NYU scientists observed that because the larger particles were more caustic, they caused upper respiratory irritation.⁴²
- Broad assertions that the larger particles did not pose a significant health threat to the lungs were not accurate. Some larger, more caustic particles got past the body's respiratory defense mechanisms and penetrated deeper into the lungs under the heavy exposure conditions at Ground Zero.⁴³ This occurred for at least some, and possibly most, of the exposed firefighters, according to a medical study.⁴⁴

Inhalation was not the only route of human exposure to the contaminated WTC dust; many people inadvertently swallowed it. This was especially true for people who labored heavily. Jimmy Willis, rescue worker and Assistant to the President for the Transport Workers Union, explained:

I was facing a four story high wall of debris – cars, trees, and chunks of material. We had to get through this in order to get into the pit to look for survivors. So our welders cut the steel, and we'd pick up and haul the big chunks of debris to a bobcat [a small bulldozer]). We'd work eight hour shifts and then put in more hours volunteer, cutting and hauling as fast as we could. The dust almost choked you as you breathed. It was like talc.⁴⁵

Swallowing the caustic dust caused irritation of the esophagus and gastrointestinal system. Acid reflux, a common body reaction to such irritation, can cause stomach acids to reach the throat, where they can be aspirated, irritating to the respiratory system as well. Experts have suggested that this may have been a major contributor to World Trade Center Cough as well as a possible trigger of asthmatic reactions.⁴⁶

D. Residual WTC Dust – A Continuing Potential Exposure Risk

⁴² Lung Chi Chen and George Thurston, "World Trade Center Cough," *The Lancet Supplement* 360: s37-s38 (Dec. 2002).

⁴³ Testimony of Dr. Michael Weiden to the House Committee, p. 2.

⁴⁴ G. Banauch, *et al.*, "Persistent Hyperreactivity and Reactive Airway Dysfunction in Firefighters at the World Trade Center," *Am J Resp. Crit. Care Med.* 168:54-62 (2003), citing E. Fireman, *et al.*, "Induced Sputum Assessment in Firefighters Exposed to World Trade Center Dust," *Am J Respir Crit. Care Med.* [abstract](in press).

⁴⁵ Personal interview of Jimmy Willis, rescue worker and Assistant to the President, Transport Workers Union, March 19, 2004. Another source of dust ingestion was food, which was often set out, uncovered, in the open air for the Ground Zero workers. (See Appendix A.)

⁴⁶ Testimony of Dr. Michael Weiden to the House Committee, p. 2; Interview of Neil Schachter, M.D., Professor of Pulmonary and Community Medicine, Mount Sinai School of Medicine, March 23, 2004.

Public exposure to the contaminated dust generated by the incineration and collapse of the towers and site recovery work afterward has been much more long-term than exposure to the fumes. Indeed, WTC dust continues to present potential new health risks today. While most of the outdoor contaminated dust was either removed or else washed into the sewage system and coastal waters by water or rain, much of it remains on and within buildings. Contaminated dust from the towers is trapped in air conditioning, heating and ventilation systems, or among the fibers of carpets, upholstered furniture or other materials. It also still lies on some windowsills and ledges. It contaminates both homes and work spaces, and may still pollute fire houses. It may even remain in some fire trucks and emergency or maintenance vehicles that have never been properly cleaned. This potential exposure problem is discussed in greater detail in Part Six of this Report.

F. The Ground Zero Community

Nearly 600 people were treated for lung or eye injuries during the first 48 hours after the attack.⁴⁷ Unfortunately, this was not the end of human health effects from exposure to WTC pollution. While certain kinds of health impacts may not emerge for many years, studies and surveys already show that many people have suffered and are continuing to suffer respiratory system damage and other symptoms related to WTC pollution exposure. Dr. Robin Herbert, Medical Co-Director of the Mount Sinai Center for Occupational and Environmental Medicine, testified:

Exposures created by the disaster included pulverized glass, pulverized cement, asbestos, silica, heavy metals, acid mists and organic products of combustion including polycyclic aromatic hydrocarbons. Ultimately, an estimated 40,000 workers and volunteers were involved in rescue, recovery and restoration of essential services at the site; an estimated 10,000 workers were evacuated from the towers or the immediate vicinity on September 11; approximately 100,000 workers worked in the vicinity of the attacks; and approximately 25,000 people lived in the immediate area of the attacks. Unfortunately, many of them have developed serious, persistent health problems as a result of the attacks.⁴⁸

These many thousands of people could be called “the Ground Zero community.” They are the people who either lived near or came to the WTC site because it was their home, or their workplace,

⁴⁷ Centers for Disease Control, “Rapid Assessment of Injuries Among Survivors of the Terrorist Attack on the World Trade Center - New York City,” *Morbidity and Mortality Weekly Rpt* 51(1): 2 (Jan. 11, 2001).

⁴⁸ Testimony of Robin Herbert, M.D., Medical Co-Director of the Mount Sinai Center for Occupational and Environmental Medicine, before the House Committee on Government Relations, Subcommittee on National Security, Emerging Threats, and International Relations (Oct. 28, 2003)(hereafter, Testimony of Dr. Robin Herbert to the House Committee), p. 1. More specifically, 29,667 people live within three-quarter mile of the site. *ATSDR and City Health Department Residential Dust Study 2002*, p. 55. The WTC Health Registry notes that 12,833 out of the 17,277 people who have responded to its survey were exposed to the dust/debris cloud generated on the day of the attack. N.Y.C. Department of Health and Mental Hygiene, “World Trade Center Health Registry Data Snapshot: Understanding the Health Impact of 9/11” Vol. 1, No. 3 (Apr. 2004), p. 8.

or their duty, and as a result, many of them were exposed to toxic substances released from the attack.

The members of the “Ground Zero community” who were exposed to the WTC pollution is wide-ranged. They include, but are not limited to, the following:

- Firefighters and police officers rushed to the site during the attack to evacuate the building and try to control the fire, and then came back day after day to control the fires and to serve as rescue/recovery workers.
- Emergency medical services workers from the Fire Department and hospitals, and nurses from New York Downtown Hospital, arrived to tend the injured. EMS workers cared for human remains onsite. Many joined the bucket brigade after their work shifts.
- Transport Workers Union members – about 3,000 welders and other “hard hats”– mobilized immediately to barge cranes and bulldozers to the site. They both worked and volunteered at Ground Zero. They also bused workers and transported human remains.
- Members of the Ironworkers Union and other construction unions came to the WTC site as skilled volunteers to help with the rescue and recovery effort.
- Telecommunications workers and equipment installers from the Communications Workers of America labored to restore service from a building across the street from Ground Zero. They also worked throughout dusty lower Manhattan to restore services.
- Carpenters, plumbers, electricians and other skilled workers restored services and infrastructure throughout the dust-laden streets and buildings of lower Manhattan.
- City sanitation workers managed Ground Zero debris. They also cleaned streets of WTC dust. Private dust and debris workers cleaned buildings and sidewalks.
- Area residents cleaned up contaminated dust that infiltrated their homes and lived in the polluted area. These included children and people with respiratory and heart conditions.
- Small business owners and street vendors returned to dusty work spaces and – like area residents, not knowing the hazards – often cleaned up the WTC dust themselves.
- Area employees were required to return to work while Ground Zero still burned. Many of them cleaned up the WTC dust in their own work station area.

- School children and college students returned to school while the fires still smouldered.
- Members of news crews and many reporters were exposed heavily to smoke and dust, and visiting politicians and celebrities came to offer support and encouragement
- Volunteers – including chiropractors, nurses, cooks and others – did what they could to ease the burden of Ground Zero workers. Others voluntarily cleaned people’s homes.
- Traffic enforcement agents (CWA) stood in polluted streets, routing traffic around Ground Zero; some helped in the rescue efforts. Truck drivers (Teamsters) who moved debris from the site were exposed during loading and unloading operations..

PART ONE:

**THE FEDERAL ADMINISTRATION FAILED TO OBTAIN AND PROVIDE
HEALTH RISK INFORMATION TO LIMIT THE HARM
FROM THE TOXIC AFTERMATH OF THE ATTACK**

The Bush administration issued misleading statements about environmental safety that encouraged families, workers and business owners to re-enter contaminated areas. Within the first ten days following the attack, federal agencies issued five separate assurances of safety at Ground Zero.

- The first assurance, issued by EPA, on the second day after the attack, suggested that the pollution was not a health threat, either to rescue workers or the general public.⁴⁹
- The second assurance, issued by OSHA just three days after the attack, urged workers to return to the Wall Street area.⁵⁰ Residents, also, were encouraged by EPA that day to return to lower Manhattan.⁵¹
- The third assurance, provided the day before the stock market reopened, featured EPA Administrator Christine Todd Whitman flatly stating that “there is no reason for concern,” based on measurements of asbestos in debris and air in the financial district.⁵²
- The fourth assurance, issued by EPA one week after the attack, declared that “the public is not being exposed to excessive levels of asbestos or other harmful substances. . . . I am glad to reassure the people of New York that their air is safe to breathe”⁵³

⁴⁹ EPA stated: “Monitoring and sampling conducted on Tuesday and Wednesday have been very reassuring about potential exposure of rescue crews and the public to environmental contaminants... the general public should be very reassured by initial sampling.” U.S.E.P.A., Press Release, “EPA Initiates Emergency Response Activities, Reassures Public About Environmental Hazards” (Sept. 13, 2001); *see* Laurie Garrett, “Danger in the Dust,” *supra*.

⁵⁰ The joint release quoted John Henshaw, Assistant Secretary of Labor, as saying, “Our tests show that it is safe for New Yorkers to go back to work in New York’s Financial District.” The release also stated, “EPA continues to believe that there is no significant health risk to the general public in the coming days,” even though EPA did not yet have continuous air monitoring stations in the area. EPA Press Release, “OSHA, EPA, Update Asbestos Data: Continue to Reassure Public of Contamination Fears” (Sept. 16, 2001)(OSHA’s website dates the release Sept. 14).

⁵¹ EPA Administrator Christine Todd Whitman stated, “Right now, there’s no immediate health threat to people outside the ground-zero area.” “Asbestos in Dust from the Collapse,” *New York Post* (Sept. 14, 2001).

⁵² Hugo Kugiya, “Terrorist Attacks/Asbestos Targeted in Cleanup Effort,” *Newsday* (Sept. 16, 2001).

⁵³ U.S.E.P.A., Press Release, “Whitman Details Ongoing Agency Efforts to Monitor Disaster Sites, Contribute to Cleanup Effort” (Sept. 18, 2001).

- The fifth assurance, issued by EPA on the tenth day after the attack, referred to “safe” air and asserted, “Available results continue to show that rescue workers at the disaster site are not being exposed to hazardous materials.”⁵⁴

The EPA Inspector General’s August 2003 Report (“*IG Report*”) found that EPA did not have the proper data to back up its assurances of safety.⁵⁵ This conduct conflicts with the federal policy, as stated in the regulations for the National Oil and Hazardous Substances Pollution Contingency Plan (“National Contingency Plan”), that, “When an incident occurs, it is imperative to give the public prompt, accurate information on the nature of the incident and the actions underway to mitigate the damage.”⁵⁶ While EPA protested that it had provided more careful statements in other communications, the Inspector General stated that her office had reviewed a broad range of communications, including televised interviews, and that “although EPA’s subsequent communications sometimes added information or clarification to the message presented in the press releases, the Agency’s overall message of reassurance about long-term health impacts did not change.”⁵⁷

In fact, the federal administration did much more wrong than this. It ignored its own already-existing expert knowledge base about the harmful products of combustion and demolition. It also failed to find toxic substances because it did not look for them – even though others did look, using proper technology that the federal government not only knew about but possessed, and found them. In other words, to the extent that the government lacked data demonstrating several of the hazards of the WTC pollution, it was only because federal administrators recklessly failed to follow the proper scientific procedures that would have identified those dangers.

The federal administration’s approach to public health and safety was shockingly cavalier. It based its assurances of safety on standards that it knew were not health-based, and failed even to limit its broad assurances of safety with warnings for children and other people especially vulnerable to the hazards of pollution. It failed to revise its public health assurances even as specific data on hazards and health impacts became available. Fundamentally, the administration failed to put public health and safety first, intentionally weakening warnings and avoiding scrutiny of hazards in order to rush people back into contaminated workplaces and residences.

⁵⁴ U.S.E.P.A., Press Release, “NYC Monitoring Efforts Continue to Show Safe Drinking Water & Air” (Sept. 21, 2001). The release described asbestos data but failed to discuss the potential impact of particulate matter.

⁵⁵ See Office of Inspector General, U.S.E.P.A., *EPA’s Response to the World Trade Center Collapse: Challenges, Successes and Areas for Improvement* (Aug. 21, 2003)(hereafter, *IG Report*), generally. Air sampling for pulverized concrete and glass particulates did not start until September 21, and in most locations not until October. The first results weren’t available until October 4, 2001. EPA’s database shows that it obtained 66,000 dust and air samples between September 11 and November 13, 2001, but almost none of this data was available when EPA declared the air safe to breathe. Laurie Garrett, “Danger in the Dust,” *supra*.

⁵⁶ National Contingency Plan regulations, 40 CFR § 300.155(a).

⁵⁷ *IG Report*, App. R, p. 133. EPA had complained that the *IG Report* focused on five early agency press releases rather than its entire outreach program including media interviews, public forums and distribution of factsheets. Memorandum from Marianne Horinko, Acting EPA Administrator, to Nikki Tinsley, Inspector General, re “Transmittal Memorandum for EPA’s Response to Inspector General’s (Draft) Evaluation Report (Asst. No. 2002-0000702)(Aug. 8, 2003)(hereafter, *EPA Response Memorandum*), p. 3, in *IG Report*, App. Q, pp. 119.

A. The WTC Pollution Was Not Completely “New” – Federal Agencies Already Had an Extensive Expert Knowledge Base About This Kind of Pollution that the Administration Ignored

We talk about preparing for disasters, but if we don't use what we already know, when are we going to be prepared for a disaster? In the 1993 bombing of the World Trade Center, a number of lessons were learned and recommendations made that were not followed. In addition, the federal government trains all the time for natural disasters. If we say it was unexpected, what we're really saying is that we weren't ready. The World Trade Center disaster was new in scale. But buildings have burned before. Planes have crashed and burned. Structures have collapsed in earthquakes. We've seen these kinds of hazards before, and we look to the agencies to tell us what the hazards are. These are things that federal agencies plan for all the time, so why weren't they ready?⁵⁸

Philip McArdle, Health and Safety Officer
Uniformed Firefighters Association

Our federal government must be held to a higher standard of knowledge and expertise than the general public or the media with regard to health and safety.

- The federal EPA is filled with technical experts who have spent decades studying the pollution released from incineration of garbage, medical waste, and fuel oil. The fire at Ground Zero burned at a temperature up to 1800 degrees Fahrenheit,⁵⁹ which is the temperature of combustion in the furnace of a typical modern garbage incinerator.⁶⁰
- Researchers from the University of California at Davis and Rutgers both recognized the extensive base of scientific knowledge that already exists about combustion of mixed materials. Dr. Thomas Cahill and his research team concluded, “The WTC plume resembled in many ways those seen from municipal waste incinerators and high temperatures processes in coal-fired power plants.”⁶¹ Similarly, researchers

⁵⁸ Personal interview of Philip McArdle, Health and Safety Officer, Uniformed Firefighters Association, June 3, 2004.

⁵⁹ Liroy (2002), p. 703.

⁶⁰ The temperature in a typical modern mass burn incinerator ranges from 1800-2000 degrees Fahrenheit. Marjorie Clarke, *et al*, *Burning Garbage in the United States: Practice vs. State of the Art* (Inform, Inc. 1991), p. 53. Dr. Clarke testified at several early public hearings, drawing the correlation between incineration emissions and the WTC pollution.

⁶¹ Thomas A. Cahill, *et al.*, p. 165.

from Rutgers University and other institutions observed that the toxic pollution released by the fires and collapse of the towers – including airborne particles and PAHs – was “not unexpected because of the wide variety of plastics, woods, furnishings, and business machines, and computers.”⁶²

EPA’s experts know that burning plastic generates dioxins, that burning fluorescent lights can release mercury, that computers and paint often contain lead, and that particulates are a health hazard.

- We know that they know this because federal and state agencies ban fluorescent lights from waste incinerators to prevent the release of mercury; require strict temperature controls on incinerators to reduce dioxin emissions; ban lead paint in housing interiors but not in non-residential buildings; and require pollution control equipment on power plants and incinerators to reduce emissions of particulates by 99 percent or better.
- Indeed, EPA produced a report in 1989 with a section on “uncontrolled emissions” from waste combustion.⁶³ EPA Region 2 in New York City undertook an extensive review of waste incinerator air pollution in the early 1990s during the failed permitting process for the proposed, but never built, Brooklyn Navy Yard incinerator. Also, in 1996, EPA issued warnings about particulate pollution, specifically acknowledging that “[c]ombustion studies have established the formation mechanism of very fine metallic aerosols” that pose special health risks because they are easily inhalable.⁶⁴
- Federal agency experts know that the dust/ash residue generated by combustion of mixed materials and fuels tends to be caustic, and that human exposure to such dust should be avoided. A 1989 federal report, for example, stated that 60 to 99 percent of untreated ash from combustion of mixed waste ranges from 7.0 to 11.0 in pH value.⁶⁵

⁶² J. Offenber, *et al.*, “Persistent Organic Pollutants in the Dusts that Settled Across Lower Manhattan After September 11, 2001,” *Envtl. Sci. & Tech.* 37:502-08 (2003), p. 508.

⁶³ U.S.E.P.A., *Municipal Waste Combustors - Background Information for Proposed Standards: Post-Combustion Tech. Performance* (EPA-450/3-89-27c)(Aug. 1989)(Chap. 1, subd. 1.2, “Overview of Uncontrolled Emissions – Particulate Matter, Metals, CDD/CDF (dioxins and furans), and Acid Gas.” See also U.S.E.P.A., *Report of National Technical Forum on Source Reduction of Heavy Metals in Municipal Solid Waste* (EPA 901-R-93-001)(Sept. 1993)(regarding need to reduce mercury in waste from fluorescent lights to lower toxic emissions).

⁶⁴ U.S.E.P.A., *Air Quality Criteria for Particulate Matter* (EPA/600/P-95/001af)(Apr. 1996), Vol. I (hereafter, *EPA Criteria Document for Particulate Matter*), p. 6-202.

⁶⁵ U.S. Office of Technology Assessment, *Facing America’s Trash: What Next for Municipal Solid Waste?* (Oct. 1989)(hereafter, *OTA Report*), pp. 250 and 257 (this is an estimate for “bottom ash”; “fly ash” from incinerator smokestacks is even more alkaline because it includes lime from the air pollution system). See, M. Ezquierdo, *et al.*, “Use of Bottom Ash from Municipal Solid Waste Incineration as a Road Material” (Paper #37, 2001 International Ash Utilization Symposium, Center for Applied Energy Research University of Kentucky)(www.flyash.info).

EPA's experts know that destruction of large buildings is likely to release asbestos and highly caustic dust.

- Following the catastrophic year of 1989, when both the California earthquake and Hurricane Hugo destroyed buildings and a steam pipe exposed in the Gramercy Park neighborhood of New York City, EPA developed a document called *Guidelines for Catastrophic Emergency Situations Involving Asbestos*, in which it warned of the potential for such emergencies to create asbestos contamination problems. While the document focused specifically on the need to apply federal asbestos standards to building demolition, it emphasized that adequate measures should be taken during emergency situations “to minimize exposure” to asbestos.⁶⁶
- The federal government knows that there is no safe level of exposure to asbestos. Despite EPA's September 13, 2001 press release stating that “[s]hort-term, low-level exposure of the type that might have been produced by the collapse of the World Trade center buildings is unlikely to cause significant health effects,”⁶⁷ as the *IG Report* notes, the agency's own regulations state that “there is no safe level of exposure to asbestos” and that there are “many documented cases where low or short-term exposure has been shown to cause asbestos-related disease.”⁶⁸ The federal Agency for Toxic Substances and Disease Registry (“ATSDR”), part of the Centers for Disease Control, also states that studies indicate that lung cancer risk from asbestos “is linearly related to cumulative dose without any obvious threshold.”⁶⁹
- Federal agency experts also knew or should have expected that the WTC dust would be highly caustic because dust from cement, wallboard and other construction materials usually contains large amounts of calcite and gypsum, which are alkaline. A writer for *Chemical & Engineering News* observed, “Nobody was surprised by the high pH values” in the WTC dust.⁷⁰ A joint federal and City report on indoor dust tests noted in particular the fact that calcite and concrete are known to have high pH values.⁷¹ EPA scientists later acknowledged in a report issued in December 2002 that the bulk of the WTC dust they sampled on September 12 and 13, 2001, was comprised primarily of gypsum and calcite, and noted, “Gypsum and calcite are

⁶⁶ U.S.E.P.A., *Guidelines for Catastrophic Emergency Situations Involving Asbestos* (EPA 340/1-92-010) (February 1992), p. 30.

⁶⁷ U.S.E.P.A., Press Release, “EPA Initiates Emergency Response Activities, Reassures Public About Environmental Hazards” (Sept. 13, 2001); *IG Report*, App. H, p. 87.

⁶⁸ 51 *Fed. Reg.* 15728 (pursuant to the federal Toxic Substances Control Act, 15 U.S.C. §§ 2601, *et seq.*).

⁶⁹ ATSDR, *Toxicological Profile for Asbestos* (2000)(see www.atsdr.cdc.gov/toxprofiles/tp61.html).

⁷⁰ Louise Dalton, *supra*. The typical components of such dust are calcium monohydroxide, calcium carbonate (calcite) and calcium sulfate (gypsum), which are alkaline.

⁷¹ *ATSDR and City Health Department Residential Dust Study 2002*, pp. 2 and 11.

known to cause irritation of the mucus membranes of the eyes and respiratory tract.”⁷²

In this context of agency expertise, the federal government’s decision to issue assurances to the public about safety when two giant towers filled with wood, plastic, fluorescent lights, computers, copy machines, carpets and other mixed materials burned uncontrollably, collapsed in a cloud of dust, and then smouldered for months afterward simply cannot be justified. Federal government agencies knew that the combustion and demolition of the towers should be expected to produce caustic ash and dust as well as harmful particulates and gases, but no government official told the public.

The notion that EPA had to wait for test data or technical information before telling people that the smoke, fumes and dust presented a health risk is simply absurd. It should have issued a warning against exposure immediately. In fact, *New York Daily News Reporter* Juan Gonzalez revealed that a top federal scientist immediately urged the need for such caution in a communication to the Director of Bioterrorism Preparedness and Response at the Centers for Disease Control on September 12, 2001 when the White House asked the CDC to produce fact sheets on asbestos for the public. Dr. Ed Kilbourne, an associate administrator at the federal ATSDR, stated:

[W]e are concerned about even being asked to write a document for the public about reentry at this point. Does this mean that unrestricted access to the WTC vicinity is imminent?

He described the sampling data up to that point as “scanty” but noted that one of the samples contained 4% asbestos, which he termed a “substantial concentration.” As noted above, federal experts are well aware of the products of uncontrolled combustion of mixed materials. Dr. Kilbourne observed:

We are aware of other potential toxic hazards in the WTC area about which you haven’t asked. Contaminant groups of concern include acid gases, volatile organic compounds and heavy metals.⁷³

Even if one pretends that the EPA had no prior understanding of the likely pollution consequences of uncontrolled combustion and demolition of two giant towers and two airplanes, nothing can justify the broad and sweeping statements that EPA made about safety given the extremely limited testing data that it cited. The 165-page report released by EPA Inspector General Nikki L. Tinsley on August 21, 2003, states that when EPA made a declaration seven days after the attack that the air was “safe” to breathe, “it did not have sufficient data and analyses to make such a blanket statement. At that time, air monitoring data was lacking for several pollutants of concern,

⁷² EPA Report on Toxicological Effects of WTC Fine Particulates 2002, pp. vi, 18-19 and 44.

⁷³ Juan Gonzalez, “Doc’s WTC Note: Don’t Hurry Back,” *New York Daily News* (Oct. 28, 2003).

including particulate matter and polychlorinated biphenyls (PCBs).”⁷⁴ Whether or not EPA’s initial, partial testing data had seemed somewhat encouraging, it should have viewed such results with skepticism – especially given the agency’s own extensive knowledge about the products of uncontrolled combustion – and conducted more comprehensive analysis before issuing broad statements of safety to the public.

Someone in charge at the Pentagon disaster site knew the proper approach to take. On September 15, 2001, EPA Administrator Whitman was informed that:

Until additional data has been received, rescue workers are wearing the maximum level of PPE [Personal Protective Equipment]. The FBI has tasked EPA with determining the appropriate level of worker safety gear once sufficient monitoring data has been received.⁷⁵

In other words, at the Pentagon site – unlike the lower Manhattan financial district – pollution was being considered guilty until proven innocent, not the reverse.

The EPA Inspector General’s report documented several ways in which the federal government suppressed its own experts’ advice and communicated misleading information about pollution and health risks. Key changes made by the White House Council on Environmental Quality to EPA press releases attempted to minimize the potential hazards of the area. The White House Council on Environmental Quality, a panel appointed by the President, was originally established by the National Environmental Policy Act of 1989 to ensure compliance with that law and generally to recommend environmental policies and review federal programs and activities in light of the law’s policies.⁷⁶ Nothing in the law specifically authorized the Council to police the health communications of expert agencies. Nevertheless, that is exactly what the Council did in the case of the WTC attack.

- EPA originally titled its September 13 press release to read: “EPA Initiating Emergency Response Activities, Testing Terrorized Sites for Environmental Hazards,” but that was revised after White House Council review to read, “EPA Initiates Emergency Response Activities, Reassures Public About Environmental Hazards.” This same press release also misleadingly stated that air samples found “either no asbestos or very low levels of asbestos, and dust samples found

⁷⁴ *IG Report*, p. i. The Inspector General defined “major public communications” regarding air quality and health risks as including press releases, testimony, television and other public appearances. The report primarily examined pronouncements made from September 2001 through December 2001. *Id.*, App. B, p. 73.

⁷⁵ U.S.E.P.A., “Briefing to Governor Whitman – Conference Call Summary: September 15, 2001 - 12:00 PM” (CT911)(document provided in response to Sierra Club Freedom of Information Act Request), p. 2.

⁷⁶ 42 U.S.C. §§ 4342, 4343, 4344, and 4345. The law’s “Declaration of National Environmental Policy” includes the goal, to “assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings.” 42 U.S.C. §§ 4311(b)(2).

“generally low levels of asbestos,”⁷⁷ but did not tell the public that low levels of asbestos are a health hazard.

- A draft September 14 EPA press release sent for White House Council approval stated, “The concern raised by these samples would be for the workers at the cleanup site and for those workers who might be returning to their offices on or near Water Street on Monday, September 17, 2001;” but this sentence was deleted. Instead, the final September 16 release stated: ““Our tests show that it is safe for New Yorkers to go back to work in New York’s financial district,” said John L. Henshaw, Assistant Secretary of Labor for OSHA.”⁷⁸
- The White House Council changed objective language in the September 14 draft release describing 2.1 percent to 3.3 percent asbestos dust levels (noting that a one percent level is the definition for asbestos-containing material), to the misleadingly assuring statement that dust samples “contained small percentages of asbestos . . . , slightly above the 1 percent trigger for defining asbestos material.”⁷⁹ The *IG Report* explains that over 25% of the dust samples analyzed by September 18 showed asbestos above the one percent threshold.⁸⁰ Thus, the revised release failed even to acknowledge, let alone highlight, EPA’s finding of widespread asbestos contamination.
- According to the *IG Report*, the White House Council deleted an EPA statement recommending that the public obtain professional environmental cleaning of homes and offices. The Inspector General reports, “The Associated Administrator stated: ‘It was in a press release: it was removed by...[the CEQ contact].’⁸¹
- A joint EPA and OSHA press statement released on October 3, 2001 asserted that testing “found no evidence of any significant public health hazard to residents, visitors or workers beyond the immediate World Trade Center area” and that there was “no need for concern among the general public.”⁸² It further stated:

⁷⁷ U.S.E.P.A., Press Release, “EPA Initiates Emergency Response Activities, Reassures Public About Environmental Hazards” (Sept. 13, 2001) (<http://www.epa.gov/wtc/stories/headline_091301.htm>); Kristine K. McElroy, Briefing Memorandum to Members of the Subcommittee on National Security, Emerging Threats, and International Relations, for Field Hearing, “Assessing September 11th Health Effects: What Should Be Done?” (Oct. 23, 2003)(hereafter, *McElroy Briefing Memorandum*), p. 3.

⁷⁸ *IG Report*, p. 16.

⁷⁹ *Id.*, p. 16; *see also*, OSHA, Press Release, “OSHA, EPA, Update Asbestos Data: Continue to Reassure Public of Contamination Fears” (Sept. 14, 2001).

⁸⁰ *IG Report*, p. 14.

⁸¹ *Id.*, p. 15.

⁸² U.S.E.P.A. Press Release, “EPA and OSHA Web Sites Provide Environmental Monitoring Data from World Trade Center and Surrounding Areas” (Oct. 3, 2001).

EPA has been evaluating samples of air against an extremely stringent standard, the AHERA [Asbestos Hazard Emergency Response Act] standard Levels of asbestos above the AHERA standard do not imply that there is an immediate health threat to the public. Asbestos exposure becomes a health concern when high concentrations of asbestos fibers are inhaled over a long period.⁸³

The *IG Report* declared that this assertion was “inconsistent with the Agency’s historical position that there is no safe level of asbestos.”⁸⁴ Indeed, as noted above, federal rules under the Toxic Substances Control Act – of which the Asbestos Hazard Emergency Response Act (“AHERA”) is part – declare not only that short-term exposures can increase the risk of asbestos-related diseases but also that there is no safe level of exposure to asbestos.⁸⁵ The Bush administration never acknowledged this inconsistency, nor put forth any explanation for suddenly changing its policy.

The federal government’s public assurances of safety were inconsistent with its own data. On October 26, 2001, *Daily News* columnist Juan Gonzalez published his in-depth assessment in an article entitled, “A Toxic Nightmare at Disaster Site.” He reported that internal government documents revealed toxic substances in the air and soil around Ground Zero, sometimes at levels far exceeding federal standards.⁸⁶ Indeed, EPA’s statements apparently were inconsistent with its own experts’ advice. The Inspector General stated bluntly, “it appeared that EPA’s best professional advice was overruled when relaying information to the public in the weeks immediately following the disaster.”⁸⁷ Politics, it appears, trumped science in the communication of risks to the public.

Subsequent denials by Bush administration officials about interference with public health warnings simply do not comport with the facts. About two years after the events of September 2001, in her first broadcast interview on this topic, former EPA Administrator Whitman asserted, “The White House never directed the Environmental Protection Agency to withhold facts or lie to

⁸³ U.S.E.P.A. and OSHA, “EPA-OSHA Factsheet: Environmental Information from Lower Manhattan for Residents, Area Employees and Local Business Owners” (included with October 3, 2001 joint EPA-OSHA press release). This statement was echoed in EPA Region 2’s testimony to the NYC Council Committee on Environmental Protection in November 2001. Testimony of Kathleen Callahan, EPA Region 2 Acting Deputy Administrator Before the New York City Council Committee on Environmental Protection (Nov. 1, 2001).

⁸⁴ *IG Report*, p. 132.

⁸⁵ 51 *Fed. Reg.* 15728. The rules are codified at 40 CFR § 763, subpart E. Congress, in adopting the Asbestos School Hazard Abatement Act in 1980, similarly stated, “Medical science has not established any minimum level of exposure to asbestos fibers which is considered to be safe to individuals exposed to the fibers.” 20 U.S.C. 4011(a)(3)(findings and purposes section).

⁸⁶ Juan Gonzalez, “A Toxic Nightmare at Disaster Site,” *New York Daily News* (Oct. 26, 2001)

⁸⁷ *IG Report*, App. R, p. 132.

the people of the city of New York.”⁸⁸ Similarly, Claire Buchan of the White House’s Council of Environmental Quality insisted that the interest of the two agencies was “always in the health and safety of the people of New York.”⁸⁹ Heads of 19 union locals representing EPA employees, however, issued a bitter rebuttal statement on September 15, 2003 denouncing White House interference with their work. They said:

Little did the Civil Service expect that their professional work would be subverted by political pressure applied by the White House. ... These workers reported to senior EPA officials their best estimate of the risks, and they expected those estimates and the accompanying recommendations for protective measures to be released in a timely manner to those who needed the information....[T]he Bush White House had information released, drafted by political appointees, that it knew to contradict the scientific facts. It misinformed. And many rescue workers and citizens suffered. Some citizens now face the long-term risk of asbestos-related lung cancer as well as other debilitating respiratory ailments as a result.⁹⁰

The Bush administration’s advocacy of approaches to cleanup of WTC dust was in direct conflict with a quiet OSHA warning about proper management of the material. In January 2002, OSHA responded to a query about WTC dust management from attorney Lowell Peterson, partner in a law firm representing Local 78 Asbestos, Lead and Hazardous Waste Laborers, by issuing an “interpretive letter.” In that letter, OSHA stated that the WTC dust should be presumed to contain asbestos unless tests proved otherwise. OSHA declared that the federal asbestos protocols for construction activity should apply during demolition or salvage activity at the site, and stated, “In that the materials containing asbestos were used in the construction of the Twin Towers, the settled dust from their collapse must be presumed to contain asbestos.”⁹¹ This individual agency warning contradicted the casual public approach taken by the federal administration overall with regard to WTC dust. Certainly EPA, by encouraging unskilled family members to clean up contaminated indoor WTC dust using wet mops and wet rags, was taking a position diametrically opposed to OSHA’s careful warning.

If this OSHA staff person’s warning had been placed in a draft press release rather than an obscure interpretive letter responding to an individual query, one wonders how the CEQ might have changed OSHA’s text.

⁸⁸ Lisa Myers, Senior Investigative Correspondent, “What Was Known About Post-9/11 Air,” MSNBC (NBC News)(Sept. 5, 2003).

⁸⁹ Elaine S. Povich, “Democrats Seek EPA Probe: Focus on Misleading Info Revealed in 9/11 Air Quality Report,” *New York Newsday* (Sept. 18, 2003).

⁹⁰ Letter signed by: Paul Sacker, President AFGE Local 3911, New York; Dwight Welch, President NTEU Chapter 280, Washington, DC; Gretchen Helm, President AFGE Local 3331 Washington DC; and EPA employee unions in 14 other cities (September 15, 2003).

⁹¹ Henshaw, John, Assistant Secretary for OSHA, U.S. Dept. of Labor, “Standard Interpretation Letter,” Jan. 31, 2002; *see also*, *IG Report*, p. 34.

The White House Council on Environmental Quality plainly gave EPA “double standard” instructions for when to communicate information on health hazards. EPA’s Office of Communications, Education and Media Relations had a fact sheet on the health risk to “sensitive populations” from exposure to particulate matter. The *IG Report* states:

We asked the Associate Administrator whether she had considered putting any of this information in press release. She said she had, but the CEQ official discouraged her from doing so. Her recollection was that he told her health effects information should not be included in EPA’s press releases, and that anything dealing with health effects should come from New York because they were on the ground and they were already dealing with it.⁹²

EPA did not disagree with this assertion in its response comments on the *IG Report*. The staff person’s characterization of the Bush administration’s oversight of EPA warnings, however, is not correct. The White House Council on Environmental Quality not only approved but required placing assurances about health into the EPA press releases. This indicates an active misinformation campaign intended to give the public a broad assurance of safety even though the government knew about health risks against which people should have been protecting themselves.

In other words, the Bush administration’s policy apparently was: *Put it in the press release if it assures the public about safety, but not if it suggests the need for protection!*

B. EPA Misrepresented the Meaning of Asbestos Test Results by Knowingly Mischaracterizing Its Own Technical Detection Limits as Health Standards

Asbestos is a proven human carcinogen; it can cause malignant mesothelioma (a cancer of the inner lining of the chest or abdomen), and lung cancer. It can also cause cancer of the throat, larynx, and gastrointestinal tract.⁹³ Breathing high levels of asbestos fibers for a long time can result in scar-like tissue in the lungs and the pleural membrane (lining) that surrounds the lung, a condition known as “asbestosis” which can seriously impair breathing and in some cases cause heart enlargement, leading to disability and sometimes death. The combination of exposure and cigarette smoke significantly increases a person’s chances of getting lung cancer.⁹⁴

⁹² *IG Report*, p. 15.

⁹³ Herbert Needleman, M.D. and Philip Landrigan, M.D., *Raising Children Toxic Free* (New York: Farrar, Straus & Giroux, 1994), p. 89. While the *USGS report* refers to research indicating that chrysotile asbestos is less carcinogenic than amphibole asbestos, it notes that this conclusion is not universally accepted by the scientific community. *USGS Report*, p. 4. In fact, some recent studies hold that chrysotile asbestos alone can cause lung cancer and malignant mesothelioma in humans. See Eiji Yano, *et al.*, “Cancer Mortality Among Workers Exposed to Amphibole-free Chrysotile Asbestos,” *Am J Epid.* 154(6):538-43 (2001); Y. Suzuki and S. Yuen, “Asbestos Fibers Contributing to the Induction of Human Malignant Mesothelioma,” *Annals of N.Y. Acad. of Sci.* (82:160-76 (2002).

⁹⁴ ATSDR, “ToxFAQs for Asbestos”(Sept. 2001).

Asbestos is a frequently occurring contaminant in WTC dust. Over 25% of the bulk dust samples that EPA had analyzed by September 18 showed asbestos at levels above the one percent-by-weight threshold used by EPA to define “asbestos-containing material” under the Clean Air Act’s National Emission Standards for Hazardous Air Pollutants (“NESHAP”) program, which must then be handled according to regulatory standards to prevent escape of asbestos into the air.⁹⁵ This is of particular concern because the one percent threshold itself is not a health standard. The Inspector General for EPA criticized the agency for treating the NESHAP level as a health standard, stating:

[W]e do not agree with using certain criteria-based benchmarks – particularly the NESHAP asbestos-containing material definition of one percent asbestos – as health-related benchmarks when environmental professionals clearly acknowledge that this standard is not protective of public health.⁹⁶

The one percent threshold is only a detection limit based on an older test method that cannot reliably detect asbestos at levels lower than that.⁹⁷

Equally important, the one percent standard was not designed to apply to loose asbestos fibers in dust. As labor attorney Lowell Peterson explained:

[The one percent standard applies to] the hard material . . . removed from the building – if you have asbestos ceiling tiles or floor tiles. If you are a building owner or a contractor, you cannot take that stuff out if one percent of that material is asbestos. Well, that is not the stage we are at, downtown. The point of removing that asbestos properly is because a small piece of those floor tiles [could] become airborne . . . when you take the tile out. Ninety-nine percent of the tile is removed and never becomes airborne. What happened when the Trade Center collapsed is, it all came down; 100 percent of the asbestos in the Trade Center became airborne Not one percent.⁹⁸

⁹⁵ *IG Report*, p. 14 and App. F, p. 83. The NESHAP program, established pursuant to 42 U.S.C. § 7412, is codified at 40 CFR §§ 61.140-61.157.

⁹⁶ *IG Report*, App. R, p. 133.

⁹⁷ That older test method is called Polarized Light Microscopy (“PLM”). See Walter Mugdan, Regional Counsel, EPA Region 2, “Environmental Law Issues Raised by Terrorist Events in 2001” (Jan. 24, 2002 meeting of New York Bar Ass’n Environmental Law Section), in *Albany Law Env’tl. Outlook* 7:67-93 (2002), note 13, citing U.S.E.P.A., *Method for the Determination of Asbestos in Bulk Building Materials* (microfilemd on EP 1.23/6:600/R-93/116)(1993). See also, Juan Gonzalez, *Fallout*, p. 99.

⁹⁸ Testimony of Lowell Peterson, Esq., of Meyer, Suozzi, English & Klein, representing Local 78 Asbestos, Lead and Hazardous Waste Laborers, AFL-CIO, in EPA National Ombudsman, First Investigative Hearing on WTC Hazardous Waste Contamination, hosted by U.S. Representative Jerrold Nadler, Transcript (Feb. 21, 2002)(hereafter, *EPA Ombudsman Hearing Transcript Feb. 21, 2002*), pp. 264-66.

EPA Environmental Scientist Dr. Cate Jenkins, speaking independently and not on behalf of the agency, further notes that the one percent regulatory definition for asbestos-containing material assumed that the dusts resulting from the presence of asbestos containing materials in a building would have much lower levels of asbestos than one percent.”⁹⁹

In other words, the one percent asbestos definition is designed to apply to the material that generates the dust – *not to the dust itself*.

EPA is well aware of the limited meaning of the one percent definition for asbestos-containing material. Indeed, EPA itself declared, just three months before the September 11th attack:

Levels at 1% or less may be safe. Even higher levels could be considered safe at remote locations where no one comes in contact with the material. The key to determining whether there is a risk is exposure. If there is no exposure pathway, *i.e.*, a way for the asbestos to get into your body, such as contact with the material, or people driving over the material so that they breathe in the fibers, there is no risk. Levels of 1% or less could present a risk where there is enough activity to stir up soil and cause asbestos fibers to become airborne.¹⁰⁰ (Emphasis in original)

Thus, the many statements that EPA made about the safety of the WTC dust not only were misleading, but probably wilfully misleading. The agency knew better.

EPA similarly made assertions about safety with regard to asbestos air samples based on a technical detection limit that it knows is not a health-based standard. EPA reported that very few of its air samples exceeded the indoor Asbestos Hazard Emergency Response Act (AHERA) “clearance” level used for allowing re-entry into a school after an asbestos abatement, which is 70 structures per square millimeter.¹⁰¹ EPA called this standard “extremely stringent.”¹⁰² Actually, the AHERA clearance level is not a health-based standard; it was not set at that level in order to achieve a certain measure of safety against cancer. Rather, it is based on the detection limit of the testing filters in use when those rules were adopted nearly 20 years ago. The *IG Report* states that smaller concentrations of asbestos can now be reliably measured, with a possible minimum

⁹⁹ Memorandum from Cate Jenkins, Ph.D., Hazardous Waste Identification Division, U.S.E.P.A., to Affected Parties and Responsible Officials re: wipe sampling for asbestos in Lower Manhattan, . . . and estimation of increased cancer risks (Dec. 19, 2001)(hereafter, *Jenkins Memorandum Dec. 19, 2001*), p. 2.

¹⁰⁰ U.S.E.P.A. Region 8, “Ask EPA!! Questions and Answers About Asbestos and EPA’s Libby Investigation” (June 18, 2001) < www.epa.gov/region8/superfund/libby/qsafe.html >

¹⁰¹ 40 CFR § 763.90(h)(iii)(3). See Appendix A of this report. A “structure” is a microscopic cluster, fiber or matrix that may contain asbestos. 40 CFR § 763, subpart E, app. A(II)(A)(21).

¹⁰² U.S.E.P.A. and OSHA, “EPA-OSHA Factsheet: Environmental Information from Lower Manhattan for Residents, Area Employees and Local Business Owners” (attached to Oct. 3, 2001 joint EPA-OSHA press release).

detection limit up to 79 percent lower than the current AHERA limit, and recommends that EPA develop a health-based standard given the improvement in technology.¹⁰³

Usually, asbestos is not a significant, widespread outdoor air pollution problem – in fact, no outdoor air quality standard for asbestos even exists. Dr. Thomas Cahill, who conducted continuous air sampling on the rooftop of a building a mile north-northeast of Ground Zero, did not find more than a couple asbestos fibers among the airborne particles that he sampled at that height.¹⁰⁴ Nevertheless, asbestos from Ground Zero did contaminate some outdoor air and indoor air in higher risk areas. Some individual workers, for example, probably unearthed and handled steel beams coated with asbestos insulation, and the disturbance very likely caused asbestos fibers¹⁰⁵ to become airborne. Specific facts about asbestos exposure have come to light.

- The Fire Department of New York’s Medical Officer Dr. Michael Weiden reports that an examination of the lower airways and alveoli of a firefighter with respiratory distress revealed “uncoated asbestos fibers,” which he states would tend to indicate “an acute exposure.”¹⁰⁶
- Independent tests conducted for the International Union of Operating Engineers found that 60 percent of 150 samples collected inside the cabs of heavy equipment operating in the restricted area of Ground Zero in October 2001 showed asbestos concentrations greater than the EPA clearance criteria.¹⁰⁷ Appendix A also describes asbestos levels at the Fresh Kills Landfill debris inspection and disposal operation as exceeding OSHA’s permissible exposure level – which is a health-based standard.
- Independent tests of indoor air in buildings near Ground Zero, sponsored by the Ground Zero Elected Officials Task Force¹⁰⁸ revealed substantially higher levels of asbestos contamination than EPA tests were detecting.

¹⁰³ *IG Report*, App. O, pp. 113-14. The AHERA regulations were adopted in 1986. See Juan Gonzalez, *Fallout*, p. 97.

¹⁰⁴ Thomas Cahill, *et al.* (2004), p. 168.

¹⁰⁵ See Appendix A description of USGS test results for asbestos.

¹⁰⁶ Testimony of Dr. Michael Weiden to the House Committee, p. 3.

¹⁰⁷ Bruce Lippy, C.I.H., C.S.P., Safety and Health of Heavy Equipment Operators at Ground Zero. *Am J Ind'l Med* 42:539-542, 541 (2002). The samples were analyzed using the modern transmission electron microscopy method, described in the following subsection.

¹⁰⁸ See Appendix A of this Report. The Ground Zero Elected Officials Task Force included Congressional Representative Jerrold Nadler, Manhattan Borough President C. Virginia Fields, NYS Assembly Speaker Sheldon Silver, NYS Senators Martin Connor and Tom Duane, NYS Assembly member Deborah Glick, NYC Council member Kathryn Freed, City Council members Alan Gerson (elect) and Margarita Lopez, and NYC Community Board 1 Chair Madelyn Wils. The sampling was facilitated by then City Council member Katherine Freed and Community Board 1 chairperson Madeline Wils.

These independent test results further illustrate the inadequacy of EPA's analysis of asbestos contamination. EPA should have assessed its data in the context of a health-based analysis before issuing assurances about the safety of Ground Zero air. It did not, however, use such caution.

Finally, as noted above, EPA's own rules acknowledge that there is no safe level of exposure to asbestos and that low or short-term exposure has been shown to cause asbestos-related disease. Given that the agency had this knowledge, EPA's misuse of technical detection levels as a basis for making assurances about health was irresponsible. All people in the Ground zero area should have been advised to take action to protect themselves against the asbestos in the WTC dust and, at least during the early period after the attack, in the air.

C. The White House Council on Environmental Quality Provided Misleading Data to U.S. Senators While Implying that Most Homes Were Not Asbestos-contaminated

The White House Council on Environmental Quality's October 2003 letter to Senators Hillary Clinton (D-NY) and Joseph Lieberman(D-CT) very misleadingly asserted the following:

As you know, of the more than 4100 residential units in Lower Manhattan examined as part of EPA's indoor air quality and cleaning program only about 1 percent were found to have asbestos at levels exceeding the health-based standard for long-term risk.¹⁰⁹

The White House Council's letter is misleading because EPA did not test the air or dust in most of these homes before cleaning them.

- EPA only tested 726 of the 4,100 apartments for asbestos in air before cleaning. Under its program, residents could either have a cleanup without pre-testing, or have their apartment tested and get a cleanup only if the test revealed asbestos. The correct percentage of apartments identified as asbestos-contaminated was over five times higher than the White House Council's letter stated.¹¹⁰
- EPA used an *ad hoc*, weaker air disturbance testing method – one that had not been peer-reviewed – called “modified aggressive” testing, rather than the standard “aggressive” method, in most apartments. While the agency claimed, in response to the *IG Report*'s criticism, that it “did not find a measurable difference” between the

¹⁰⁹ Letter from James Connaughton, Chairperson, Council on Environmental Quality, to United States Senators Hillary Rodham Clinton and Joseph Lieberman (Oct. 27, 2003).

¹¹⁰ Of the 757 apartments that requested pre-testing, in 31 of them, too much dust was captured, clogging the filter, so fibers could not be identified – so only 726 dwellings were pre-tested. (3,405 units opted for cleaning, with air tests conducted only afterward.) See, U.S.E.P.A., “EPA Response to September 11: Frequently Asked Questions” (Aug. 2003), *supra*; U.S.E.P.A., “EPA Response to September 11: WTC Residential Testing Results,” *supra*.

two methods,¹¹¹ the aggressive method identified asbestos about three times more often in pre-cleaning tests (six times more often post-cleaning) than the modified approach.¹¹²

- EPA only tested the air, not the loose asbestos in settled WTC dust. While it collected dust wipe samples in some apartments, it did not include asbestos in its dust tests.¹¹³
- Also, as noted above, the AHERA clearance detection limit is not health-based; it is simply a technical standard, and there is no safe level of exposure to asbestos.

The White House Council's letter failed to disclose that the federal ATSDR found asbestos 18 times more frequently in indoor settled dust in lower Manhattan apartments than the White House Council reports that EPA found in the air -- and that ATSDR found no asbestos at all in comparison buildings located north of 59th Street. The joint ATSDR and City health department study of indoor WTC dust in 57 apartments is remarkable because the testing occurred after most of the apartments had been cleaned either professionally or by non-professionals, yet the tests found that asbestos was still present in 18 percent of the apartments.¹¹⁴ The White House Council also ignored the report released by the Ground Zero Elected Officials Task Force in November 2001, which cited indoor asbestos dust in an apartment in a less heavily exposed building at a level 47 times the typical urban indoor level, and at 64 times the typical urban level in an apartment in a heavily exposed building.¹¹⁵

¹¹¹ Memorandum from Marianne Horinko, EPA Acting Administrator, to Nikki Tinsley, EPA Inspector General re EPA's Response to Inspector General's (Draft) Evaluation Report, *IG Report*, App. Q, p. 128.

¹¹² See EPA Region 2, *World Trade Center Residential Dust Cleanup Program* (Draft Final Report, Mar. 2004), App. B, p. 5; U.S.E.P.A., "Sampling to Estimate Current Levels of Asbestos in Apartments in the EPA Cleanup Area Near the World Trade Center Site" (submitted to the EPA WTC Expert Technical Review Panel)(Mar. 2004), Table 1, p. 6.

¹¹³ See Letter from Pat Evangelista, EPA WTC Coordinator, to Jo ["Rosemary"-sic] Polett (Jan. 8, 2004), plus attachments; Elizabeth O'Brien, "Dangerous Lead Was Found in Some Apartments," *Downtown Express* (Apr. 15, 2003). In 263 apartments, EPA tested dust samples for dioxin, aluminum, antimony, arsenic, beryllium, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, mercury, nickel, potassium, selenium, silver, sodium, thallium, vanadium and zinc.

¹¹⁴ *ATSDR and City Health Department Residential Dust Study 2002*, pp. 5-6 and 20. The samples were taken between November 4 and December 12, 2001. *Id.*, p. 1. The 57 apartments were located in 30 residential buildings. *Id.*, p. 1. The study detected asbestos in 18 percent of 83 samples, ranging from less than 1 percent to 1.5 percent, in apartments that generally had already been cleaned at least to some extent. *Id.*, p. 6.

¹¹⁵ The dust was measured in structures per square centimeter rather than percentage by weight. Eric Chatfield and John Kominsky, *Summary Report: Characterization of Particulate Found in Apartments After Destruction of World Trade Center* (prepared for the Ground Zero Elected Officials Task Force (October 12, 2001), p. 32, Table 18, and p. 34, Table 20 (The less heavily exposed building was located at 45 Warren Street, and the more heavily exposed building was at 250 South End Avenue); see Greg Gittrich and Frank Lombardi, "Safety Guidelines Set for WTC Site Workers: Dems Seeking Cleanup Czar," *New York Daily News* (Nov. 20, 2001); see also, Abrahm Lustgarten, "The Toxic Fallout of 9/11," *Salon.com* (Aug. 15, 2003).

The senators were not dissuaded by the White House Council's letter from pursuing their concerns about the need for proper testing and cleanup. Upon the formation of the EPA WTC Technical Advisory Panel, Senator Clinton observed:

We know that World Trade Center dust contained asbestos and other harmful substances, and that it contaminated indoor areas in New York City. New Yorkers deserve a firmer assurance that they are safe in their homes, and I am hopeful that this panel will lead to that point.¹¹⁶

Issues related to the need for indoor testing and cleanup are described further in Parts Three and Six of this Report.

D. EPA Did Not Find Health Hazards Because It Did Not Look for Them.

Throughout its assessment of WTC pollution, EPA repeatedly used outdated equipment and testing methods even though it knew that better methods were available and had used those methods in other pollution episodes. Also, for some contamination issues, EPA simply did not test at all.

1. EPA did not test the WTC dust for toxic organic chemicals such as polycyclic aromatic hydrocarbons, but independent tests found them at very high levels; EPA also failed to disclose in public materials its own PAH air tests.

EPA failed to conduct tests for toxic organic chemicals (as opposed to metals or minerals) in WTC dust. This included the failure to test for an important category of chemicals known as polycyclic aromatic hydrocarbons (PAHs).¹¹⁷ PAHs are a group of over 100 different chemicals that are commonly formed by incomplete combustion of oil, gas, garbage and other organic substances, and it is well known that PAHs become attached to airborne particulates. For this reason, EPA should have considered it likely that PAHs would be attached to dust particles generated by the burning towers, and it should have tested for their presence in the dust. It did not.

A private test of dust collected from firefighters' clothing reveal disturbing results. Several firefighters approached attorney Anthony Gentile, of the law firm, Godosky and Gentile, for legal assistance in obtaining compensation for their health impairment. With their permission, he submitted the firefighters' claims to the federal September 11th Victim Compensation Program, which provides compensation for current injuries but not for harm that may not arise and become

¹¹⁶ Senator Hillary Rodham Clinton, Press Release, "Clinton Joins Announcement of EPA World Trade Center Expert Review Panel" (March 1, 2004).

¹¹⁷ *Jenkins Memorandum July 4, 2003*, App., p. 23.

detected until a future date. In the process of investigating their claims, however, he found significant evidence of potential future health risks.

Mr. Gentile contracted with an independent environmental testing firm, Toxicology Consultants & Assessment Specialists, Inc., which tested samples of WTC dust collected from the firefighters' boots. The environmental testing firm found high levels of polycyclic aromatic hydrocarbons ("PAHs") in the dust. The testing firm compared its results to EPA's Health Effects Assessment Summary Tables ("HEAST"), which describe health based exposure criteria for soils. It reported that the PAHs in dust/soil removed from the firefighter's boots measured 42.87 mg/kg (PPM). It stated:

This extraordinarily high level of carcinogenic PAHs within inhaled dusts and soils is in my opinion, nearly unprecedented and has placed the firefighters at very high levels of future cancer risk. . . . [The PAH levels are] in significant excess (over 42,000%) of the USEPA HEAST recommendations. . . . Most notably, the two most potent aromatic hydrocarbon carcinogens, benzo(a)pyrene and dibenz(a,h)anthracene, were measured at concentrations 115- and 422-times in excess of the USEPA HEAST criteria and the [New York State] recommended soil cleanup objective limit.¹¹⁸

The firm expressed concern that the PAH levels so greatly exceeded both the federal and New York State guidelines for soil cleanup, and recommended that further sampling would be helpful to assess the risk levels.

A little-publicized 2003 study by scientists from Rutgers University, New York University other institutions had found that the levels of PAHs in the WTC dust were "high, especially in light of the extremely large masses of dust generated in this disaster." That study of three bulk dust samples had found that PAHs levels in WTC dust were approximately three times higher than in airborne particles measured at a site in Jersey City.¹¹⁹ The leading scientist explained:

There's normally 20-30 micrograms [of PAHs] per cubic meter in the air, and you're comparing that to three to six inches of settled dust, so the concentrations are the same, but the . . . amount someone would have come into contact with was much greater because the amount of material was so much higher in lower Manhattan.¹²⁰

¹¹⁸ Toxicology Consultants & Assessment Specialists, Inc., "Preliminary Toxicological Assessment of NYC Firefighters Exposed to WTC Pyrolysis Emission"(private test results prepared for Anthony P. Gentile, Esq., Godosky & Gentile, P.C.)(March 18, 2002), pp. 7-8.

¹¹⁹ Offenberg, *et al.* (2003), p. 505. The highest levels of PAHs were found in "coarse" particles (PM₁₀ to PM₅₃), although levels higher than typical urban background also were found in easily inhalable particulates (PM_{2.5}).

¹²⁰ "High PAH Levels in Dust from 9-11 Disaster," *Science News* (Jan. 2, 2003).

In other words, the actual exposure risk from the WTC dust was much greater because of the sheer volume of dust released in the area. An estimated 200,000 to 2 million pounds of polycyclic aromatic hydrocarbons (PAHs) were released in the first few days after the attack within half a kilometer of Ground Zero.¹²¹ As the New York Committee for Occupational Safety and Health (“NYCOSH”) has explained, this means that between 8,000 and 80,000 pounds of respirable polycyclic aromatic hydrocarbons polluted the Lower Manhattan area during those first few days.¹²² EPA, however, failed to assess and ascertain this risk because, apparently, it failed to test the WTC dust for PAHs during the period of greatest exposure.

Oddly, EPA reports that it did not find PAHs in the outdoor air, either, stating, “As of April 2002, none of the 15 PAHs monitored were detected in any air samples.”¹²³ A factsheet attached to a February 2002 statement by EPA Regional Administrator Jane Kenny implies that PAH sampling did not begin until November 2, 2001.¹²⁴ In fact, EPA scientists from its Research Triangle Park in North Carolina published a paper in 2003 reporting the detection of the same PAHs that EPA Region 2 was monitoring (and reportedly not finding), and others as well – including a compound that has never before been reported in ambient air sampling. The researchers found certain types of PAHs to be about six times higher than the average values measured during a particularly intense Los Angeles photochemical smog episode.¹²⁵ A writer for *Science* magazine stated that these measurements were large enough to generate “the most serious kind of concern.”¹²⁶

Concern about PAH emissions are further supported by the results of a new study of “window film.” Researchers from the University of Toronto took “window film” samples in lower Manhattan within a kilometer of Ground Zero six weeks after the September 11 attack and compared them with samples taken in Brooklyn upwind of Ground Zero. The new study reports that the PAH levels in the Ground Zero area window film were 10 times higher than the

¹²¹ Lioy (2002); *Health and Environmental Consequences*, p. 17.

¹²² Dave Newman, M.A., M.S., Industrial Hygienist, New York Committee for Occupational Safety and Health (“NYCOSH”), Presentation at December 13, 2003 forum sponsored by the Sierra Club New York City Group at the United Methodist Church at Washington Square.

¹²³ U.S.E.P.A., “EPA Response to September 11: Polycyclic Aromatic Hydrocarbon Chemicals in Air” (<www.epa.gov/cgi-bin/epaprintonly.cgi>)(presenting data as of April 2002). OSHA detected PAHs in eight of 110 “personal sample” readings that it took at Ground Zero work sites at levels that exceeded its guideline for a healthy adult worker. OSHA Sampling Results Summary as of 02/13/02 (<www.osha.gov/nyc-disaster/summary.html>).

¹²⁴ EPA Region 2 Factsheet, “World Trade Center Response: Summary of Environmental Monitoring” (Jan. 29, 2002), attached to Statement by Jane M. Kenny, EPA Region 2 Regional Administrator (Feb. 11, 2002).

¹²⁵ Erick Swartz, *et al.*, “Polycyclic Aromatic Hydrocarbons and Other Semivolatile Organic Compounds Collected in New York City in Response to the Events of 9/11” *Envtl. Sci. Technol.* 37:3537-46 (2003). The unusual PAH is 1,3-diphenylpropane-[1',1'-(1,3-propanediyl)bis-benzene], apparently a hormone-disrupting chemical, associated with polystyrene other plastics. The PAHs compared with the emissions from the Los Angeles episode are the heavier 3 to 5-ring PAHs. Sampling occurred on September 26 and October 4, 6, 10 and 20, 2001. EPA also reports that four samples were taken for PAHs on September 22, 2001, but the results “were below EPA’s level of concern.” U.S.E.P.A., Daily Summary: Saturday, September 22, 2001).

¹²⁶ R.F. Service, *Science* 302:1649 (2003).

background levels in Brooklyn.¹²⁷ If the PAHs on the Ground Zero area window film did come from Ground Zero, as appears probable,¹²⁸ then they must have traveled to those windows through the air.

Even for the tests that began in November, given how high the levels were in the dust, EPA's completely "non-detect" test results are a mystery. One question is whether or not EPA's results may have been the consequence of using inadequate testing equipment and methods. Paul Bartlett, a pollution dispersion and modeling expert then with the Center for the Biology of Natural Systems at Queens College, testified at the February 21 EPA Ombudsman hearing that EPA "didn't do appropriate monitoring on the periphery of the site or further away." He stated that EPA's sampling approach in testing for the presence of toxic organic chemicals was too limited, and resulted in only an inadequate "snapshot" of actual conditions.¹²⁹ He also noted that EPA's failure to detect another volatile organic chemical, polychlorinated biphenyls ("PCBs") was a signal that their air sampling methodology for organic chemicals was inadequate, explaining:

[W]e can always find PCBs. . . . It is everywhere. We have trouble getting it out of our [control] blanks. . . . They are taking too short of a sample But even then, you can detect them if you use a better method. . . . They are using straight GC-MS, which is gas chromatography and mass spectrometry, while everybody else is using GCED, electron-capture detection method. It is actually a cheaper method [and] is 100 to 1,000 times more sensitive.¹³⁰

In other words, if EPA did not find PCBs, which are ubiquitous in the outdoor environment, it was not doing a good job of looking for them. He explained that EPA Region 2 used GCED technology in its analysis of PCBs in the Hudson River.¹³¹ If the above observations are correct, then by using less sensitive equipment and failing to take representative air samples, EPA failed to identify the presence of a class of toxic chemicals that independent tests found at significantly elevated levels.

¹²⁷ Craig Butt, Miriam Diamond and Jennifer Truong, "Semivolatile Organic Compounds in Window Films from Lower Manhattan After the September 11th World Trade Center Attacks," *Env'tl Sci & Tech* __ (July 2004); American Chemical Society, Press Release, "Film Found on Windows After 9/11 Reveals Higher Level of Pollutants" (June 3, 2004). A prior study of polychlorinated biphenyls (PCBs) in window film found levels 17 times higher at a building near the WTC than at a control site 3.5 km away. Craig Butt, *et al.*, "Polychlorinated Biphenyl (PCB) Concentrations in Atmospherically Derived Organic Films from Lower Manhattan After September 11, 2001," *Formation and Sources: Field Cases, Organohalogen Compounds* 59:219 (2002). Private tests conducted of indoor air in some buildings in lower Manhattan did not detect PAHs. See Charles E. Gilbert, Ph.D., M.S., "Health Testing at Ground Zero, New York City" (presentation at The Johnson Conference), *supra*.

¹²⁸ Both the fires and the diesel fuel-burning equipment brought to the site would have generated PAHs.

¹²⁹ Testimony of Paul Bartlett, M.A., A.B.D., Research Associate, Center for Biology of Natural Systems, Queens College, to the EPA National Ombudsman, First Investigative Hearing on WTC Hazardous Waste Contamination, hosted by U.S. Representative Jerrold Nadler, Transcript (Feb. 21, 2002)(hereafter, *EPA Ombudsman Hearing Transcript Feb. 21, 2002*, pp. 640-41.

¹³⁰ *Id.*, p. 642. He testified that he only became aware of EPA's limited sampling method for dioxins and other toxic organic chemicals after evaluating documents obtained through a Freedom of Information request filed by the New York Environmental Law & Justice Project.

¹³¹ *Id.*, p. 643.

Interestingly, in 2004, researchers funded by the National Institute for Environmental Health Sciences re-analyzed “archived” fine particulates from air samples gathered by EPA from September 2001 through March 2002 for nine types of PAHs – and found PAHs to be present. They determined that PAH levels “were consistently greater at Ground Zero” than a site seven blocks away, especially during the first two months after the attack. In particular, PAHs levels at Ground Zero measured 10 to 214 times higher during the first three days after the attack than levels at the site seven blocks away after 200 days had passed. The researchers estimated that PAH air concentrations within the first three days after the attack were among the highest ever reported in the outdoor environment.¹³²

When this study was released, the media reported that the researchers concluded that because the high PAH levels were “transient,” the increased cancer risk from PAH exposure should be low. A closer review of the study, however, indicates that this assurance may not be accurate.

- The researchers’ health risk estimate was based on averaging the short-term intensive WTC exposure over a 70 year period, and comparing that to 70 years of exposure to expected background levels of PAHs. This is not necessarily an accurate risk comparison for a short-term intensive exposure incident.
- The researchers’ estimates of exposure were based on PAH content in dust from particulate air filters that captured dust particles smaller than 2.5 microns in diameter. They did not evaluate the impact of workers having ingested the dust, nor did they consider that particles larger than 2.5 microns, as explained in the Background section of this report and Appendix A, sometimes were inhaled.
- The researchers themselves observed that Ground Zero area workers may have been exposed to much higher levels than their samples revealed, and residents may have experienced prolonged indoor exposure because indoor air is less diluted and PAH dust could be re-suspended through heating and ventilation systems and human activities.
- They further acknowledge that their conclusion was based only on PAH exposures in isolation from other WTC contaminants. They did not evaluate the multiple insults to the human body from the large volume of pollutants generated by the attack.

Finally, the researchers note that the high initial levels of PAHs may have been a factor in the impact on newborns of women who were exposed to the WTC pollution discussed in this Report.¹³³

¹³² Joachim Pleil, *et al.*, “Air Levels of Carcinogenic Polycyclic Aromatic Hydrocarbons After the World Trade Center Disaster,” *Proceedings of Nat’l Acad. of Sci.* 101:11685-88, 11686-87 (Aug. 10, 2004). The site seven blocks away was the EPA building at 290 Broadway. Workers at 290 Broadway continued to suffer health effects, apparently from Ground Zero pollution, three months after the attack. See Part One, subdivision E of this Report.

¹³³ *Id.*, p. 11688.

Unfortunately, EPA failed to “find” the PAH contamination that many other researchers found, and therefore failed to identify this risk to public health.

2. Private firms found more asbestos in WTC dust than EPA did because EPA used an older technology even though it had advised schools – seven years before the September 11 attack – to use the newer method

EPA conducted asbestos analysis in New York City as though it were unaware of its own recent work in a well-publicized and controversial asbestos contamination episode. Just four days before the WTC disaster, EPA Administrator Whitman was assuring residents and workers in Libby, Montana – a community of people made ill by asbestos exposures that federal and local agencies had ignored for years – that EPA had learned from the Libby tragedy and would apply that knowledge to future contamination episodes. She told them:

Before I conclude and take your questions, I also want you to know what effect your experiences here are having on our work at the EPA. Because of what we’ve found in Libby, we are reviewing all of the scientific information about health risks posed by asbestos. We want to know if there are other problem areas out there. And if there are, we will take the appropriate steps to address them. I know it’s small comfort, but your experience and your pain may help others facing similar situations.¹³⁴

Unfortunately, nothing could have been further from the truth. EPA ignored its own regulations advocating use of more modern asbestos testing equipment, rejected both help and equipment from its highly experienced asbestos disaster staff from Libby, and failed to reverse course even when private asbestos test results showed that EPA’s methods were failing to detect asbestos accurately.

It became clear very soon after the attacks that EPA was using an inadequate method to test for asbestos in dust. Most of the asbestos found in the WTC dust was chrysotile asbestos, which typically has many thin (less than 0.25 micrometers) fibers that cannot be detected using the older testing method called Polarized Light Microscopy (“PLM”). Also, the force of the towers’ destruction pulverized the asbestos-based insulation, releasing asbestos fibers that were mostly less than five micrometers in length which, again, generally cannot be identified by the PLM method.¹³⁵ Indeed, analysis of eleven samples collected inside buildings near Ground Zero revealed that 95 percent of the asbestos fibers were below the width that could be detected by the PLM method.¹³⁶ Newer electron microscope methods, known as Transmission Electron Microscopy (“TEM”) and

¹³⁴ Remarks of Governor Christine Todd Whitman, Administrator of the U.S.E.P.A., at a Town Hall Meeting, Libby, Montana, September 7, 2001 (<<http://yosemite.epa.gov/administrator/speeches.nsf>>).

¹³⁵ Bruce Lippy (2002), p. 541.

¹³⁶ R.H. Ranger, *et al.*, “Preliminary Health Hazard Assessment: World Trade Center,” *supra*; Bruce Libby (2002), p. 541.

Scanning Electron Microscopy (“SEM”) are far superior in their ability to identify such thin asbestos fibers and distinguish them from other fibrous material.¹³⁷ Thus, while EPA testing using the PLM method revealed that more than 25 percent of settled dust samples analyzed by September 18, 2001 (the date on which EPA issued a broad assurance of environmental safety) contained asbestos,¹³⁸ the agency apparently was “missing” a substantial amount of asbestos by using this outdated equipment.

As noted above, the New York Environmental Law & Justice Project took outdoor WTC dust samples from six to seven sites in lower Manhattan just a few days after the attack. The laboratory results based on the TEM method generally showed higher levels of asbestos than EPA had been reporting. One sample showed five percent asbestos – much higher than most of EPA’s readings. *New York Daily News* columnist Juan Gonzalez publicized the findings on September 28, 2001.¹³⁹

Then, in an October 5, 2001 article, *Newsweek* reported that an independent Virginia-based company, H.P. Environmental, had found significant levels of asbestos in two commercial buildings within several blocks of Ground Zero, including inside closed offices as high up as 36 stories. The article disclosed that EPA was testing only for asbestos fibers greater than a half micron in size, but the pulverizing force of the WTC collapse produced a large concentration of “ultra-small” particles that EPA’s testing equipment was not detecting.¹⁴⁰ In a more detailed follow-up story published on October 9, 2001, *New York Daily News* columnist Juan Gonzalez reported that the firm had found that seven of the eleven samples that they took had asbestos contamination greater than the detection level used to evaluate asbestos contamination in schools. Three of the samples had levels four to five times the school asbestos detection level.¹⁴¹ One of the firm’s scientists explained that “a lot of dust and other particulates in our samples were obscuring the tiny asbestos fibers in the background,” which were only revealed using a more modern testing method. (The firm arranged to post its findings on the American Industrial Hygiene Association’s web site in early October, but within five hours of the posting, their report had been removed from the site without explanation.)¹⁴²

TEM tests described in an October 12, 2001 report released by the Ground Zero Elected Officials Task Force, as noted above, found indoor asbestos dust at a level 47 times the typical

¹³⁷ Bruce Lippy, Jeffrey Boggs, and Christopher Lambesis, “Controversy: The Small Fiber,” *Asbestos Issues* (March 1989).

¹³⁸ *IG Report*, p. 14.

¹³⁹ Juan Gonzalez, “Health Hazards in Air Worry Trade Center Workers,” *Daily News* (Sept. 28, 2001); Juan Gonzalez, *Fallout*, p. 6. The highest reading was taken at the corner of Church and Vesey Streets, at the northeast corner of the WTC site. Personal interview of Joel Kupferman, Esq., April 19, 2004.

¹⁴⁰ David France, “Is Ground Zero Safe? – New Study Suggests More Asbestos at Disaster Site than Previously Revealed,” *Newsweek Web Exclusive* (Oct. 5, 2001); Andrew Schneider, “NY Officials Underestimate Danger,” *St. Louis Post-Dispatch* (Jan. 13, 2002). See R.H. Granger, *et al.* (2001).

¹⁴¹ R.H. Granger, *et al.* (2001), Table 6, p. 13.

¹⁴² Juan Gonzalez, *Fallout*, pp. 112-13. At one point, the firm was told that website “gremlins” had removed it. Later, they were told that it needed to undergo more review.

urban indoor level (which is 10,000 structures per square centimeter for settled dust) in a less heavily exposed apartment, and at *64 times* the typical urban level in a more heavily exposed apartment.¹⁴³ Senior EPA Environmental Scientist Dr. Cate Jenkins, speaking independently and not on behalf of the agency, stated, “For every asbestos fiber EPA detected, the new methods used by the outside experts found nine. This is too important a difference to be ignored if you really care about the health of people.”¹⁴⁴ Similarly, private dust tests in an apartment seven blocks north of Ground Zero at 105 Duane Street (Tribeca Towers), found high levels of asbestos even though the building was constructed in the late 1980s and early 1990s and does not contain asbestos materials. All three samples, taken 10 months after the attack, revealed asbestos, at levels of 9,250 structures, 37,000 structures and 123,000 asbestos structures per square centimeter. The high reading, taken from the entry door frame, was about 100 times the recommended limit for such a new building – which is 1,000 structures per square centimeter for settled dust. The lowest reading was from a hallway air supply grill that reportedly had been cleaned six months earlier.¹⁴⁵

Seven years earlier, EPA had advised schools against using PLM to test for asbestos. Calling it the “1982 method,” EPA instead urged that they use instead TEM, which it described as a newer, “improved asbestos bulk sample analysis test method.” EPA had explained to schools that the new method would identify “thin asbestos fibers below the limits of resolution of the polarized light microscope.”¹⁴⁶ The Clean Air Act, similarly, requires the use of TEM to determine whether wastes are free of asbestos, and OSHA recommends TEM or SEM for settled dust,¹⁴⁷ although it requires only the PLM method for air sampling under its “permissible exposure limit” for a healthy worker on an 8-hour work shift, 40 hours per week.¹⁴⁸ The TEM method identifies smaller fibers,

¹⁴³ Chatfield and Kominsky, p. 32, Table 18, and p. 34, Table 20. *See also*, Abrahm Lustgarten, “The Toxic Fallout of 9/11,” *Salon.com* (Aug. 15, 2003). The typical urban level of asbestos in indoor dust is approximately 10,000 structures per square centimeter. Telephone interview of David Newman, M.A., M.S., Industrial Hygienist, NYCOSH, March 15, 2004.

¹⁴⁴ Andrew Schneider, “NYC Under an Asbestos Cloud,” *St. Louis Post-Dispatch* (Jan. 14, 2002); *see also* Cate Jenkins, Ph.D., “Memorandum re Status of Air and Dust Asbestos Testing After WTC Collapse” (Mar. 11, 2002)(hereafter, *Jenkins Memorandum 2002*), pp. 31-35; U.S. Congressman Jerrold Nadler, *White Paper: Lower Manhattan Air Quality* (Apr. 12, 2002)(hereafter, *Nadler White Paper*), p. 6.

¹⁴⁵ The generally expected urban background level for asbestos in settled dust is 10,000 structures per square centimeter for older buildings and 1,000 structures per square centimeter for new, non-asbestos containing buildings. The tests were conducted on July 28, 2002. The high reading was taken from the entry door frame; the lowest reading was taken on a hallway air supply grill which reportedly had been cleaned about six months before. Edward Olmsted, C.I.H., C.S.P., “Indoor Air Quality Survey, 105 Duane Street Apartment 5A, New York, NY” (July 28, 2002); personal interview of Nina Lavin, resident of Tribeca Towers, 105 Duane Street, May 10, 2004. *See also*, Maggie Farley, “The Toxic Aftertaste of Terror,” *Los Angeles Times* (Sept. 9, 2002). Air testing did not reveal the hazard. The federal Public Health Service and the building owner had conducted air tests – including in Nina Lavin’s apartment – and had found no exceedence of the federal detection limit used for assessing asbestos in schools. Letter to Building Owner and Residents from Jessica Leighton, Ph.D., Assistant Commissioner, NYC DHMH (Jan. 23, 2002); Letter to Nina Lavin, resident, from Nancy Loder Jeffery, NYC DHMH Environmental and Occupational Disease Epidemiology Unit (Sept. 2002).

¹⁴⁶ 59 *Fed. Reg.* 38970 (Aug. 1, 1994), pursuant to analysis of air samples for asbestos under the Asbestos Hazard Emergency Response Act (Title II of the Toxic Substance Control Act 15 U.S.C. §§ 2641-2654); 40 CFR § 763 (EPA Asbestos Hazard Emergency Response Act regulations requiring analysis by TEM).

¹⁴⁷ 40 CFR § 61.155 (NESHAP) and 59 *Fed. Reg.* 542; (OSHA) 29 CFR § 1926.110a (App. A).

¹⁴⁸ 29 CFR § 1926.1101 (OSHA) (analysis by PLM, not TEM, and fibers shorter than 5 micrometers are not counted).

but it also more carefully distinguishes other fibers from asbestos so that it avoids overestimating the presence of asbestos. Consequently, the TEM method will give higher readings of asbestos if most of the fibers are actually asbestos and a significant fraction of the fibers are smaller than 0.5 micrometers.¹⁴⁹

Other federal agencies used the TEM method to test the WTC dust. The federal ATSDR used the TEM method to further test the settled dust in its joint study with the City of residential contamination whenever the PLM method did not detect asbestos above one percent -- which was all the time. Of a total of 97 samples, taken outdoors and indoors, PLM testing found no asbestos at all, but TEM testing found asbestos in 22 percent of the samples.¹⁵⁰ Indeed, even the federal General Services Administration used the more sensitive TEM method in EPA's own office building at 290 Broadway. It found asbestos levels that indicated a need for abatement. A Freedom of Information Act request by the New York Environmental Law & Justice Project revealed that the General Services Administration's TEM tests of five dust samples collected on September 14, 2001 -- two collected outside the building entrance and three inside the lobby -- found chrysotile asbestos, as did one of the air samples taken in the building lobby that day.¹⁵¹

Interestingly, EPA did not wait for the General Services Administration's TEM test results to take action. EPA cleaned its lobby using high efficiency particulate air filter ("HEPA") vacuum trucks.¹⁵² EPA has since stated that it removed the dust before it received those test results, simply because the dust was visible and because other PLM tests of WTC dust had "more than adequately indicated the widespread presence of asbestos in the dust." It further asserted that it "took a blanket approach and removed all dust and debris regardless of whether sampling results indicated that the material contained asbestos."¹⁵³

EPA's conduct at its 290 Broadway building was completely inconsistent with its behavior regarding indoor testing in homes. EPA did not "require" that the asbestos be airborne at all, let alone that it exceed the AHERA detection limit for airborne asbestos, before conducting the cleanup. In other words, the fact that asbestos might present in a loose form was enough to justify cleaning its own building. Robert Gulack, a union steward at a government office in the Woolworth Building, states:

¹⁴⁹ Bruce Lippy, *et al.* (1989). *Jenkins Memorandum Dec. 19, 2001*, pp. 10 and 15-16.

¹⁵⁰ *ATSDR and City Health Department Residential Dust Study 2002*, pp. 3 and 57.

¹⁵¹ See Stratus Corporation, "Asbestos Emergency Monitoring Report at 290 Broadway after the World Trade Center Disaster, Final Report" (Oct. 5, 2001) (< <http://www.nyenvirolaw.org/PDF/EPA-FOIL-scannedOn-2-27-02.pdf> >), Table 1. EPA did not release this information to the public until after a January 3, 2002 Freedom of Information Act request by the New York Environmental Law & Justice Project.

¹⁵² Stratus Corporation, *supra*; *Jenkins Memorandum 2002*, pp. 36 and 39-40.

¹⁵³ See "Responses to Questions posed by the *St. Louis Post Dispatch* (Mar. 1, 2002)(undated, no author identified); see also EPA Region 2, "response to March 4, 2002 Questions from U.S. Senate Environment and Public Works Committee, Subcommittee on Clean Air, Wetlands and Climate Change," (hereafter, *EPA Region 2 Response to Questions from Senate Environment and Public Works Committee*) p. 7 (both documents provided in response to Sierra Club Freedom of Information request).

All we are asking is that the EPA immediately test the offices, HVAC systems, residences, schools, and firehouses of New York in the same thorough and responsible manner that the EPA tested their own offices.¹⁵⁴

EPA used a higher standard of care in its own office building than it did in other buildings, including residential homes, and even homes that housed young children.

Similarly, EPA found high levels of asbestos contamination when it conducted TEM tests of dust in a nearby building. On April 16, 2002, the New York Environmental Law & Justice Project received the results of asbestos tests of WTC dust at 150 Franklin Street, a building that contained a day care center, from an EPA-certified laboratory. Samples from the roof and from the third floor ledge of the open-grate elevator's shaft found levels of asbestos above the 1 percent definition threshold for asbestos-containing material, one of the samples being nearly double the threshold. Attorney Joel Kupferman, director of the organization, managed to convince the City Department of Environmental Protection and the federal Environmental Protection Agency the very next day to take "split samples," thus testing the same material using different methods. The Department of Environmental Protection's less sensitive PLM testing found no asbestos whatsoever. EPA's tests, using the TEM method, revealed that the dust samples were from two to five percent asbestos-laden, up to five times the threshold definition for asbestos-containing material.¹⁵⁵ (Just two weeks later, the launching of the FEMA-funded EPA indoor cleanup program for residential spaces was announced.)

EPA had used the TEM method when it sampled dust in homes in Libby, Montana, during the year before the September 11 attack. Its May 2000 factsheet for Libby residents explained the advantages of TEM testing, explaining that the PLM microscope "is not as powerful as a TEM, so the technician can only estimate the amount of asbestos in the sample, but can not count actual fibers or measure their size." EPA noted that while its soil and insulation samples had been analyzed by PLM, it promised that in the future it would use "more sensitive tools" for those samples.¹⁵⁶

Oddly, EPA Region 2 apparently refused an offer from EPA Region 8 – which had responded to the Libby, Montana asbestos emergency – to supply it with more sensitive testing equipment. That branch of EPA had contracted for scanning electron microscopy (SEM) – which is similar to TEM in detecting the thin fibers of chrysotile asbestos – in order to test soils at the

¹⁵⁴ Testimony of Robert Gulack, Union Steward, National Treasury Employees Union (NTEU), Chap. 293, to the EPA WTC Expert Technical Review Panel (Apr. 12, 2004).

¹⁵⁵ EMSL Analytical, Inc., "Analysis of Non-friable Organically Bound Materials by Transmission Electron Microscopy via NYS ELAP Method 198.4," to Joel Kupferman, New York Environmental Law & Justice Project, Analysis Date April 16, 2002; NYC Department of Environmental Protection, Asbestos Control Program Laboratory, "Asbestos Analytical Report," Data Analyzed April 17, 2002; EMSL Analytical, Inc., "Asbestos Analysis of Non-friable Organically Bound Materials by Transmission Electron Microscopy via NYS ELAP Method 198.4," to U.S.E.P.A., Analysis Date April 18, 2002.

¹⁵⁶ U.S.E.P.A., "EPA Fact Sheet: Asbestos Sampling in Libby, MT, Fact Sheet Number 3" (May 2000).

asbestos Superfund site in Libby, Montana. EPA Environmental Scientist Dr. Cate Jenkins, speaking independently and not on behalf of the agency, reports that in a September 12 conference call, EPA Region 8 offered Region 1 the use of 30 to 40 SEMs and analytical staff. She reports that 12 of the SEMs were near the area and could have been in Manhattan the next day, but that EPA Region 2 refused the help. Reporters Andrew Schneider and David McCumber state that the scientists had volunteered to come to New York, and one had actually gone to Manhattan to find places for them to stay, and that the laboratories used to analyze the samples were within a 10 minute drive of the WTC site. They report that a EPA Region 2 administrative official and an administrator of EPA's national emergency response team in Edison, New Jersey, rejected the help.¹⁵⁷

EPA Environmental Scientist Dr. Cate Jenkins, again speaking independently of the agency, has since reported that the New York City Department of Environmental Protection conducted TEM testing of 87 outdoor air samples from September 12 to September 29, 2001, and found that 18 percent of them exceeded the AHERA detection limit (and possibly more, since many samples were so overloaded with dust that the laboratory could not make a reading). Some of the samples were taken seven to eight blocks from Ground Zero. Jenkins urges that EPA would have had knowledge of this data because of the interagency cooperation at the time, and expresses concern that EPA's October 3, 2001 press release claims that only six percent of air samples in the immediate vicinity of Ground Zero exceeded the AHERA limit. She has requested an investigation of this by the EPA Inspector General.¹⁵⁸

The question of the relative risk of the smaller asbestos fibers identified by the TEM method is subject to some debate. Some researchers have claimed that the "Stanton hypothesis" holds firmly that short asbestos fibers (less than five microns) are not hazardous. This is not correct. EPA has argued that in general, shorter fibers are more efficiently cleared from the lung and therefore are less dangerous, but it does not state that they are safe to breathe.¹⁵⁹ Dr. Richard Lemen, retired Assistant Surgeon General for the United States Public Health Service and retired Acting Director of the National Institute for Occupational Safety and Health (NIOSH), asserts in a recently published article that any assumption that short fibers are not hazardous "cannot be justified based on the available science." He points out, "It must be kept in mind that Dr. Stanton has never said long fibers are bad and short fibers are good. In fact he appreciated that a large

¹⁵⁷ Andrew Schneider and David McCumber, *An Air that Kills: How the Asbestos Poisoning of Libby, Montana, Uncovered a National Scandal* (New York: G.P. Putnam's Sons, 2004), pp. 334-36.

¹⁵⁸ Memorandum from Cate Jenkins, Ph.D., EPA Hazardous Waste Identification Division, to EPA Inspector General WTC Team, *et al.*, re "NYC data concealed by EPA and NYC after 9/11, subsequently altered/selectively deleted by NYC" (July 15, 2004, pp. 3-4. The memorandum includes a table showing deletions and alterations from the original November 13, 2001 version of the City data released in response to a Freedom of Information request from the New York Environmental Law & Justice Project and a version that Jenkins observes was placed on the City agency's website "sometime in early 2002." The City agency responded that the agency had found two examples of inaccuracies in the data reported online that were consistent with the memorandum's accusations, although it argued that there was no attempt to conceal information. Sam Smith, "Furor over WTC Lies," *New York Post* (July 18, 2004).

¹⁵⁹ See U.S.E.P.A., Region 9, *Final Methodology for Conducting Risk Assessments at Asbestos Superfund Sites Part 2: Technical Background Document, Interim Version* (1999), cited in *ATSDR and City Health Department Residential Dust Study 2002*, p. 39.

number of short fibers . . . might be more hazardous than fewer long fibers.”¹⁶⁰ A recent study of asbestos fibers in lung and mesothelial tissues in 168 cases of mesothelioma concluded that short, thin asbestos fibers should be included in the list of fiber types contributing to human malignant mesothelioma.¹⁶¹

Also, assumptions about the body’s ability to cough out or otherwise protect itself against short-fiber asbestos should be questioned in cases of heavy exposure, as occurred at Ground Zero. Dr. Ronald Dodson, Professor of Cell Biology and Environmental Sciences at the University of Texas Health Center at Tyler, Texas, explains:

[I]n the real world of human exposure there are generally multiple exposures which compound and reinforce the reactions associated with inhaled fibers [Citations omitted]. Consideration of the relationship between fiber length and the risk for the development of disease frequently includes allowance for the fact that short fibers are cleared more readily from the lungs. However, this is an extrapolation that is of less importance when there are constant infusions of short fibers and a resultant eventual dust overload, which can greatly compromise clearance [Castranova *et al.*, 2000].¹⁶²

A person’s respiratory system, in other words, may become unable to expel short asbestos fibers from the lungs in cases of very heavy exposure. At Ground Zero, many workers were exposed not only to asbestos but also to a multiplicity of fibers and dust particles. As noted in the Background section of this Report, medical doctors found that sometimes even rather large dust particles managed to bypass the body’s respiratory defense system and reach into the lungs of rescue workers.

It is also important to consider the relative risks to children. Certainly no study has shown that a one-year-old or two-year-old child is at no risk from breathing short-fiber asbestos. Indeed, given how lethal asbestos is known to be, any form of inhalable asbestos exposure for children should be considered “guilty until proven innocent.”¹⁶³

¹⁶⁰ Richard A. Lemen, Ph.D., M.S.P.H., “Asbestos in Brakes: Exposure and Risk of Disease,” *Am J Ind Med* 45:229-237, 230 (2004).

¹⁶¹ Y. Suzuki and S. Yuen, “Asbestos Fibers Contributing to the Induction of Human Malignant Mesothelioma,” *Annals of the N.Y. Acad. of Sci.* 982:160-76 (2002).

¹⁶² Ronald Dodson, Mark Atkinson and Jeffrey Levin, “Asbestos Fiber Length as Related to Potential Pathogenicity: A Critical Review,” *Am. J. Ind. Med.* 44:291-297, 294 (2003).

¹⁶³ Further information on asbestos fiber length is included in Appendix A of this Report.

3. EPA failed to detect the presence of tiny, hazardous airborne particles because it used outdated equipment

What EPA did was like using a colander with giant holes, and then saying, ‘Look, there’s no spaghetti.’ It was a test to find nothing.”¹⁶⁴

Jimmy Willis, 9/11 rescue worker
Assistant to the President, Transport Workers Union

Fine particulate air pollution has been linked with an increase in deaths from respiratory diseases and diabetes and with hospital admissions for cardiovascular disease, especially in the elderly.¹⁶⁵ The reason for the correlation with cardiovascular disease is not well understood, but one study documented that particulates cause an increase in heart rate and may also be associated with increased blood pressure.¹⁶⁶ Based on evidence that has been developed over the past fifteen years, the American Heart Association issued a “Scientific Statement” on June 1, 2004, warning that, “short-term exposure to elevated [particulate matter] significantly contributes to increased acute cardiovascular mortality, particularly in certain at-risk subsets of the population.”¹⁶⁷

“Very fine” particles (smaller than 2.5 microns in diameter) are considered the most hazardous because they can evade the body’s defense mechanisms. As a result, they tend to go more deeply into the lungs, particularly the alveolar region.¹⁶⁸ The American Heart Association warns that “ultrafine” particles (smaller than 0.1 micrometer in diameter) may even be able to pass directly into the circulatory system. This is of special concern in part because smaller particulates tend to attract, proportionally, the greatest amount of toxic metals under conditions of combustion

¹⁶⁴ Personal interview of Jimmy Willis, 9/11 rescue worker and Assistant to the President, Transport Workers Union, Local 100, AFL-CIO, March 19, 2004.

¹⁶⁵ P. Tolbert, “Interim Results of the Study of Particulates and Health in Atlanta (SOPHIA),” *J. Expo. Anal. Environ. Epidemiol.* 10(5):446-60 (Sept.-Oct. 2000); M. Goldberg, *et al.*, “The Association Between Daily Mortality and Ambient Air Particle Pollution in Montreal, Quebec – Cause-specific Mortality,” *Environ. Res.* 86:26-36 (May 2001); Robert Morris, “Airborne Particulates and Hospital Admissions for Cardiovascular Disease: A Quantitative Review of the Evidence,” *Envtl. Health Persp.* 109 (Supp 4)(Aug. 2001), p. 495. One study found that daily mortality increased linearly with exposure to increased concentration of particles for people who already had acute lower respiratory diseases, chronic coronary artery diseases (especially in the elderly) and congestive heart failure. M. Goldberg, *et al.*, “Identification of Persons with Cardiorespiratory Conditions Who Are at Risk of Dying from the Acute Effects of Ambient Air Particles,” *Envtl. Health Persp.* 109 (Supp 4):487-494 (Aug. 2001).

¹⁶⁶ C. Pope, *et al.*, “Heart Rate Variability Associated with Particulate Air Pollution,” *Am. Heart J.* 138:804-07 (Nov. 1999); M. Goldberg, *supra*.

¹⁶⁷ Robert Brook, M.D., *et al.*, “Air Pollution and Cardiovascular Disease: A Statement for Healthcare Professionals from the Expert Panel on Population and Prevention Science of the American Heart Association” *Circulation* 2655-2671, 2659 and 2666 (June 1, 2004)(www.circulationaha.org) (hereafter, *American Heart Association Scientific Statement*).

¹⁶⁸ Testimony of Dr. Thomas Cahill, Professor of Physics and Nuclear Medicine, University of California at Davis, *EPA Ombudsman Hearing Transcript Feb. 21, 2002*, p. 21; *see also*, *OTA Report*, p. 231.

and cooling because they have a greater surface area-to-mass ratio.¹⁶⁹ Metals that become volatile as a result of high temperature combustion will condense onto ash and dust particles as the gases cool. A study of combustion emissions, for example, showed that particles smaller than 1.3 microns contained 76 percent of the arsenic attached to all of the particles emitted, and 29 percent of the lead.¹⁷⁰

EPA and some government spokespersons provided assuring statements to the public that overall inhalable particulates in lower Manhattan's air following the September 11 attack did not exceed the national ambient air quality standards for a 24-hour period.¹⁷¹ Unfortunately, such statements of assurance were highly misleading for two reasons:

- First, EPA was only measuring particles greater than 2.5 microns in diameter (PM_{2.5}), thus completely missing a large amount of smaller inhalable particles of pollution.
- Second, by using the general ambient air quality standard that is based on a 24-hour average, EPA was ignoring potentially harmful sporadic spikes in toxic exposure.

EPA knew better. The agency has known about the hazards of ultrafine particles for many years. Its 1996 guidance document on particulate matter metals (such as lead, nickel, arsenic and mercury) explained that when metals are vaporized by hot temperatures and then condense onto ambient particles, they tend to form surface coatings at an extremely higher proportion to total mass on the ultrafine particles compared with larger particles.

- EPA's 1996 document expressed concern that the ultrafine particles could more easily penetrate the lungs. It stated, "This result also places the (potentially) toxic metals on the biologically-accessible surface."¹⁷²
- The 1996 document concluded, "At concentrations less than 50 [micrograms per cubic meter], freshly generated insoluble ultrafine particles can be severely toxic to the lung."¹⁷³ Disturbingly, the 24-hour standard for PM_{2.5}, on which EPA was making its statements of assurance to the public, is 65 micrograms per cubic meter, and PM_{2.5} is less hazardous than the ultrafine particles.¹⁷⁴

¹⁶⁹ *American Heart Association Scientific Statement*, p. 2657.

¹⁷⁰ *OTA Report*, p. 230; Thomas Cahill, *et al.* (2004), p. 178 (citing D. Natusch and J. Wallace. *Science* 183:202 [1974] and Natusch *et al.* *Science* 186:695 [1974]).

¹⁷¹ *See, e.g.*, Testimony of Kathleen Callahan, EPA Region II Action Deputy Regional Administrator, to Assembly Committees, Hearing Transcript (Nov. 26, 2001), p. 212; Testimony of Carl Johnson, NYS DEC Deputy Commissioner, to Assembly Committees (Nov. 26, 2001), p. 21.

¹⁷² *EPA Criteria Document for Particulate Matter*, p. 6-188.

¹⁷³ *Id.*, p. 11-192.

¹⁷⁴ *See* 40 CFR § 50.

EPA also knew the ultrafine particles were likely to be present in the WTC pollution. Its 1996 guidance document explained that “high temperature processes” cause the formation of ultrafine particles, and that the presence of chlorine (which is produced by burning plastics and many other building materials) makes it even easier for such toxic ultrafine particles to form.¹⁷⁵

Despite this knowledge about the likely presence of very fine and ultrafine particles – and their health hazards – EPA did not test for this size of particulate matter in the Ground Zero emissions at all. EPA tested *only* for larger particles (2.5 microns or more in diameter), for which a federal outdoor air quality standard exists, with less sensitive equipment,. This is particularly irresponsible given that EPA has known for years that more sensitive technology is available; such technology was discussed in EPA’s 1996 guideline on particulate pollution and had been further developed since that time.¹⁷⁶

As noted above, Dr. Thomas Cahill of the University of California at Davis conducted air tests for very fine particulates from October 2 through late December 2001 at a site about one mile north-northeast of Ground Zero. He reported the detection of “high levels of very fine aerosols,” between 0.09 and .26 micrometers in diameter, and observed, “This results in an extraordinarily large number of particles that have the ability to penetrate deep into the lung.”¹⁷⁷ Dr. Cahill described the amount of pulverized “very fine” particulate matter in the early air samples from that location as “unprecedented.”¹⁷⁸ Dr. Cahill reported that while most metals were at low concentrations, some metals – arsenic, beryllium, copper, mercury, nickel, selenium, and vanadium – occurred at “unprecedented levels in the very fine size range.”¹⁷⁹ At the EPA Ombudsman hearing conducted on February 21, 2002, Dr. Cahill explained that he tested for the very fine particles because:

We were very worried, starting about the 15th of September, there may be very fine particles present because there were very heavy rainfalls on September 14th laying the course dust around the site, and the very next day, we saw this plume. That’s when I started to be worried that this is a high temperature source with potential of making very fine particles.¹⁸⁰

¹⁷⁵ *EPA Criteria Document for Particulate Matter*, p. 6-187 to 6-188..

¹⁷⁶ See discussion of existence of direct measurements of ultrafine metal particles in the 1996 *EPA Criteria Document for Particulate Matter*, p. 6-187 and 6-191 to 6-192.

¹⁷⁷ Thomas Cahill, *et al.* (2004), p. 170. Dr. Cahill used a rotating monitoring unit that collected samples in eight size ranges, from ten micrometers down to .09 micrometers in diameter. His samples were taken on the roof of a 12-story building at 201 Varick Street in the West Village.

¹⁷⁸ “Officials Track Environmental Fallout of WTC Collapse,” *JOM* 53(12):4-7 (2001). The U.S. Department of Energy requested the assistance of Dr. Cahill’s team from the University of California at Davis, known as the DELTA (Detection and Evaluation of Long-range Transport of Aerosols) Group.

¹⁷⁹ Thomas Cahill, *et al.* (2004), p. 182.

¹⁸⁰ Testimony of Dr. Thomas Cahill, *EPA Ombudsman Hearing Transcript Feb. 21, 2002*, p. 24.

The knowledgeable staff at EPA certainly should have recognized the evidence of a high temperature problem that would generate very fine particles.

Dr. Cahill reported that he provided the results of his data on very fine particles to EPA on February 10, 2002, but that he had told the agency in mid-January 2001 what he was measuring.¹⁸¹ Because the fine particles are so easily inhalable, the fact that Dr. Cahill found unusually high levels of toxic metals attached to these particles has important implications for health effects. Dr. Cahill observes:

In such situations, it may not be appropriate to base the estimated impact on health derived from the results of epidemiological studies based on 24 hour averages. A model based on acute industrial exposures may be more appropriate if extended to susceptible populations, *i.e.*, young, old, and sick people. A person could, in a few hours, be subject to materials in amounts and composition that they would not have had to endure in years of typical ambient conditions.¹⁸²

In other words, even if average concentrations of a toxic metal in the air do not exceed a standard or guideline, a particular individual's short-term exposure could be significant. For example, while EPA stated that only one exceedence of the daily average PM_{2.5} health guideline occurred during the two months after the attack,¹⁸³ that exceedence was six times the health standard.¹⁸⁴ Also, readily available research indicates that smaller particles present a risk to the heart and the cardiovascular system.¹⁸⁵ Thus, while EPA scientists expressed optimism that "most healthy people would not be expected to respond to moderately high WTC PM-2.5 levels . . . with any adverse respiratory responses,"¹⁸⁶ they were in no position to claim that the exposure was safe.

¹⁸¹ *Id.*, p. 52. Dr. Cahill's findings were first made known to the public in February 2002. University of California at Davis, Press Release, "Trade Center Air Held Unprecedented Amounts of Very Fine Particles, Silicon, Sulfates, Metals, Say UC Davis Scientists" (Feb. 11, 2002). See E. Lau and C. Bowman, "N.Y. Air Hazards Found: EPA Assurances Contradicted by UCD Scientists," *The Sacramento Bee* (Feb. 12, 2002); Gary Polakovic, "Danger Found in Trade Center Air," *Los Angeles Times* (Feb. 12, 2002). He described his findings at the February 2002 EPA National Ombudsman Hearing – a hearing at which federal agency officials refused to appear. See Testimony of Dr. Thomas Cahill, *EPA Ombudsman Hearing Transcript Feb. 21, 2002*, pp. 15-72. Diane Cardwell, "Hearing Brings More Debate over Ground Zero Air Quality," *New York Times* (Feb. 24, 2002); statements of EPA National Ombudsman Robert Martin and Chief Inspector Hugh Kaufman, *EPA Ombudsman Hearing Transcript Feb. 21, 2002*, pp. 12 and 13-14, that EPA had participated in every prior Ombudsman hearing throughout the country.

¹⁸² Testimony of Dr. Thomas Cahill, *EPA Ombudsman Hearing Transcript Feb. 21, 2002*, p. 24.

¹⁸³ *Id.*

¹⁸⁴ Thomas Cahill, *et al.* (2004), p. 176, citing U.S.E.P.A., *Response to September 11* (2002). It occurred on October 3, three weeks after the attack, and at a level of 400 micrograms per cubic meter.

¹⁸⁵ *EPA Report on Toxicological Effects of WTC Fine Particulates 2002*.

¹⁸⁶ *Id.*, p. 46.

4. EPA did not conduct scientific sampling to determine the extent of indoor contamination from WTC pollution

As explained above, EPA did not test the air or the settled WTC dust in most of the apartments that entered its indoor residential cleanup program before it undertook the cleanup. As a result, it failed to determine the real extent of indoor contamination. As explained in Part Three of this Report, EPA also failed to base its cleanup program on a scientific sampling of geographic areas over which the WTC plume traveled. As a result, it failed to determine which indoor spaces were contaminated. This “failure to look” runs directly counter to the policies of the National Contingency Plan for cleanup of hazardous releases, which instructs the agency to “characterize the nature of and threat posed by the hazardous substances and hazardous materials” and gather data to assess “actual and potential exposure pathways through environmental media” and “exposure routes, for example, inhalation and ingestion.”¹⁸⁷ EPA knew that toxic contamination had entered homes. It did not know exactly how much toxic contamination or how many homes, but it refused to look.

In Libby, Montana, a town that became contaminated with asbestos, EPA undertook an indoor testing and cleanup program that was very different from the approach that it took in lower Manhattan. EPA did not limit its indoor sampling to air tests. It also sampled dust using a “microvac” to vacuum dust from three different places on a carpet and three different places from windowsills.¹⁸⁸ In lower Manhattan apartments, however, EPA in most instances only sampled the air for asbestos, and it completely ignored carpets and other potential “reservoirs” for settled dust.¹⁸⁹

E. The Federal Administration Failed at Least a Dozen Times to Correct Its Improper Assurances of Safety Even After More Information on Health Risks Became Known

I’m not angry that I was exposed. We went because that’s what the citizens expect of us. But when we stand with the government in their darkest hour, they should be honest with

¹⁸⁷ National Contingency Plan, 40 CFR § 300.430(d)(2). As noted in Part Three of this Report and Appendix C, EPA has insisted, for reasons that still remain unclear, that it reasonably determined that the substantive sections of the National Contingency Plan do not apply to the WTC pollution.

¹⁸⁸ U.S.E.P.A., “EPA Fact Sheet: Asbestos Sampling in Libby, MT, Fact Sheet Number 3” (May 2000).

¹⁸⁹ EPA also used the “microvac” method to sample dust at its own building at 290 Broadway. Yet, when a resident obtained microvac samples that showed elevated levels of asbestos, the City health department responded that, “there are no standards or established guidelines by which to compare these results” and that it is “difficult to estimate the amount of fibers that could potentially be found in air” from dust sampling results and the method to collect and analyze the samples “can highly overestimate the presence of asbestos fibers.” City Department of Health and Mental Hygiene (DHMH), “105 Duane Street Fact Sheet,” attached to letter from Jessica Leighton, Ph.D., Assistant Commissioner, City DHMH, to Building Owner and Residents (105 Duane Street)(Jan. 23, 2002).

us. What I'm angry about is the deafening silence, the wilful attempt to cover up.¹⁹⁰

Patrick Bahnken, President
Uniformed EMT's & Paramedics-FDNY

In the face of the new information that began to arise from independent sources soon after the terrorist attack, people looked to the federal government for answers. For example, when an independent test reported finding asbestos levels indoors that were nine times higher than EPA's findings, New York City Mayor Bloomberg stated, "Whether nine times is significant, I don't know, so we will have to see. But we will follow the EPA closely."¹⁹¹ EPA, however, not only failed to change its broad assurances to the general public about the health risks of WTC pollution but insisted even more strongly that its assurances were correct. The day after the September 2001 issue of the *New York Daily News*, which revealed that independent tests of WTC dust samples showed harmful levels of asbestos and fiberglass, the newspaper reported the continued assurances offered by public officials.

"As we have been saying, there was not a significant risk, even in the early days," said EPA Spokeswoman Mary Helen Cervantes, though she said rescue workers should continue to wear protective gear.¹⁹²

In fact, EPA stated explicitly that it was not changing its message. EPA Administrator Whitman complained in an opinion editorial that a *Daily News* article focused too much on certain high readings of pollution given that most samples did not exceed federal standards or guidelines. She objected that:

Absent that context, the public could understandably conclude that the situation at Ground Zero presents a major environmental health hazard to area residents and employees. That would be inaccurate, as your Saturday article, "City, feds say WTC air's OK" made clear.¹⁹³

In an unpublicized attempt to persuade the *Daily News* publisher and editor that hazards were minimal, EPA Administrator Whitman even went so far as to imply that elevated air emission levels of cancer-causing benzene on the pile were not a significant risk to rescue/recovery workers because "EPA has more consistently found low levels of contaminants in the 'breathing zone' -

¹⁹⁰ Personal interview of Patrick Bahnken, President, Uniformed EMT's & Paramedics-FDNY, Local 2507, DC 37, AFSCME, AFL-CIO, Apr. 1, 2004.

¹⁹¹ "Day Laborers to Be Tested for Exposure to WTC Toxins," *WABC Eyewitness News* (Jan. 14, 2002) (http://abclocal.go.com/wabc/news/WABC_011402_wtc.html).

¹⁹² "Asbestos in Ground Zero Air Generally Safe, EPA Shows," *New York Daily News* (Sept. 29, 2001).

¹⁹³ Christie Whitman (U.S.E.P.A. Administrator), Opinion Editorial, "EPA's on Top of Ground Zero Case," *New York Daily News* (Oct. 31, 2001).

five to seven feet above the debris pile.”¹⁹⁴ It was an absurd statement. The rescue and recovery workers were not working at an assembly line table. They were digging, and reaching in and pulling out debris and human remains. Clearly, their daily breathing zone was not limited to five to seven feet above the debris pile.

Local EPA officials carried on the task of denial of risks. EPA Region 2 Acting Deputy Regional Administrator Kathleen Callahan told the New York City Council in November 2001 that the vast majority of EPA tests found that contaminants “pose no significant long-term health risks to residents, business employees and visitors beyond ground zero.” She added, “And despite recent press accounts which suggest otherwise, these findings have not changed.”¹⁹⁵ This left the public in confusion.

The federal government also possessed its own information on WTC pollution hazards that it did not share with the public. The USGS had reported internally to key federal agencies on the caustic nature of the dust by September 27, 2001. A USGS geochemist stated:

We shared our findings with EPA, FEMA, the federal emergency response coordinator and everyone else we felt was appropriate. We anticipated that the results would have been shared with the people on the ground, those at risk, but it looks like the information never got to those who needed it.¹⁹⁶

In fact, as explained in the Background section of this Report, the federal administration did not disclose this information to the general public even though it certainly had received it and leading federal agencies had been coordinating data review since September 15, 2001.¹⁹⁷ The fact was not made public until February 2002 – by a reporter. Before this, apparently, there was only a vague reference to alkalinity which may have been voiced in an EPA talk to parents at the Stuyvesant High School in lower Manhattan (preparatory “talking points” for the EPA speaker included the

¹⁹⁴ Memorandum from Christie Whitman, U.S.E.P.A. Administrator to Mortimer B. Zuckerman, Chairman & Co-Publisher, *Daily News* and Edward Kosner, Editor in Chief, *Daily News*, re October 26, 2001 Front Page News Story (undated)(provided in response to Sierra Club Freedom of Information request), p. 2. EPA Region 2's Regional Counsel repeated this assertion in an article written in “private capacity.” See Walter Mugdan, Regional Counsel, EPA Region 2, “Environmental Law Issues Raised by Terrorist Events in 2001” (Jan. 24, 2002 meeting of New York Bar Ass’n Environmental Law Section), in *Albany Law Env'tl. Outlook* 7:67-93 (2002), p. 83, n. 43.

¹⁹⁵ Statement of Kathleen Callahan, EPA Region 2 Acting Deputy Regional Administrator to NYC Council Committee on Environmental Protection (Nov. 1, 2001) (www.epa.gov/region02/news/speeches/011101k.htm).

¹⁹⁶ Andrew Schneider, “Caustic Dust Blankets World Trade Center,” *supra*; Andrew Schneider, “Public Was Never Told that Dust from Ruins Is Dangerously Caustic,” *supra*. See also, “Scientists Knew WTC Air Posed Health Risk,” *New York Newsday* (Feb. 12, 2002).

¹⁹⁷ EPA, the U.S. Department of Health and Human Services (including ATSDR) and the U.S. Department of Labor (including OSHA) formed the WTC Environmental Assessment Working Group on September 15, 2001. *ATSDR and City Health Department Residential Dust Study 2002*, p. 44.

sentence, “There is dust and smoke in the air that can be extremely irritating, because it is very alkaline.”)¹⁹⁸

Remarkably, even as more and more stories began to emerge about “World Trade Center Cough” and studies began to confirm those stories, the federal administration still did not change its message. Communications Workers Health and Safety Officer Micki Siegel de Hernandez states:

When it was clear that people were getting sick, if the federal agencies and companies didn’t know why, they should have required protection. They should have said, “We may never have all the answers, but we know that people are sick, so let’s stop the exposures.” But they didn’t do that. And they still have their heads in the sand.¹⁹⁹

The federal silence continued through the next two years. EPA knew by May 2002 that WTC dust caused respiratory ailments in mice. In tests conducted that month, EPA scientists found that test animals developed lung ailments mimicking those reported in people who lived and worked near Ground Zero. The scientists reported that exposure to high levels of dust “could have contributed to development of pulmonary inflammation, airway hyper-responsiveness, and manifestations of sensory irritation such as cough.”²⁰⁰ The White House Office of Science and Technology Policy was informed of this study and of the DELTA group’s measurements of harmful “very fine” airborne particles from Ground Zero at least by December 2002.²⁰¹ And throughout 2002 and 2003, more and more reports emerged about people made ill by exposure to WTC pollution. Still, as late as October 2003, the White House Council on Environmental Quality asserted in a letter to Senators Hillary Rodham Clinton and Joseph Lieberman, “In all instances, we acted with the best available data at the time, and updated our communications and actions as new

¹⁹⁸ EPA Region 2, “Talking Points for Bonnie Bellow at Stuyvesant High School, November 13, 2001,” p. 5 (provided in response to Sierra Club Freedom of Information request).

¹⁹⁹ Personal interview of Micki Siegel de Hernandez, Director, Communication Workers of America District One Health and Safety Program, May 27, 2004.

²⁰⁰ Laurie Garrett, “Danger in the Dust,” *supra*; The study found a direct dose/response relationship between the dust and symptoms. EPA suggested, based on this study, that a “high exposure in people could cause short-term respiratory effects such as inflammation and cough.” U.S.E.P.A. Office of Research and Development, External Review Draft Document, “Exposure and Human Health Evaluation of Airborne Pollution from the WTC Disaster” (EPA/600/P-02/002A, Oct. 2002). EPA and the New York University School of Medicine later concluded from a study of mice that humans exposed to very high doses of WTC dust (426 micrograms per cubic meter) would have more risk of developing airway hyper-responsiveness (“twitchy airways”). They said that while most healthy people probably could tolerate moderately high exposure, people with respiratory conditions might suffer harmful effects, and that the impact of repeated exposure was not known. Stephen H. Gavett, *et al.*, “WTC Fine Particulate Matter Causes Respiratory Tract Hyper-responsiveness in Mice,” *Envtl. Health Persp.* 111(7): 981-991 (June 2003).

²⁰¹ Air Quality Research Subcommittee, Office of Science and Technology Policy, *Preliminary Survey of Air Quality and Related Health Studies Conducted in the Vicinity of Ground Zero* (Dec. 2002), pp. B-6 and B-19.

data was coming in,” and insisted, “We continue to stand by the information distributed in press releases regarding potential long-term health risks.”²⁰²

One has to wonder how the Council defines the terms, “long-term” and “health risks.” In the months and years following the attack, medical doctors have documented case after case of persistent respiratory illness caused by exposure to the WTC pollution. Of even greater concern, researchers report that workers continue to experience respiratory ailments today – almost three years after the terrorist attack. Disturbingly, the federal administration still has not officially acknowledged that the WTC pollution presented long-term health risks.

Government inaction in the face of new information on health risks was unconscionable. Even if the federal administration felt that the new data might be flawed, it should have cautioned the public to use better safety measures while it evaluated the new information. It should certainly not have continued to assert – as EPA’s public outreach flier for its residential cleanup program, released in May 2002 asserted – that “scientific data does not point to any significant long-term health risks” (see Part Three), thus discouraging residents from seeking proper cleanup and increasing their risk of further exposure. Table I below sets out a summary of what information became available on health risks, and how the federal administration responded. (An annotated version of the table is provided in Appendix E of this Report.)

²⁰² Letter from James Connaughton, White House Council on Environmental Quality, to Senators Clinton and Lieberman (Oct. 27, 2003).

What Was Known, What Was Said

A comparison of known information on World Trade Center pollution and health effects with statements made or actions taken by federal administration

Date	Information on Pollution/Health Effects Available	Statements Made/Actions Taken by Federal Administration
August 1, 1994	EPA advises schools not to use polarized light microscopy (PLM) analysis for asbestos testing, urging them to use the "improved" transmission electron microscopy (TEM). EPA explains that the new method identifies "thin asbestos fibers below the limits of resolution of the polarized light microscope."	In September 2001, the EPA uses the old PLM method to test for asbestos in the dust generated by the WTC disaster.
September 12, 2001	Regarding a White House request to produce fact sheets re asbestos, Dr. Ed Kilbourne tells the CDC, "We are concerned about even being asked to write a document for the public about reentry at this point," and warns, "We are aware of other potential toxic hazards in the WTC area about which you haven't asked." (Federal experts know the typical products of building demolition and burning of mixed materials.)	EPA's September 13, 2001, press release states that pollution tests "have been very reassuring about potential exposure of rescue crews and the public to environmental contaminants... the general public should be very reassured by initial sampling."
September 14, 2001	On September 13, 2001, Drs. Philip Landrigan and Stephen Levin of Mount Sinai warn that Ground Zero workers need training and "protective equipment." Dr. Levin warns that surgical masks do not protect against asbestos and urges use of a mask with a special filter. EPA data shows asbestos in dust ranging from 2.1 percent to 3.3 percent—above the 1 percent level at which material must be managed under asbestos standards. A Federal test of EPA's Region 2 office building lobby at 290 Broadway using the more sensitive TEM method finds asbestos. EPA does not even wait for these results; it conducts an environmental clean-up of its lobby based only on the presence of visible dust.	The White House Council on Environmental Quality changes EPA staff's September 14 draft release, which had stated, "The concern raised by these samples would be for the workers at the cleanup site and for those workers who might be returning to their offices on or near Water Street on Monday, September 17, 2001." This sentence is deleted. Instead, the September 16 release quotes OSHA saying, "Our tests show that it is safe for New Yorkers to go back to work in New York's financial district." The EPA office building testing and clean-up information is not made public at the time.
September 16, 2001	The EPA tells <i>New York Newsday</i> that its highest recorded asbestos reading for dust contamination was 4.5 percent.	<i>New York Newsday</i> quotes the EPA administrator as saying that "there is no reason for concern," based on airborne asbestos tests in the financial district. The stock market reopens on September 17; tens of thousands of workers return to work in the Ground Zero area.
September 18, 2001	More than 25 percent of the bulk dust samples that EPA had analyzed by this date showed asbestos at levels above the 1 percent threshold used by both EPA and the City of New York to define asbestos-containing material.	The EPA Administrator states that tests "show that the public is not being exposed to excessive levels of asbestos or other harmful substances. I am glad to reassure the people of New York that their air is safe to breathe..." A September 21 EPA press release entitled, "NYC Monitoring Efforts Continue to Show Safe Drinking Water & Air" asserts, "available results continue to show that rescue workers at the disaster site are not being exposed to hazardous materials."
September 27, 2001	The USGS gives EPA and other WTC response agencies its test results of WTC dust, finding that it is highly caustic. (EPA scientists disclose in a December 2002 report that the dust they sampled on September 12 and 13 was mostly gypsum and calcite, which "are known to cause irritation of the mucus membranes of the eyes and respiratory tract.")	The Federal administration does not issue a press release on the USGS findings and does not change its publicly released assurances about health risks from the WTC pollution.
September 28, 2001	<i>New York Daily News</i> columnist Juan Gonzalez reports that dust samples taken from within a block or two of Ground Zero by the New York Environmental Law & Justice Project showed asbestos at up to five times higher than the 1 percent definitional threshold for asbestos-containing material, and significant amounts of fiberglass.	On October 3, an EPA press release asserts that federal testing "found no evidence of any significant public health hazard to residents, visitors or workers beyond the immediate World Trade Center area." It states that "there is no need for concern among the general public, but residents and business owners should follow recommended procedures for cleaning up homes and businesses if dust has entered." The "recommended procedures" are for residents to clean the dust themselves.
October 5, 2001	<i>Newsweek</i> reports that tests of two private office buildings by an independent firm suggests that more asbestos was released than EPA tests indicated and discloses that EPA is using the older PLM testing method for asbestos in dust.	The EPA states that it has not seen the report and refuses to comment.
October 12, 2001	The Ground Zero Elected Officials Task Force provides sample results from two downtown apartments having asbestos levels in the dust nearly 460 times the EPA's allowable limit.	The federal administration does not change its publicly released assurances about health risks and it continues to support local City instructions that residents can simply wet mop and wet wipe their apartments by themselves.
October 26, 2001	<i>New York Daily News</i> columnist Juan Gonzalez reports that internal government documents reveal toxins in the air and soil around Ground Zero, sometimes at levels far exceeding standards.	In an unpublished letter, the EPA Administrator tells the <i>Daily News</i> that the high benzene readings at Ground Zero are not in the 5 to 7 foot high "breathing zone" of the workers (Ignoring the fact that they were digging and pulling much of the time).

Date	Information on Pollution/Health Effects Available	Statements Made/Actions Taken by Federal Administration
November 26, 2001	Dr. Levin of Mt. Sinai reports early observations of new-onset asthma and reactive airway dysfunction syndrome (RADS) in Ground Zero workers and people who live or work within four blocks of the site—and his expectation that some people have symptoms for the rest of their lives.	The federal administration does not change its publicly released assurances about health risks and it continues to support local City instructions that residents can simply wet mop and wet wipe their apartments by themselves.
December 19, 2001	The Ground Zero fire is declared “out.” A survey of EPA Region 2 office workers conducted in Dec. 2001 finds that half of the workers who reported shortness of breath or wheezing, still had symptoms nearly four months after the attack—so EPA has direct knowledge of health risks for area employees by early 2002, if not in December.	The federal administration does not disclose the results of this survey. It also does not change its publicly released assurances about health risks from the WTC pollution. (The survey results are quietly published in a scientific journal in July 2002.)
January 13, 2002	<i>St. Louis Post-Dispatch</i> reporter Andrew Schneider documents that private firms’ tests are finding higher levels of asbestos than EPA. A senior EPA chemist is quoted as stating, “For every asbestos fiber EPA detected, the new methods used by the outside experts found nine. This is too important a difference to be ignored if you really care about the health of people.”	The federal administration does not change its publicly released assurances about health risks. On January 12, <i>Daily News</i> reporter Russ Buettner quotes a Region 2 EPA spokesperson as stating that the EPA administrator never said the area was without risk, saying, “That’s a mischaracterization of what was ever said.”
January 31, 2002	OSHA notifies a labor union’s law firm that indoor WTC dust should be “presumed” to contain asbestos unless tests prove otherwise, since asbestos was used in the towers.	
February 12, 2002	<i>St. Louis Post-Dispatch</i> reporter Andrew Schneider discloses that the United States Geological Survey reported to EPA that some WTC dust was “as caustic as liquid drain cleaner.”	
March 24, 2002	Dr. Thomas Cahill of the University of California at Davis testifies on his air sampling results, which had shown very high levels of ultra-fine toxic particulates in the air from Ground Zero.	The federal administration does not change its publicly released assurances about health risks from the WTC pollution.
April 18, 2002	EPA and a city agency, urged by the New York Environmental Law and Justice Project, test dust at a lower Manhattan residential loft building, using both PLM and TEM methods for asbestos. The PLM test finds no asbestos. The TEM method on the same sample reveals from 2 percent to 5 percent asbestos, up to five times the level for “asbestos-containing material.”	EPA soon announces a residential clean-up program. It does not disclose the failure of the PLM method that it has been using. EPA Region 2 Administrator states, “While the scientific data about any immediate health risks from indoor air is reassuring, people should not have to live with uncertainty about their futures.”
September 11, 2002 to September 11, 2003	<p>In September 2002, the CDC reports that up to 30 percent of employees surveyed in two workplaces near Ground Zero still had persistent symptoms four to six months after the attack.</p> <p>In September 2002, <i>The New England Journal of Medicine</i> publishes Dr. David Prezant’s study of “World Trade Center Cough.”</p> <p>In December 2002 the <i>American Journal of Industrial Medicine</i> publishes study by Dr. Steven Markowitz of WTC dust cleanup workers, “nearly all of whom” suffered new or worsened, long-lasting respiratory symptoms.</p> <p>In January 2003, Mount Sinai School of Medicine reports that 78 percent of more than 3,500 rescue/recovery workers suffered lung ailments in the months after the attack.</p> <p>In August 2003, the <i>Journal of the American Medical Association</i> publishes Dr. Philip Landrigan’s findings that pregnant women exposed to WTC pollution were twice as likely to give birth to babies smaller than babies born to women not exposed.</p>	<p>The federal administration does not establish a program for cleanup of office and commercial buildings in lower Manhattan.</p> <p>The federal administration does not expand the scope or increase the rigor of its residential clean-up program.</p> <p>The federal administration continues to refuse the request to professionally clean firehouses and emergency equipment.</p> <p>The federal administration does not change its publicly released assurances about health risks from the WTC pollution.</p>
Oct. 27, 2003	Dr. Levin of Mount Sinai reports that Ground Zero workers examined now show roughly the same rates of illness as in 2002. He states, “We’re finding that these problems are not going away.”	The White House Council on Environmental Quality asserts, “we continue to stand by the information distributed in press releases regarding potential long-term health risks.”

Researchers who sought to make sense of the conflicting data faced some barriers in the early weeks. The *IG Report* commended EPA for posting environmental test data on its website.²⁰³ Yet, the White House Council on Environmental Quality's communications director, Sam Thernstrom, objected to posting raw data. In a September 25, 2001 e-mail to Tina Kreischer, EPA associate administrator, he stated that it could be "easily misunderstood and mischaracterized by political candidates in the city who have an ax to grind." Ms. Kreischer reported to the *IG* staff that she "felt extreme pressure" from Mr. Thernstrom. While an EPA official later claimed that Mr. Thernstrom's objections did not influence their conduct – "As soon as we got the data, we made it available," said EPA spokesperson Lisa Harrison²⁰⁴ – the agency did not, in fact, make all the data readily available.

Attorney Joel Kupferman from the New York Environmental Law & Justice Project had to file a Freedom of Information Act request to obtain EPA's test results. He filed it on September 21, 2001.²⁰⁵ EPA announced that it had posted monitoring data on its website on October 3, 2001 (after *New York Daily News* columnist Juan Gonzalez had received independent asbestos test data from Mr. Kupferman).²⁰⁶ Even then, however, EPA posted only a "representative sampling" of data, and in some cases only a characterization of results rather than the full data.²⁰⁷ Marjorie Clarke, Ph.D., an adjunct professor at Hunter College, reported at the November 26, 2001 New York State Assembly hearing:

In the beginning, EPA only listed asbestos and dust. They didn't list anything else for some time. Eventually, they added some PCB. Recently, they added some dioxin. . . . I spoke with someone at the local EPA office several weeks ago. They said, at that time, they had 900 pages of data. Now, this is not on the web site. Furthermore, they said that in order for me to get this, . . . I was told that I would need to file a FOIL [Freedom of Information] request.²⁰⁸

²⁰³ *IG Report*, p. 9.

²⁰⁴ Jennifer 8. Lee, "Details Emerge on Post-9/11 Clash Between White House and E.P.A.," *New York Times* (Oct. 10, 2003).

²⁰⁵ See Freedom of Information Act Request by Joel Kupferman, Esq., New York Environmental Law & Justice Project to the U.S. Environmental Protection Agency (Sept. 21, 2001). EPA provided him about 800 pages of test data on October 19, 2001

²⁰⁶ OSHA Press Release, "EPA and OSHA Web Sites Provide Environmental Monitoring Data from World Trade Center and Surrounding Areas" (Oct. 3, 2001); See also, Juan Gonzalez, *Fallout*, p. 6.

²⁰⁷ See Statement of Kathleen Callahan, EPA Region 2 Action Deputy Administrator to NYC Council Committee on Environmental Protection (Nov. 1, 2001)(stating, "EPA has taken the lead in making the data available to the public through out website. Quite a bit of it is now up on our site. . . along with a daily summary of our findings. All of our data is available at a public information repository at our offices at 290 Broadway.")

²⁰⁸ Testimony of Marjorie Clarke, Ph.D., Q.E.P., to the New York State Standing Committees on Environmental Protection, Health and Labor, Hearing Transcript (Nov. 26, 2001), pp. 317-18.

The problem of incomplete, unreleased data continued for some time. NYCOSH industrial hygienist David Newman raised the issue again at the February 2002 Ombudsman hearing.²⁰⁹

F. Both FEMA and EPA Assured Residents that They Could Just Clean Up the Contaminated WTC Dust Themselves – Instead of Warning Them Against It

We were told in a hotel ballroom on Wall Street by a number of agencies that downtown was safe – that the air was safe to breathe for all of us, that to clean up the World Trade Center we should just use wet mops or rags. For dust covered clothes and bed linen, we were told to wash them two or three times and that would suffice. Many of us returned when lower Manhattan was reopened to apartments covered in grey and yellow dust. . . . My children had bright, colorful bedspreads. When I returned they were grey, covered in a thick layer of dust and debris. . . . We all developed coughs and nosebleeds, sore throats and weeping eyes. My wife ended up seeing a specialist for glass fiber particles lodged in her eyes. We all got sick and our local doctor reported seeing many people with similar symptoms. Others in my neighborhood got much worse, some developed asthma, some have had severe attacks, where none was previously there. I truly hope that we have not exposed our children, creating severe health issues for them in the next 30 or so years.²¹⁰

Many residents suffered unnecessary, prolonged exposure to WTC dust because they cleaned their own homes. A resident who lived seven blocks north of the World Trade Center site, for example, reported that she cleaned up the dust that coated her apartment and belongings with a wet mop and rags, and subsequently suffered chronic bronchitis. She later paid to have her apartment tested and found that it contained harmful levels of asbestos.²¹¹ While her initial conduct might be seen as risky, she was in fact doing what she had been told to do – not only by the local health department but also by federal EPA and FEMA.

EPA attempted to persuade the Inspector General that it gave proper warning to residents. The *IG Report* stated, “Asbestos medical experts we consulted agreed that professional cleaning was preferred for the asbestos contamination found. Further, the experts stated that, at a minimum, if members of the public were to clean residences themselves, they should have been instructed to wear respirators.”²¹² In EPA’s response to the Inspector General’s report, it claimed that it did not

²⁰⁹ See Testimony of David Newman, M.A., M.S., NYCOSH Industrial Hygienist, *EPA Ombudsman Hearing Transcript Feb. 21, 2002*, p. 402.

²¹⁰ Testimony of Craig Hall, President, World Trade Center Residents Coalition, to the EPA WTC Expert Technical Review Panel (May 24, 2004), pp. 1-2.

²¹¹ Maggie Farley, “The Toxic Aftertaste of Terror,” *Los Angeles Times* (Sept. 9, 2002).

²¹² *IG Report*, p. 26.

disagree with the need for professional abatement. In fact, EPA insisted that it had broadly instructed residents with dusty homes to have their spaces cleaned by asbestos contractors. It asserted:

EPA also emphasized that people returning to dusty homes and workplaces should have these spaces professionally cleaned by asbestos contractors.²¹³

During 2002, EPA spokespersons apparently were being instructed by someone to make such statements as well,²¹⁴ and in response to a report by the FEMA Inspector General, EPA also broadly claimed,:

EPA in many public statements, beginning in September 2001, and documents indicated that residents of lower Manhattan affected by dust/debris from the World Trade Center attack should clean up using techniques that would be effective with asbestos containing material. . . . EPA recommended that, if residents had any significant levels of dust/debris in their dwellings, they should use professional asbestos abatement cleaners and presume the material was asbestos containing.²¹⁵

This, however, is not a correct representation of the facts. Indeed, if EPA had actually taken that position, it also would properly have accompanied that advice with a warning that the homes not be occupied – especially by children – until the professional abatement was completed. It did not.

While EPA apparently at least once recommended hiring a “professional cleaner,”²¹⁶ it more consistently referred residents to a set of guidelines that called for residents to clean the dust themselves. EPA’s own rules for asbestos cleanup and removal do not allow untrained people to perform their own cleanups.²¹⁷ Nevertheless, an EPA official informed the Inspector General that a

²¹³ *EPA Response Memorandum*, p. 3, in *IG Report*, App. Q, p. 119.

²¹⁴ “Talking points” produced for an EPA spokesperson in 2002 insisted, “EPA has all along strongly recommended that people returning to dusty homes or offices have these interiors cleaned by a professional contractor and continue to clean using wet wipes and HEPA vacuums.” See “Talking Points: Air Quality Related to the World Trade Center, March 15, 2002”; see also “Talking Points: Responding to Washington Post Article on Air Quality Related to the World Trade Center, January 8, 2002” (adding, “Contrary to a story in today’s *Washington Post*, EPA is not offering ‘conflicting advice on this point.’”)(both documents provided in response to Sierra Club Freedom of Information request; no author named). See also Jane Kenny, EPA Region 2 Administrator, Statement, “Indoor Air Cleaning Program in Lower Manhattan” (Feb. 10, 2003)(“EPA has consistently recommended that residential or commercial spaces that were significantly impacted should be professionally cleaned.”)

²¹⁵ Office of Inspector General, Federal Emergency Management Agency, *FEMA’s Delivery of Individual Assistance Programs: New York – September 11, 2001* (Dec. 2002)(hereafter, *FEMA IG Report*)(App. H: U.S. Environmental Protection Agency Comments on Draft Report, Dec. 2, 2002), p. 59.

²¹⁶ See, statement of then EPA Administrator Whitman on a televised interview on MSNBC, Oct. 26, 2001, quoted in *IG Report*, p. 26 and App. R, p. 133.

²¹⁷ See 40 CFR §§ 61.145 and 61.150.

White House Council on Environmental Quality Official deleted from a draft EPA press release the recommendation that residents should obtain professional cleaning of their homes.²¹⁸ Instead, EPA publicly endorsed the advice of the New York City health department that people clean their own homes with wet mops and wet rags.

- EPA referred people to the New York City health department’s guidelines through its own website. Its website stated, “If dust or debris from the World Trade Center site has entered homes, schools or businesses, it should be cleaned thoroughly and properly following the recommendations of the New York City Department of Health.”²¹⁹
- EPA and OSHA instructed the public in an October 2001 press release: “There is no need for concern among the general public, but residents and business owners should follow recommended procedures for cleaning up homes and businesses if dust has entered,” and the attached factsheet merely advised both residents and workers to “be sure to clean thoroughly and avoid inhaling dust while doing so.”²²⁰
- EPA Region 2 reiterated this advice in an October 2001 statement, specifying that “residents and business employees in lower Manhattan should follow New York City Department of Health recommendations for the proper cleaning of dusty homes and offices,” and it was apparently repeated in talks given to the public.²²¹
- EPA Region 2 Acting Deputy Regional Administrator Kathleen Callahan further confirmed this approval of the City’s advice to residents in her testimony to the New York City Council in November 2001. She stated that downtown tenants should follow the City health department’s guidelines in cleaning their indoor areas.²²²
- The City of New York, moreover, clearly believed that “EPA adopted the City’s advice to its citizens.”²²³

²¹⁸ *IG Report*, App. R, p. 133.

²¹⁹ This message appeared at < <http://www.epa.gov/epahome/wtc> >, under the category of “Asbestos in Bulk Dust.” See also *IG Report*, App. R, p. 133.

²²⁰ U.S.E.P.A., “EPA and OSHA Web Sites Provide Environmental Monitoring Data from World Trade Center and Surrounding Areas” (Oct. 3, 2001) and “EPA-OSHA Fact Sheet: Environmental Information from Lower Manhattan for Residents, Area Employees and Local Business Owners” <www.epa.gov/epahome/wtc/epa-osh03.htm>.

²²¹ EPA Region 2, “Statement on the HP Environmental Air Monitoring Study” (undated but apparently released in October 2001); “Talking Points for Bill Muszynski at Ground Zero Elected Officials Task Force Community Meeting, Oct. 4, 2001,” pp. 4-5; “Talking Points for Bonnie Bellow at Independence Plaza Community Meeting, Oct. 29, 2001,” p. 4 (all documents provided in response to Sierra Club Freedom of Information Request).

²²² Statement of Kathleen Callahan, EPA Region 2 Acting Deputy Regional Administrator to NYC Council Environmental Protection Committee, Nov. 1, 2001.

²²³ Letter from Kenneth Becker, Chief, World Trade Center Unit, City of New York Law Department, to Rick Beusse, EPA Office of the Inspector General (Aug. 4, 2003), p. 3, in, *IG Report*, App. S, p. 141.

Thus, EPA – in practice – held its concern for the safety for families in lower Manhattan below that of its long-standing concern for the safety of asbestos cleanup workers.

EPA did make an attempt to qualify that broad recommendation. At the earlier Assembly Committees hearing held on November 26, 2001, Ms. Callahan had verbally qualified that recommendation to refer to “apartments with minimal amounts of dust,” stating that “when they’ve got lots of dust, they ought to assume it’s asbestos containing, and get a properly certified cleaner.”²²⁴ This instruction, however, is buried on page 267 of a hearing transcript. And it is not at all clear whether a resident – assuming that he or she was attending that lengthy hearing and happened to be present when Ms. Callahan spoke – would know what Ms. Callahan meant by “lots of dust.”

It is hard to imagine how a knowledgeable federal agency could have endorsed the New York City health department’s guidelines for “people re-occupying commercial buildings and residents re-entering their homes” after the terrorist attack. These guidelines were shockingly unscientific and irresponsible.

- The guidelines advised wearing a dust mask (not mentioning respirators), but then – for reasons that cannot even be imagined – state that “it should not be necessary to wear this mask if you follow the cleaning procedures detailed below.”
- The guidelines stated that it was “best” (not “crucial” or “critically important” or “imperative” or even “essential”) to use a wet rag or wet mop for cleaning.²²⁵
- While the City health department recommended using a high efficiency particulate air filter (HEPA) vacuum “if possible,” it failed to explain much of the dust would be so small that it would pass right through an ordinary vacuum bag.²²⁶ Kimberly Flynn of 9/11 Environmental Action, a leading advocacy organization of residents and parents, observes, “People will tend to use what they have. You have to give them a compelling reason to get a piece of cleaning equipment that they’ve never even heard of before.”²²⁷

²²⁴ Testimony of Kathleen Callahan, EPA Region 2 Acting Deputy Regional Administrator, to the NYS Assembly Committees, Hearing Transcript (Nov. 26, 2001), pp. 211 and 267. Ms. Callahan’s written statement referred people to the health department guidelines for apartments with a “minimal amount of dust”, but said nothing about using professional abatement firm for more heavily contaminated apartments. It did, at least, advise residents to wear a mask while cleaning. See Statement of Kathleen Callahan, EPA Region 2 Acting Deputy Regional Administrator before the New York State Assembly (Nov. 26, 2001).

²²⁵ N.Y.C. Department of Health, “Recommendations for People Re-occupying Commercial Buildings and residents Re-entering Their Homes” <<http://www.ci.nyc.ny.us/html/doh/html/alerts/wtc3.html>>.

²²⁶ An ordinary vacuum cleaner picks up particles in the size range of 0.3 to 35 micrometers in diameter, but tends to leave behind particles in the range of 0.2 to 4 micrometers, which are inhalable. Mary Ballard, *supra*.

²²⁷ Personal interview of Kimberly Flynn, spokesperson for 9/11 Environmental Action, May 11, 2004.

- Also, the guidelines failed to inform the public that harmful dust might be too small to be visible, or embedded within carpeting, couches and curtains where it would be difficult to see but possible for a child to disturb.

Not surprisingly, a survey of lower Manhattan residents found that 60 percent of residents in apartments close to Ground Zero did not use both wet mopping of hardwood floors and HEPA vacuums on carpets.²²⁸

Oddly, building owners were given better guidance than families. The City Department of Environmental Protection instructed building owners located south of 14th Street to “have possible contamination problems, indoors or at roofs, reviewed by competent professionals (*i.e.*, R.A.s, P.E.s, Asbestos Inspectors, etc.) prior to beginning cleanup of buildings with maintenance personnel,” and to contact DEP for instructions if asbestos or hazardous material cleanup is needed.²²⁹ This was probably the best declaration of official agency advice given to any sector of the general public during the disaster and recovery effort. (Neither EPA nor the City health department told families that they should have their apartments inspected before undertaking any cleaning themselves.)

EPA’s conduct, in combination with that of the New York City health department, put both children and adults at risk. The *IG Report* declares:

The absence of instructions recommending that residents obtain professional cleaning in the initial weeks following the disaster may have increased the long-term health risks for those who cleaned WTC dust without using respirators and other professional cleaning equipment.²³⁰

As a federal agency representing the Bush administration’s public face on safety measures following a major foreign terrorist attack in the country, EPA’s endorsement of the City’s dangerous guidelines was an unconscionably irresponsible action that abused the public’s trust in its expertise.

Also, by failing to undertake a residential cleanup program until May 2002, with cleanup itself not getting underway until mid-September 2002,²³¹ EPA guaranteed that many residents – even if they did receive the warning to engage professional abatement firms but could not afford to do so – would be forced to clean much of the dust themselves.

²²⁸ NYC Dept. of Health and Mental Hygiene and federal Centers for Disease Control, *A Community Needs Assessment of Lower Manhattan Following the WTC Attack* (Dec. 2001)(hereafter, *Community Needs Assessment Dec. 2001*), p. 8; survey is summarized in *Morbidity and Mortality Weekly Report* 51 (special issue)(Sept. 11, 2002).

²²⁹ N.Y.C. Department of Environmental Protection, Public Notice, “Notice to Building Owners Located South of 14th Street, Manhattan: Building Maintenance Issues Involved in Reopening Buildings Closed Since 9/11/01” (Sept. 16, 2001).

²³⁰ *IG Report*, p. 25.

²³¹ *FEMA IG Report*, p. 24.

G. The Federal Administration Failed Even to Give Special Warnings for Children and People with Certain Diseases – Who Are More Vulnerable to the Effects of Pollution

The federal government is well aware that “[p]ersons with pre-existing respiratory (*e.g.*, asthma, emphysema) or cardiopulmonary problems are more likely than healthy individuals to experience adverse health symptoms at lower levels” of pollution.²³² Nevertheless, EPA did not qualify its press release statements of safety with special warnings for people who are more vulnerable to harmful effects from pollution, and after-the-fact efforts by EPA officials to explain away their misleading statements do not hold up under scrutiny.

EPA officials have tried to argue that they qualified their assurances. The Inspector General reports, for example:

EPA Region 2 officials told us that the September 18 statement made by the EPA Administrator . . . that the air was ‘safe’ to breathe only applied to long-term health effects – not short-term or acute health effects; the general public – not Ground Zero workers; outdoor air – not indoor air; healthy adults – not sensitive sub-populations such as children and the elderly; and asbestos – not other air pollutants.²³³

Nevertheless, the Inspector General observed, “The words ‘physician,’ ‘doctor,’ ‘acute,’ ‘symptoms,’ and ‘sensitive,’ do not appear in any of EPA’s WTC press releases.”²³⁴ EPA did not communicate these qualifications in their press releases. EPA Region II Acting Deputy Administrator Kathleen Callahan similarly asserted at a New York State Assembly hearing in November 2001 that federal assurances of safety did not apply to Ground Zero rescue and recovery workers, and she added:

Fortunately, the vast majority of our tests find levels of these contaminants that pose no significant long term health threats to residents, business employees and visitors beyond ground zero [The particulate matter] can cause more serious reactions in sensitive populations, such as people with respiratory problems or asthma, according to health officials, but is not likely to cause irreversible effects in the general population.²³⁵

Yet, even this belated and weak qualifying message was not publicized for the general public, although it was an improvement over Ms. Callahan’s testimony to the New York City Council Environmental Protection Committee on November 1, 2001, when she stated definitively that the

²³² *ATSDR and City Health Department Residential Dust Study 2002*, p. 18.

²³³ *IG Report*, p. 8; see *EPA Response Memorandum*, in *IG Report*, App. Q, pp. 117-119.

²³⁴ *IG Report*, App. R, p. 132.

²³⁵ Testimony of Kathy Callahan, EPA Region 2 Acting Regional Director, to the NYS Assembly Committees on Environmental Conservation, Health and Labor, Hearing Transcript (Nov. 26, 2001), p. 206.

particulate matter, even for people with respiratory problems or asthma, “does not cause any irreversible health effects.”²³⁶

In fact, the federal government promoted and publicized erroneously broad statements of safety and failed to retract or correct them even as the falsity of these assurances became increasingly apparent. When the *New York Times* reported that EPA Administrator Whitman had informed it that lead “had not been detected in quantities high enough to raise alarm” and that asbestos levels “were a concern only for rescue workers and work crews who will be involved day after day directly at the site, and not for residents nearby,”²³⁷ there was no retraction of that message the next day. Nor was there a retraction when a similar statement appeared on September 18, 2001, by an EPA spokesperson, that the concern was for the rescue/recovery workers but “not for the city, not for residents. . . .”²³⁸ These improper statements were allowed to stand, even though a September 15, 2001 EPA internal document reports:

Governor Whitman requested that all personnel report possible cases of misinformation reported by the mainstream media to the appropriate EPA contacts so that the correct information is circulated as quickly as possible.²³⁹

EPA was quite active in sending letters of complaint that news stories over-stated risks,²⁴⁰ but not regarding under-statement of risks. There is little evidence of its attempts to communicate limits to its broad safety message except in testimony to legislative oversight bodies.

EPA also did not have an effective plan to communicate any qualifying statements on health risks directly to people who are more vulnerable to pollution.

- When EPA official Kathleen Callahan insisted at a New York State Assembly hearing that “[s]ensitive groups, those with asthma or other respiratory problems, have been advised to follow physician’s advice and take special precautions,”²⁴¹ Assemblymember Richard Brodsky asked exactly how they had been advised. Although his question was directed to Ms. Callahan, a City health department Assistant Commissioner, Jessica Leighton, also responded, stating that information was on the department’s website. Ms.

²³⁶ See Testimony of Kathy Callahan, EPA Region 2 Acting Deputy Regional Director, to NYC Council Committee on Environmental Protection (Nov. 1, 2001).

²³⁷ Kirk Johnson, “Challenges and Dangers in Disposing of Two Fallen Giants,” *New York Times* (Sept. 13, 2001).

²³⁸ Andrew Revkin, “Dust Is a Problem, but the Risk Seems Small,” *New York Times* (Sept. 18, 2001).

²³⁹ U.S.E.P.A., “Briefing to Governor Whitman – Conference Call Summary: September 15, 2001 - 12:00 PM” (CT911)(document provided in response to Sierra Club Freedom of Information Act Request), p. 3.

²⁴⁰ Cite (correspondence obtained in response to Sierra Club Freedom of Information request).

²⁴¹ Follow-up questioning after testimony of Kathy Callahan, EPA Region 2 Acting Regional Director, to NYS Assembly Committees, Hearing Transcript (Nov. 26, 2001), p. 209. Ms. Callahan gave similar testimony at a March 8, 2002 hearing before the New York City Council. See Testimony of Kathleen Callahan, Director, Division of Environmental Planning and Protection, EPA Region 2, before the NYC Council (Mar. 8, 2002), p. 3.

Callahan added, “Well, we also have done press releases. We’ve spoken to the press. They’ve put it in the newspapers.”²⁴² She went on to state that while the WTC pollution could cause more serious reactions in people with respiratory problems or asthma, it “does not cause any irreversible health effects.”²⁴³

- EPA’s response to the release of the *IG Report* stated:

We warned people in sensitive groups – those with respiratory problems or asthma – to seek medical attention if they were experiencing symptoms from the dust or ongoing fires. This message was included when Agency officials spoke to the media, addressed the public at countless community meetings, and testified at city, state and federal hearings on our response.²⁴⁴

EPA did not state that it warned such people to wear respirators or take other precautions to avoid exposure and thus *prevent* adverse health effects, although there may have been some specific instances in which it did so.²⁴⁵ Apparently, it generally was simply telling people to go to the doctor if they felt sick.

Clearly, no systematic communication method was in place to reach out and provide warnings to vulnerable populations, and even if such people asked questions, they were likely to get wrong answers (such as assurances that prevention efforts are not needed or that all effects will be temporary).

The *IG Report* disagrees with Ms. Callahan’s assertion that the public was warned of the need to take precautions. It states that except for rescue workers, EPA’s press release statements throughout 2001 generally did not contain qualifications regarding sensitive populations. It states, “For the general public, EPA’s overriding message was that there was no significant threat to human health.”²⁴⁶ Indeed, it is not clear how EPA would have been able to carry out enough outreach to people with respiratory or cardiovascular conditions to counteract the broad assurances of safety that EPA and OSHA were disseminating repeatedly in the general media. The City health department,

²⁴² Follow-up questioning after testimony of Kathy Callahan, EPA Region 2 Acting Regional Director, to NYS Assembly Committees, Hearing Transcript (Nov. 26, 2001), pp. 259-60.

²⁴³ Statement of Kathleen Callahan, EPA Region 2 Acting Deputy Regional Administrator before the New York State Assembly (Nov. 26, 2001), p.2.

²⁴⁴ EPA Region 2, “World Trade Center Response Overview” (Sept. 25, 2003)(Bonnie Bello, Director of Public Affairs Division - contact); *see also* “NBC TV Interview - Brian Williams Talking Points, September 10, 2003” (EPA spokesperson) (both documents provided in response to Sierra Club Freedom of Information request).

²⁴⁵ *See* preparatory “talking points” provided to a EPA Region 2 speaker for a presentation at a high school: EPA Region 2, “Talking Points for Bonnie Bellow at Stuyvesant High School, November 13, 200,1” p. 5 (stating that the pollution can be “very problematic for people with asthma and other respiratory problems. They may need to take special precautions.”)(provided in response to Sierra Club Freedom of Information request).

²⁴⁶ *IG Report*, p. 8.

in the presence of EPA's Kathleen Callahan, asserted at a November 2001 Assembly hearing that even pregnant woman and young children did not need to take special precautions, and disclosed that they were just telling people to go see a doctor if they felt sick. Representative Richard Brodsky pressed this matter.

Rep. Brodsky: [reading from a City Health Department advisory "factsheet" for WTC pollution] "Do pregnant women and young children need to take additional precautions? No, pregnant women and young children do not need to take additional precautions."

Asst. Comm'r Leighton: And that was when – that was issued in the very beginning, and at that time, we believed and still believe that the long term effects of asbestos are unlikely because the levels were not

Rep. Brodsky: Okay, let me rephrase. Should special populations, including elderly, people with a respiratory history, pregnant women, and children take any special precautions?

Asst. Comm'r Leighton: The special precautions that were being referred to were wearing masks and things, and we still don't believe that those populations need to wear masks.

Rep. Brodsky: Anything different from the rest of the population?

Asst. Comm'r Leighton: For the most part, if they're having health effects, they should go and see their physicians, and that's the bottom line of what we've been trying to tell people.²⁴⁷

EPA's Kathleen Callahan did not correct the health department's statement, even though the federal Centers for Disease Control and the City health department by that time had completed a survey in late October 2001, in which residents had reported continuing symptoms such as nose, throat and eye irritations. The survey report stated, "These symptoms are consistent with what one would expect from the on-going exposure to smoke released from the fires burning at the WTC site."²⁴⁸ Thus, the federal government was not warning the public about the need for special populations to minimize exposure to WTC pollution even after it had data showing that health effects were already occurring.

²⁴⁷ Follow-up questioning after testimony of Kathy Callahan, EPA Region II Acting Regional Director and Jessica Leighton, Ph.D., City Department of Health and Mental Hygiene Assistant Commissioner to NYS Assembly Committees, Hearing Transcript (Nov. 26, 2001), pp. 259-60. Dr. Leighton was appointed by the Bush Administration to serve on the Centers for Disease Control and Prevention Advisory Committee on Childhood Lead Poisoning Prevention.

²⁴⁸ *Community Needs Assessment Dec. 2001*, p. 3.

The failure of the federal administration to warn parents of the Ground Zero area about children's special vulnerability to the pollution was particularly egregious. People unfamiliar with New York City may look at pictures of the Manhattan skyline and think that the lower Manhattan area is strictly a commercial district. Nothing could be further from the truth.

- Community District 1, which includes the WTC site and was most heavily polluted by it, is home to approximately 2,770 children under age 10.
- The district also contains 18 day care and Headstart facilities for children.
- Approximately 5,500 children attend school within 1 kilometer of the WTC site.²⁴⁹

As explained in Part Six of this report, children are much more vulnerable to adverse health effects from exposure to air pollution than adults – and far more likely to become exposed to indoor dust. EPA, with its Region 2 headquarters located in lower Manhattan, was well aware of the residential density of the area. To invite families with young children back into the Ground Zero area, while the fires were still burning, without adequate health warnings was a serious breach of the public trust.

Also, neither the Bush administration press statements nor the EPA Region 2 officials alerted vulnerable populations to the potential impact of the “chemical soup.” Community District 1 is home to over 2,450 elderly persons and an unknown number of people with asthma or immune-related disorders such as AIDS or Lupus.²⁵⁰ These people were at special risk from those pollutants, which included many toxins harmful to the respiratory and immune systems, yet were never properly warned.

²⁴⁹ “Manhattan Community District 1,” New York City Department of City Planning (Dec. 2002); *Health and Environmental Consequences*, p. 14.

²⁵⁰ “Manhattan Community District 1,” New York City Department of City Planning (Dec. 2002).

PART TWO:

**THE FEDERAL GOVERNMENT'S FAILURE TO WARN THE PUBLIC AGAINST
GROUND ZERO POLLUTION RISKS CANNOT BE JUSTIFIED**

This was an act of war. We understand that. . . . And God bless America, . . . the volunteers not only from New York, but the Tristate area, all over the country and internationally that came. Those people went there to help. But the people that had the direct responsibility of protecting Americans . . . have fallen short of their duty and obligation that they have not protected the citizens of New York . . . We all understand the importance of the New York economy, Lower Manhattan, both nationally and globally. But when you start putting finances against the lives and well-being of New Yorkers and people in the Tristate area, sometimes you have to stop and question why people are saying that the ends justify the means.¹

David Duffy, Sargeant, New York Police Department
Testimony, *EPA Ombudsman Hearing February 21, 2002*

A. The Bush Administration Apparently Placed the Desire to Reopen Wall Street Above Public Safety

Attorney Joel Kupferman of the New York Environmental Law & Justice Project, states:

Policymakers at the EPA. . . could not have predicted the wholesale and cataclysmic demolition of some fifteen million square feet of office space. But it would be overly simplistic to attribute the actions of public health and environmental officials to confusion under pressure, at least after the first few days. It has become evident that federal, state and city agency actions and decisions were closely tied to economic and political motivations that placed other goals ahead of public health, and that these decisions led agencies to withhold critical health information from even the communities most at risk.²

The Inspector General reported that EPA's chief of staff "told us that other considerations, such as the desire to reopen Wall Street and national security concerns, were considered when

¹ Testimony of David Duffy, Sargent, New York Police Department, *EPA Ombudsman Hearing Transcript Feb. 21, 2002*, pp. 448-49 and 450-51.

² Joel Kupferman in Brown, C., *Lost Liberties*.

preparing EPA’s early press releases,” and that the EPA Chief of Staff said, “final approval came from the White House.”³ This information is consistent with the recollection of former counter-terrorism czar Richard Clarke, who reports that on the evening of September 11th, the President stated to some members of his staff, including Clarke, that he wanted the stock market, banks and other businesses to reopen by the next day, relenting on the “tomorrow” demand when he was informed of the physical damage but declaring that as soon as rescue operations were done, everything should shift to restore the economic activity. Clark recalls President Bush stating:

“I want the economy back, open for business right away, banks, the stock market, everything tomorrow.” Ken Dam, the Deputy Secretary of the Treasury, filling in for the traveling Paul O’Neill, pointed out that there was physical damage to the Wall Street infrastructure. “As soon as we get the rescue operations done up there, shift everything to fixing that damage so we can reopen,” Bush urged.⁴

Reporter Ron Suskind similarly states that Paul O’Neill, the former U.S. Treasury Secretary, was told on Wednesday night, September 12, by the undersecretary for domestic finance:

The President wants to open the New York Stock Exchange tomorrow – that’s the word I’m getting. . . . I think he made his wishes known to several people on the senior staff.⁵

The message was clear.

It was, of course, reasonable to be concerned about the economy. The longer that the country’s major financial markets remained closed, the greater potential for economic damage. Still, this was not a situation in which one could complete rescues and recover bodies within a day or two. Also, the Ground Zero fires burned for weeks and weeks. Lower Manhattan was heavily polluted, and this fact should have entered into the decision-making on how to go about recovery.

The federal government’s course of action, instead, was to sacrifice public health to the goal of achieving the visible impression of nearly immediate economic recovery at any cost. The Inspector General’s report clearly shows that the White House Council on Environmental Quality placed inappropriate pressure on technical agencies to give health assurances that were unsupported

³ *IG Report*, p. 17. The EPA Inspector General Tinsley stated, “We were told that a desire to reopen Wall Street and national security concerns were the reasons for changing the press releases.” Lisa Myers, “What Was Known About Post-9/11 Air,” NBC News (Sept. 5, 2003).

⁴ Richard Clarke, *Against All Enemies: Inside America’s War on Terror* (2004), p. 24.

⁵ Ron Suskind, *The Price of Loyalty: George W. Bush, the White House, and the Education of Paul O’Neill* (New York: Simon & Schuster, 2004), p. 183. O’Neill, according to Suskind’s account, convinced the President to wait through the weekend, until Monday, September 17, arguing that Stock Exchange computers were under water and the phone and electrical systems were impaired, and that it would be devastating if the Stock Exchange were opened but then forced to close again because of such infrastructure problems. *Id.*, pp. 183-85.

by the facts. With regard to EPA's press releases, according to the *IG Report*, "every change that was suggested by the CEQ contact was made." The *IG Report* stated:

[W]e fully recognize the extraordinary circumstances that existed at the time the statement was made about the air being safe to breathe. It continues to be our opinion that there was insufficient information to support the statement.⁶

While promoting economic recovery was very important, the government nevertheless had a higher duty to protect its citizens' health and safety.

Over time, other economic motivations for suppressing health warnings may have come into play. EPA Region 2 Administrator Jane Kenny, in a letter to Congressional Representative Jerrold Nadler, after admitting that over a third of the WTC dust samples contained significant levels of asbestos, complained that, "Given that there are over 20,000 residential units in lower Manhattan, specifically identifying which of them were affected by amounts of dust potentially causing long-term health effects would be time- and resource-intensive."⁷ *New York Times* columnist Paul Krugman speculated, "Think how much harder it would have been to stiff New York if the public had understood the extent to which Lower Manhattan had become a hazardous waste site."⁸

Whatever the real reasons were, the result is unmistakable. Jimmy Willis, a 9/11 rescue worker and Assistant to the President for the Transport Workers Union, observes:

There is a moral obligation to give people the information they need to protect themselves. They didn't do that. Now we have to live with this for the rest of our lives. It doesn't feel good to be a pawn.⁹

The government failed to protect the public, and people were not given the information that they needed to protect themselves.

⁶ *IG Report*, p. 20.

⁷ Letter from EPA Region 2 Administrator Jane Kenny to Congressional Representative Jerrold Nadler (July 29, 2002)(forwarded by EPA to the White House Council on Environmental Quality on August 13, 2002), p. 3.

⁸ Paul Krugman, "Dust and Deception," *New York Times* (August 26, 2003). Other political and broader economic motivations may have been involved as well. With respect to asbestos issues, the influence of long-term, heavy lobbying by the asbestos industry on the administration may have been a factor conditioning it to respond with less vigor than should have occurred. Even Halliburton, a company with close ties to the current administration, recently negotiated a \$4.2 billion asbestos settlement plan as a result of its acquisition of Dresser Industries, which had occurred when Vice President Dick Cheney was its chief executive officer. The settlement capped the company's costs for litigation by people harmed by asbestos. Nelson Antosh, "It's a Done Deal" Asbestos Plan Approved – Restructuring of Halliburton Units to Proceed," *Houston Chronicle* (July 17, 2004).

⁹ Personal interview of Jimmy Willis, 9/11 rescue worker and Assistant to the President, Transport Workers Union, March 19, 2004.

B. Speculative Fear About Public Reactions Does Not Justify Suppressing Safety Warnings or Failing to Take Protective Action

People just want to know how to protect themselves . . . and how to safely clean up their buildings and apartments. And not to be told when they visit their doctors that their symptoms are psychosomatic. Please, enough of that already. I am not an alarmist. I just want the truth, and so do they.¹⁰

Marc Ameruso
Volunteer rescue worker

While the Bush administration has never directly acknowledged how it misled the public, it has certainly implied that there was a need to “soften” the message about pollution during the first few days to prevent public panic. EPA administrator Whitman told *Newsweek* that she did not object when the White House edited out the cautionary notes of EPA scientists, arguing that the data was open to interpretation and stating, “We didn’t want to scare people.”¹¹ Similarly, Acting EPA Administrator Marianne Horinko further stated, “What we wanted to do was be reassuring to the public at that time.”¹² That was not EPA’s job; EPA’s job was to give the people accurate information.

Warnings are supposed to alert people to hazards. If a fire breaks out, one should not hang back, wondering whether or not telling people will cause panic. The whole purpose of warning people is to create enough legitimate alarm to cause them to take action in order to protect themselves. Even if it is not clear that a fire will reach a particular floor of a building, people should be told that it is occurring. In the case of Ground Zero, federal experts had many strong reasons to expect that the pollution was hazardous, and the scale of public exposure to this pollution obviously was going to be enormous. Under such circumstances, the federal government should have issued a warning.

Claiming a need to withhold the truth from New Yorkers about pollution risks to avoid “panic” is ludicrous in the context of what had just happened to the city. Two planes crashed into two towers and nearly 3,000 people died in one day. Even under those extreme circumstances, panic

¹⁰ Testimony of Marc Ameruso, volunteer rescue worker and member of Community Board One, to the York State Assembly Committee on Environmental Conservation (Nov. 26, 2001).

¹¹ Eleanor Clift and Julie Scelfo, “‘We Were Not Told to Lie’ About 9/11 and Health,” *Newsweek* (Sept. 8, 2003). See also statement of Acting Administrator Marianne Horinko, *EPA Response Memorandum*, Attachment, p. 2, in *IG Report*, App. Q, p. 12, stating, “Following 9/11, the news media was filled with stories about possible asbestos contamination in the air. Tens of thousands of residents and hundreds of thousands of workers were displaced and scared. EPA’s initial statement was made in direct response to the public’s concern about asbestos contamination.” (While she implies that the press release only discussed asbestos, in fact it assured the public that they were also not being exposed to excessive levels of “other harmful substances.”)

¹² Jennifer 8. Lee, “White House Sway Is Seen in E.P.A. Response to 9/11,” *New York Times* (August 9, 2001).

was not widespread. Those who in immediate danger from fire, falling debris, or the thick cloud of dust that rolled through the streets certainly were frightened. Still, people evacuated from the towers and the thousands of nearby businesses and homes in a very orderly fashion overall, helping each other along the way. Indeed, the conduct of New Yorkers in the face of disaster on September 11, 2001 was not unusual. Despite the myth of public panic, such conduct is rare. Kathleen Tierney, Director of the Disaster Research Center at the University of Delaware, states, “The rapid, orderly, and effective evacuation of the immediate impact area – a response that was initiated and managed largely by evacuees themselves, with a virtual absence of panic – saved numerous lives.” She further observes that this conduct was similar to what occurs in most emergencies: “Social bonds remained intact, and evacuees were supportive of one another even under extremely high-threat conditions.”¹³ *The Washington Post* similarly reported:

Through it all, the city somehow remained a remarkably civil place, as though the magnitude of this tragedy has everyone on best behavior. Nerves were on edge, certainly. . . . But strangers loaned strangers cell phones and money; bread and water trucks showed up, unasked, at the Canal Street barricades, bring help to weary searchers.¹⁴

Telling these people that the WTC air and dust contained harmful contaminants and that they should take action to avoid exposure to the pollution certainly was not going to cause more panic than the terrorist attack itself had caused. People needed to know the truth, and they deserved to be told.

Many disaster experts urge that treating the public with respect and forthrightness is the best approach. Dr. Lee Clarke, a specialist in disaster behavior, states that the conclusion from nearly 50 years of evidence on panic is that people rarely panic, and that even when people feel excessive fear, they usually avoid injudicious efforts and chaos. He states, “Instead, the more consistent pattern is that people bind together in the aftermath of disasters, working together to restore their physical environment and their culture to recognizable shapes.”¹⁵ Dr. E. L. Quarantelli, professor *emeritus* and co-founder of the Disaster Research Center at the University of Delaware, comments that in nearly 700 different field studies, “I would be hard pressed to cite . . . but a very few marginal instances of anything that could be called panic behavior.”¹⁶ While individual cases of overreaction can occur, Dr. Clarke asserts that the public should be shown trust and respect. He concludes:

Panic is often used as a justification by high-level decision makers to deny knowledge and access to the public, on the presumption that

¹³ Kathleen Tierney, Director, Disaster Research Center and Professor of Sociology, University of Delaware, “Strength of a City: A Disaster Research Perspective on the World Trade Center Attack” (Essay available on website of Social Science Research Council)(www.ssrc.org/sept.11/essays/tierney_text_only.htm).

¹⁴ Michael Powell and Sally Jenkins, “Falling: Buildings, Ash, Hopes and Tears; Lurking in the Debris, Danger Postpones Moment of Truth,” *The Washington Post* (Sept. 13, 2001).

¹⁵ Lee Clarke, Ph.D. Panic: Myth or Reality? *Contexts* (Fall 2002), p. 22.

¹⁶ Comment of Dr. E. L. Quarantelli, Disaster Research Center, in correspondence to Dr. Lee Clarke, quoted in Lee Clarke, Ph.D. (2002).

people cannot handle bad news. Research on how people respond to life-threatening disasters and the stories from the World Trade Center show that people handle even the most terrifying news civilly and cooperatively. Our leaders would do well to see us as partners in recovery rather than as a “constituency” to be handled.¹⁷

His conclusion is echoed by Dr. William Freudenburg, who observes that people worry about risk not because they are panicky but because they do not trust government officials to tell them the truth.¹⁸

Also, the “panic” rationale certainly could not justify the continued suppression of health warnings during the days, weeks and months that followed. *Albany Times Union* columnist Fred LeBrun made this comment:

Did Washington think we’d panic over the toxic possibilities, or that Manhattanites would stop breathing? Or that the cops, firefighters and rescue workers would stop sifting the rubble 24/7 for their comrades and other victims? Not a chance.¹⁹

There can be no question that rescue and recovery operations would have proceeded if proper precautionary measures had been required; they would, however, have proceeded more safely. The business community of lower Manhattan, similarly, would not have shut down if proper warnings were given. Writer Matt Bivens, for *The Nation*, observed:

And sure, reopening Wall Street was important. But what’s exasperating is that one could have warned people to take precautions with the air and reopened Wall Street *anyway*. Americans were more than ready to pull together and make sacrifices – witness the outpouring of Ground Zero volunteers – and Wall Streeters were no different. They’d have come to work in respirators too if need be.²⁰

Instead, the federal government’s assurances encouraged both workers and residents to return to a heavily polluted area without protecting themselves – indeed, it almost seemed unpatriotic to wear a mask.

Unfortunately, while former EPA Administrator Whitman expressed the belief to *Newsweek* that the public was not harmed by the White House’s decision to adopt the more “reassuring”

¹⁷ Lee Clarke, Ph.D. (2002), p. 26.

¹⁸ William F. Freudenburg, “Risk and Recreancy: Weber, the Division of Labor, and the Rationality of Risk Perceptions,” *Social Forces* 71:900-32 (June 1993).

¹⁹ Fred LeBrun, “Dirty Lies Downplay 9/11 Fallout,” *Albany Times Union* (Aug. 26, 2003).

²⁰ Matt Bivens, “Of Mice and Men,” *The Nation* (May 24, 2004).

analysis,²¹ this is absolutely not the case. The federal government's improper messages of safety discouraged people from taking the precautions necessary to prevent exposure to chemicals that cause respiratory disease, cancer and reproductive impacts. The result is that more people were harmed by the aftermath of the terrorist attack than should have been.

C. The Bush Administration Has Refused to Disclose Who Engineered the Cover-up of Health Hazards at Ground Zero

The identity of the top federal official responsible for weakening EPA's public warnings about the toxic hazards from the WTC attack – and either directing or implying that agency officials should continue to cover-up health hazards from Ground Zero – appears to be a well-guarded secret. The *IG Report* asserts, “We were unable to locate any record that explained why the changes were made.”²² Claire Buschan of the White House Council of Environmental Quality declared that the Council's job is to “work with agencies involved in the environment and coordinate with them. I don't have a list of who might have been involved in the coordinating.”²³ The silence since then has been deafening.

On August 25, 2003, Representative Jerrold Nadler wrote to Attorney General John Ashcroft, seeking a Justice Department investigation into the White House role in instructing EPA to issue misleading and inaccurate health information and EPA's continuing role in covering up the truth.²⁴ The next day, Senators Hillary Rodham Clinton and Joseph Lieberman wrote to President Bush asking for “a thorough and expeditious accounting of what transpired” in the White House after 9/11, including the names of officials who had altered EPA's press statements and failed to provide warnings to parents.²⁵ They stated:

For EPA to have provided anything but their best professional advice to those parents is inexcusable; for the White House to have edited out that advice – including information regarding the heightened risks that air pollution might pose for young children – is nothing but malfeasance. While no one could dispute that the September 11 attacks created a national security crisis, we do not believe such a crisis could justify misleading the public on such an essential issue as the quality of the air they breath. To say otherwise would essentially tell the public that, in the times when citizens need their government the most, they should believe it the least.²⁶

²¹ Eleanor Clift and Julie Scelfo, *supra*.

²² *IG Report*, p. 17.

²³ Elaine S. Povich, “Democrats Seek EPA Probe,” *supra*.

²⁴ John Herzfeld, “Lawmakers Pressing Administration on EPA's World Trade Center Response,” *supra*.

²⁵ Margaret Ramirez, “Clinton Wants Answers on Air,” *Newsday* (Aug. 27, 2003). See Winnie Hu, “Clinton to Block E.P.A. Nominee to Pressure Bush on Air Quality,” *New York Times* (Sept. 7, 2003).

²⁶ See John Herzfeld, “Lawmakers Pressing Administration on EPA World Trade Center Response,” *supra*.

A request to House Majority leader Tom Delay for an investigation of this matter was rebuffed.²⁷ Senate Democrats also called for a hearing in the Senate Committee on Environment and Public Works.²⁸ This call, too, was rebuffed. As of today, the public still does not know the answer to this important question.

Lack of disclosure only breeds deeper distrust – and the federal government certainly has a serious “trust” problem when it comes to statements about environmental hazards.

- By March 2002, 70 percent of 505 New Yorkers polled by the *Daily News* and *New York One* reported that they did not believe EPA or other government agencies’ reports that the air quality around Ground Zero is safe.²⁹
- The EPA Inspector General’s survey of 1,110 residents of New York City – mostly Manhattan and Brooklyn – found that 61 percent of residents distrusted EPA’s statements about outdoor air safety and 63 percent distrusted EPA’s statements about indoor air safety following the September 11th attack.³⁰
- In 2004, Pace University released a survey of 646 lower Manhattan residents. It found that public confidence in the federal EPA is “strikingly low; residents are more than twice as likely to ‘never’ trust the EPA as they are to ‘just about always’ trust the EPA.” The poll found that almost three out of four residents distrust the agency.³¹

Holding hearings to identify which official in the federal government engineered the cover-up of WTC pollution hazards should not even be necessary; the Bush administration should instruct those who know the answer to this question to provide the information immediately. The public clearly has a right to know. It also has a right to know that its federal government repudiates that conduct and is committed to ensure that such conduct will not occur in the next national emergency.

²⁷ House of Representatives, Press Release (Sept. 17, 2003); Elaine S. Povich, “Democrats Seek EPA Probe,” *supra*. His spokesperson said that Representative DeLay would “defer to the committees of jurisdiction” on the issue of an investigation.

²⁸ Letter to Senator James Inhofe from Senators Clinton, Lieberman, Jeffords and Graham (Sept. 4, 2003).

²⁹ Brian Kates, “N.Y.’ers Say City Safe as Anywhere, Poll Finds Many Took Financial Hit,” *New York Daily News* (Mar. 10, 2002).

³⁰ Office of Inspector General, U.S.E.P.A., *Survey of Air Quality Information Related to the World Trade Center Collapse* (Report No. 2003-P-00014)(Sept. 26, 2003)(hereafter, *IG Survey*), p. 7. Forty-one percent of respondents were from Manhattan, 25 percent from Brooklyn, 17 percent from Queens and the remainder from the Bronx and Staten Island.

³¹ Pace Poll, *The Rebuilding of Lower Manhattan: As Plans Progress, Lower Manhattan Residents Evaluate* (Mar. 15, 2004), pp. 4 and 15.

PART THREE:

THE FEDERAL GOVERNMENT FAILED TO CARRY OUT ITS OWN DUTIES TO PROTECT THE PUBLIC FROM THE TOXIC AFTERMATH OF THE ATTACK

As President Bush stated, our way of life, our very freedom came under attack this week. In the midst of this tragedy, we have resolved to do the work of the people. . . . [W]ork sites should be inspected. The only way these attacks will succeed is if they prevent our government from serving the American people. This will not happen. Our resolve to do our duty and serve the country we love will not be deterred or diminished by terrorist acts.³²

Elaine Chao, Secretary of the U.S. Department of Labor

The federal government had much more than a duty to warn against hazards, it had an affirmative duty to act. It had a duty to enforce worker safety and health laws to protect its first responders, and it had a duty to ensure a proper cleanup of the hazardous “spill” that occurred in lower Manhattan because of the terrorist attack. It did neither.

A. The Bush Administration Chose Not to Enforce Occupational Safety and Health Standards at Ground Zero

The safety and health of emergency response and recovery workers is a critical element of our nation’s domestic preparedness and emergency response efforts.³³

Bob Stephen, Special Assistant, Homeland Security

OSHA clearly recognized the environmental hazards at Ground Zero from the outset. On September 13, 2001, the *New York Post* quoted Bill Wright, a spokesperson for OSHA, as stating:

There is concern regarding rescue workers and asbestos and silica (the sandy residue from demolished cement and sheet rock)

³² Statement of Labor Secretary Elaine L. Chao, in Occupational Safety and Health Administration, Press Release, “OSHA Pitching In to Assist with Worker Safety Measures, Asbestos Tests” (Sept. 14, 2001).

³³ Statement of Bob Stephan, Special Assistant to Homeland Security Director Tom Ridge, in “OSHAs Clarifies Policy on National Emergency Management Plan,” *U.S. Newswire* (Feb. 4, 2004).

Normally, employees dealing with asbestos require eight hours of training. Obviously we can't do this here.³⁴

Why that was so “obvious” is not obvious at all. While one would not expect efficient enforcement during the first few days of response to such a massive disaster, certainly the federal government should have sought to secure the uniform enforcement of safety protocols as swiftly as possible. Instead, OSHA wrongly claimed it did not have the legal authority to enforce the Occupational Safety and Health Act at Ground Zero.

1. OSHA wrongly declared that it had no jurisdiction to enforce federal safety standards at Ground Zero because it was an emergency rescue operation

OSHA? They were there. We knew because we saw their jackets. They were just . . . there.³⁵

Robert Ortiz, rescue worker
Safety Representative, Transport Workers Union

OSHA has general authority to enforce the federal Occupational Safety and Health Act. It also has “primary responsibility for worker safety and health during regionally and nationally significant incidents” when those incidents are declared “emergencies” under federal law and result in activation of the Federal Response Plan.³⁶ In fact, OSHA regulations include a special section called the Hazardous Waste Operations and Emergency Response Standard (also known as “HAZWOPER”). HAZWOPER applies at sites recognized by federal, state, local or other governmental bodies as “uncontrolled hazardous waste sites” and also in any “[e]mergency response operations for releases of, or substantial threats of releases of, hazardous substances.”³⁷ This set of statutory regulations requires that worker training, medical surveillance, exposure monitoring and worker protection levels normally must be set based on actual work site monitoring data.

OSHA’s direct enforcement authority extends to all private employees, including employees of contractors who worked at Ground Zero.³⁸ The State Public Employees Safety and Health Administration (“PESH”) has direct authority over safety for local government employees such as

³⁴ “Rescuers Up Against New Peril - Asbestos,” *New York Post* (Sept. 13, 2001).

³⁵ Personal interview of Robert Ortiz, rescue worker and Safety Representative, Transport Workers Union, June 3, 2004.

³⁶ See 42 U.S.C. §§ 5121-5206 (Stafford Disaster Relief and Emergency Assistance Act) and OSHA, *National Emergency Management Plan (NEMP)* (HSO 01-00-001)(Effective Date: Dec. 18, 2003), p. D-3.

³⁷ 29 CFR § 1910.120(a)(1). The Ground Zero operation clearly was an emergency response operation in its early stages, and the fact that the hazardous substance function of the Federal Response Plan (“ESF#10) was invoked and a safety and health program ultimately developed certainly indicates that the federal government deemed this an uncontrolled hazardous waste site.

³⁸ See 29 USC 652(5)(definitions).

firefighters, police, transit and sanitation workers, but the State’s enforcement plan must be as stringent as, or more stringent than, the federal law and rules, and must be approved by federal OSHA, which funds up to half of an approved plan’s operating costs,³⁹ thus placing OSHA in an oversight role.

The HAZWOPER rules are specifically designed to take into account situations like Ground Zero – where all of the pollutants have not yet been identified, but responders cannot wait for the analysis before they take action. It requires that personal protective equipment be provided not only for all “known or suspected” hazards, but also “as minimum protection” when insufficient information is available at first to identify suspected hazards.⁴⁰ It then requires development of a site safety and health plan to assess hazards, establish requirements for personal protective equipment and conduct medical surveillance.⁴¹ These standards are strict and designed to protect workers engaged in tasks that involve exposure to hazardous and potentially hazardous substances.

Nevertheless, on September 14, 2001, as Ground Zero workers labored in the smoke, the federal agency announced only that it was “pitching in,” and:

. . . providing advice and technical assistance to employers and federal agencies to help protect workers from exposure to hazardous substances in the New York City and Pentagon disaster sites.⁴²

While the staff people from OSHA worked very hard at the site, seeking and successfully helping to prevent many injuries, the agency’s official position was that its role was only advisory; it could not require compliance. The nation’s primary worker safety enforcement agency simply *recommended* that anyone working within 25 feet of the debris pile or downwind of the site wear respiratory protection; it did not even become the lead agency to distribute respirator masks until September 20, 2001.⁴³ The agency later declared, “OSHA’s role at the WTC . . . was one of technical assistance, risk management and consultation.”⁴⁴

³⁹ 29 U.S.C. § 667(c)(6). See, Occupational Safety & Health State Plan Association, *Grassroots Workplace Protection: 2002 OSHSPA Report State Plan Activities*, p. 2. Similarly, other federal agencies must develop safety and health plans that are consistent with the OSHA requirements. 29 U.S.C. § 668(a).

⁴⁰ 29 CFR § 1910.120(c)(5)(i) and (iii).

⁴¹ 29 CFR § 1910.120(b)(4)(ii). See App. C of this Report for information on personal protective equipment requirements under OSHA’s HAZWOPER regulations.

⁴² OSHA, Press Release, “OSHA Pitching In to Assist with Worker Safety Measures, Asbestos Tests” (Sept. 14, 2001); see also Comments of Patricia Clark, Region 2 OSHA, *Transcript of OSHA December 6, 2001 Meeting*, p. 27.

⁴³ *McElroy Briefing Memorandum*, p. 4; OSHA, “Inside the Green Line, available at <<http://www.osha.gov/Publications/osh3189.pdf>>.

⁴⁴ OSHA, *National Emergency Management Plan*, p. 1. The New York State Division of Safety and Health followed suit, later stating that its role was “providing safety and health assistance when requested or necessary in coordination with New York City and state emergency management personnel and NYC OSHA officials. Occupational Safety & Health State Plan Association, *Grassroots Workplace Protection: 2001 OSHSPA Report State Plan Activities*, p. 5. See, NYS Dept. of Labor, *2001 Annual Report*, p. 24 (DOSH “provided necessary safety and health awareness information to public sector agencies and their response and recovery personnel”).

OSHA wrongly claimed that its role in the WTC response was limited by the Safety and Health Annex to the Federal Response Plan, a 1992 document that describes how the federal government mobilizes to provide assistance to state and local governments when they are overwhelmed by major disasters or emergencies, and by a guidance document called OSHA Instruction CPL 2.94.⁴⁵ In a memorandum forwarded to NYCOSH Public Affairs Director Jonathan Bennett by Region 2 OSHA’s Labor Liaison, the agency also cited a provision of the Field Inspection Reference Manual.⁴⁶

Aside from the obvious fact that guidance documents cannot supercede statutory duties, this is a surprisingly incorrect reading of those documents. While the Federal Response Plan states that state and local authorities manage the response to most disasters, with federal agencies giving assistance,⁴⁷ this arrangement of *management* roles does not change OSHA’s enforcement powers or duties. Indeed, the Department of Homeland Security’s *Initial National Response Plan*, which is intended to “harmonize” the Federal Response Plan and other emergency response documents, emphasizes that “nothing in this plan alters, or impedes the ability to carry out, the existing authorities of Federal departments and agencies to perform their specifically identified incident management responsibilities under the law.”⁴⁸ Also, while the Federal Emergency Management Agency (“FEMA”) is charged with coordinating federal agencies’ actions in national emergencies, no responsible directive by FEMA would have conflicted with OSHA’s duty to protect worker health and safety.

In fact, OSHA’s statutory regulations specifically authorize enforcement of safety standards in rescue operations. The Field Inspection Reference Manual provision cited by OSHA for its technical assistance role even calls attention to specific regulation that sets out OSHA’s enforcement authority. It states:

OSHA has no authority to direct rescue operations – this is the responsibility of the employer and/or of local political subdivision or State agencies. *OSHA does have the authority to monitor and inspect the working conditions of covered employees engaged in rescue operations to make certain that all necessary procedures are being taken to protect the lives of the rescuers.*⁴⁹ (*Emphasis added.*)

⁴⁵ NIEHS, *Learning from Disasters: Weapons of Mass Destruction Preparedness Through Worker Training* (Apr. 2002)(hereafter, NIEHS, *Learning from Disasters*), pp. 17 and 20. The Plan includes 12 “Emergency Support Functions,” including the Urban Search and Rescue function, which lists FEMA as the primary agency, and the Hazardous Materials Annex, which is headed by EPA.

⁴⁶ Memorandum from Richard Mendelson, Area Director, OSHA (Manhattan office) to Laura Kenny, OSHA Region 2 Labor Liaison (Oct. 10, 2001), forwarded by e-mail from Laura Kenny to Jonathan Bennett, Public Affairs Director, NYCOSH, Oct. 26, 2001.

⁴⁷ NIEHS, *Learning from Disasters*, p. 17. The Federal Response Plan was issued in 1992.

⁴⁸ Department of Homeland Security, *Initial National Response Plan* (Sept. 30, 2003), p. 2.

⁴⁹ Field Inspection Reference Manual (“FIRM”), CPL 2.103, Chapter II, Section B(2)(e), available at <www.osha.gov/Firm_osha_data/100006.html>.

This Manual correctly differentiates between OSHA’s role as an operations manager and OSHA’s role as a safety standards enforcer.⁵⁰

OSHA’s enforcement authority is further elaborated in a 1994 policy memorandum cited in the Field Inspection Reference Manual, which has since been codified at 29 CFR § 1903.14(f). That formally adopted rule makes OSHA’s enforcement duty even more clear.

- The regulation states that OSHA may not issue a citation of violation to an employer because of a rescue activity undertaken by a worker for “an individual in imminent danger” *unless* the employer has designated or assigned the worker to have responsibility to perform or assist in rescue operations, or has directed the worker to so in the course of the worker’s job duties, and “*the employer fails to provide protection of the safety and health of such employee, including failing to provide appropriate training and rescue equipment.*” (*Emphasis added.*)
- Also, if the worker’s job involves activities where “the likelihood of life-threatening accidents is foreseeable, such as a workplace operation where employees . . . handle hazardous waste [or] respond to emergency situations” and the worker has not been assigned to a rescue task but “voluntarily elects” to do so, OSHA may issue a citation of violation if the employer has failed to instruct the worker not to attempt rescue, “*and of the hazards of attempting rescue without adequate training or equipment.*”⁵¹ (*Emphasis added.*)

These rules make it clear that federal law does not suspend enforcement of OSHA requirements to provide proper safety equipment (such as respirators) during rescue operations.⁵²

Indeed, the Occupational Safety and Health Act provides that even if “reasonable variations, tolerances and exemptions to and from any or all provisions” of the law are “necessary and proper to avoid serious impairment of the national defense,” OSHA cannot do so without providing notice to

⁵⁰ Similarly, the OSHA policy directive specifically refers to issuance of OSHA citations for violations. *See* OSHA Office of Health Compliance Assistance, OSHA Instruction CPL 2.94: OSHA Response to Significant Events of Potentially Catastrophic Consequences (July 22, 1991), Section G(10)(e)(4)(c).

⁵¹ 29 CFR § 1903.14(f)(1), (f)(2) and (f)(3).

⁵² At a minimum, even if OSHA was fully convinced that it had no enforcement authority during the rescue operation stage, it could have prevailed upon the City health department to use its local, generic nuisance powers to impose federal safety requirements on the site. The City Administrative Code states that the word “nuisance” includes whatever is, “detrimental to health” or renders the air “unwholesome.” It then states, “All such nuisances are hereby declared illegal.” New York City Administrative Code, § 17-142. The Governor of New York had declared a “general emergency,” which the City of New York’s own Corporation Counsel’s Office explains “is construed to include a public health emergency.” Letter from Kenneth Becker, Chief, World Trade Center Unit, City of New York Law Department, to Rick Beusse, EPA Office of the Inspector General (Aug. 4, 2003), p. 8, in, *IG Report*, App. S, p. 146. The WTC disaster also was declared a “National Emergency” by the President on September 14, 2001, effective from the date of the attack. The White House, “A Proclamation by the President of the United States of America: Declaration of National Emergency by Reason of Certain Terrorist Attacks” (Sept. 14, 2001). In fact, OSHA could have and should have combined its enforcement powers with that of the City Board of Health to mandate immediate correction of hazards if a citation did not result in immediate compliance.

the workers and an opportunity for a hearing. Even then, such an exemption cannot remain in effect for more than six months without further notifying affected employees and again providing the opportunity for a hearing.⁵³ The regulations implementing this section of the law also state that an application for an exemption must describe how employees have been informed of the application and of their right to petition for a hearing.⁵⁴ Thus, Congress clearly intended that even under very serious circumstances involving national defense, the protections of the Occupational Safety and Health Act are not to be summarily denied to workers. In the case of Ground Zero, however, OSHA denied the law's protections to thousands of workers for an eight month period by administrative fiat, even though it served no legitimate national defense purpose.

2. OSHA continued to treat the area as an emergency rescue operation long after the emergency had passed

One problem is that no one was insisting that workers wear respirators. I wouldn't fault anyone in the first 48 hours during the immediate response, but for months afterward most workers at Ground Zero were still not wearing respirators and, in my mind, that is a terrible failure in regulation and it's going to result in a lot of diseases that could have been prevented.⁵⁵

Philip Landrigan, M.D., Mt. Sinai School of Medicine

The rule regarding OSHA enforcement during rescue operations clearly applies to a rescue activity undertaken "with respect to an individual in imminent danger."⁵⁶ Nevertheless, long after actual emergency rescue operations had ceased, OSHA continued to serve in a limited, advisory role at Ground Zero. *New York Newsday* reported as late as October 25, 2001, that OSHA claimed that it had no power to enforce safety standards because it was "still operating under the assumption that . . . the site [was] still legally classified as an emergency rescue scene."⁵⁷

The notion that OSHA could not require provision of protective gear for rescue workers was, as noted above, completely incorrect. Even if OSHA were wrongly convinced of that position, however, any notion that people remained to be rescued nearly a month and a half after the attack

⁵³ 29 U.S.C. § 665.

⁵⁴ 29 CFR § 1905.12(b)(6).

⁵⁵ Statement of Dr. Philip Landrigan, Chairman of the Department of Community and Preventive Medicine, Mt. Sinai School of Medicine, in Jennifer Barrett, "Significant Adverse Effects" of Toxic World Trade Center Debris Coming to Light," *Newsweek* (web exclusive)(May 19, 2004).

⁵⁶ 29 CFR § 1903.14(f).

⁵⁷ "Questions About Safety of Workers," *New York Newsday* (Oct. 25, 2001).

certainly had no basis in rational thinking. (Sadly, September 13, 2001 was the last day that the rescue workers found anyone alive.⁵⁸) The American Public Health Association observed:

Although OSHA noted over 40 violations of health and safety laws daily during the cleanup phase of the disaster, inspectors were never allowed to enforce OSHA regulations at the site since the activities continued to be categorized as “search and rescue” for months after the last living survivor was found (less than 24 hours after the event). This is despite the fact that nothing in the Federal OSHA Act provides for suspension of the enforcement provisions of the law for prolonged periods of time for sites such as the WTC site that have become effectively a large demolition and construction site.⁵⁹

Indeed, the directive titled, “OSHA Response to Significant Events of Potentially Catastrophic Consequences,” cited by OSHA as support for its failure to conduct enforcement activities, specifically states, “OSHA must be an active and forceful protector of employee safety and health during the cleanup, removal, storage and investigative phases of these incidents, while maintaining a visible, but limited role during the initial response phase.”⁶⁰ Thus, OSHA’s own policy clearly calls for a step-up in enforcement activity after the initial, urgent rescue effort.

Given the known hazards at the site and the continued lapses of safety protocols, OSHA had an obligation to assert its jurisdiction to protect the workers. Barbara Olshansky, an attorney with the Center for Constitutional Rights, testified to a New York City Council Committee regarding severe compromises of worker safety at Ground Zero. She stated:

Occupational Safety and Health experts contacted by the Center all agree that the decision not to conduct the cleanup under this OSHA standard [HAZWOPER, 29 CFR § 1910.120] is entirely inappropriate given the nature of the activities to be conducted at the site, the inventory of hazardous materials on the site, the fact that the debris pile is unstable and makes it impossible to determine when exposures to these materials will occur, and the presence of many hazardous

⁵⁸ Comments of Stewart Burkhammer, Employer Representative, Bechtel Corporation, Transcript of Proceedings, Meeting of the Advisory Committee on Construction Safety and Health, OSHA, U.S. Department of Labor, at the Marriott Hotel in Washington, D.C., Dec. 6, 2001 (hereafter, *Transcript of OSHA December 6, 2001 Meeting*)(<www.osha.gov/doc/accsh/transcripts/accshl_120601.html>), p. 25.

⁵⁹ American Public Health Association, Resolution: “Protecting the Health and Safety of Workers Who Respond to Disasters” (Nov. 13, 2002).

⁶⁰ “OSHA Response to Significant Events of Potentially Catastrophic Consequences” (CPL 2.94, July 22, 1991), cited in Memorandum from Richard Mendelson, Area Director, OSHA, to Laura Kenny, *supra*.

materials in the personal monitoring data already obtained by NIEHS.⁶¹

Unfortunately, while OSHA had specific regulatory authority to conduct enforcement under its Hazardous Waste Operations and Emergency Response Standard, it neglected to do so.

Disturbingly, even after workers became sick and public concern rose about safety at Ground Zero, OSHA's response was to issue, in mid-November 2001, a "WTC Emergency Project Partnership Agreement" that promised only a "cooperative effort to ensure a safe work environment."⁶² This WTC Agreement directly conflicted with OSHA's own official instruction directive on partnership agreements. Partnership agreements are intended to encourage private companies to cooperate in the protection of worker safety and health, but they are not an abdication of agency responsibility.

- OSHA's directive on partnership agreements states that all such agreements must contain the "OSHA inspection core element," and the only enforcement-related incentive that is listed in the directive is "penalty reductions" to recognize good-faith efforts at safety and health. The directive emphasizes that all strategic partnerships "must stipulate that partnering employers remain subject to OSHA inspections and investigations in accordance with established agency procedures."⁶³
- The directive also emphasizes that a partnership agreement must identify the safety and health issues that the program is intended to address, the expected program impact, and what data collection and measures will be used to gauge success.⁶⁴

This initial agreement, just one page long, stated only that the various agencies and contractors on site agreed to "work as partners" to achieve compliance with the belatedly developed WTC Emergency Project Environmental, Safety and Health Plan.⁶⁵ A subsequent plan issued in 2002 contained more detail, but OSHA still failed to acknowledge or shoulder its responsibilities to enforce the federal Occupational Safety and Health Act standards at Ground Zero.

The federal administration's decision to continue its abandonment of enforcement of worker safety and health standards at Ground Zero even after the original emergency was over set a very

⁶¹ Barbara Olshansky, Assistant Legal Director, "Testimony before the Environment Committee of the New York City Council on the Public Health Concerns Resulting from Exposures in the Wake of the Collapse of the World Trade Center Towers" (Nov. 1, 2001).

⁶² OSHA, Press Release, "OSHA Launches Partnership to Protect WTC Site Workers" (Nov. 20, 2001).

⁶³ OSHA, *OSHA Instruction Directive No. TED 8-0.2: OSHA Strategic partnership for Worker Safety and Health* (Effective Date: Nov. 13, 1998), pp. 3, 9 and 11. While the Directive states that OSHA is not bound by it and can approve or disapprove of any particular partnership proposal (*Id.*, p. 4), presumably such action would have to be taken within the limits of reasonable agency discretion.

⁶⁴ *OSHA Instruction Directive No. TED 8-0.2 (Strategic Partnerships)*, pp. 6 and 11.

⁶⁵ See "WTC Emergency Project Partnership Agreement Between Occupational Safety and Health Administration and Site Co-incident Commanders, Employee Associations and Prime Contractors" (Nov. 20, 2001).

bad precedent. It raised the spectre that such a non-enforcement approach to other non-emergency situations.⁶⁶ Indeed, it appears that the New York State PESH failed to enforce safety standards – or at least did not do so consistently and sufficiently – at the Staten Island landfill WTC debris management operation, which was certainly not an emergency situation. In testimony to New York State Assembly committees, a State Department of Labor spokesperson described the role of PESH both at Ground Zero and at the Staten Island landfill as having “provided safety and health awareness information to public sector agencies supporting the WTC recovery operation.”⁶⁷ Unfortunately, some sanitation workers who dumped, spread and raked the debris at the Staten Island landfill reportedly did not receive respirators until over a month after the debris work began, although the FBI agents and other federal workers reportedly had respirators within two days after the attack.⁶⁸

3. The federal government not only wrongly deferred worker protection to a local agency that was not equipped to handle it, but also failed to step in after it became obvious, very early on, that enforcement was failing

One of the policy guidance documents that OSHA cited as a basis for its failure to take enforcement action emphasizes that “OSHA cannot abrogate its responsibility in favor of another agency.”⁶⁹ Indeed, in a national disaster that presents significant risks to response workers, OSHA should be more vigilant, not less. EPA’s technically skilled emergency response staff prepared a factsheet on September 11, 2001, recommending the use of air purifying respirators at Ground Zero. Nevertheless, the Federal Emergency Management Agency (“FEMA”) reportedly did not issue it. The EPA Inspector General’s report states:

EPA officials told us this fact sheet was provided to a FEMA official, but was not issued. We contacted a FEMA representative who told us

⁶⁶ In December 2001, OSHA announced a “partnership initiative to *help* protect” (*emphasis added*) the safety and health of workers involved in the WTC Staten Island landfill recovery operation, modeled on the “partnership initiative” established at the WTC site itself. OSHA’s precise enforcement posture is not clear from public statements. OSHA, Press Release, “OSHA Launches Second Partnership to Protect World Trade Center Site Workers: Will Focus on the WTC Project Staten Island Recovery Operation” (Dec. 12, 2001).

⁶⁷ Testimony of Richard Cucolo, Director, Division of Safety and Health, NYS Department of Labor, to the Assembly Standing Committees (Nov. 26, 2001), p. 3.

⁶⁸ See Diana Yates, “NYC Sanitation Department Admits It Was Slow on Respirators,” *Staten Island Advance* (Feb. 19, 2002); Graham Rayman, “Sept. 11 Attack - ‘The City Owes Me’: Sanitation Workers Who Hauled Debris to Fresh Kills Landfill Seeking Compensation for Health Problems,” *Newsday* (May 17, 2004).

⁶⁹ OSHA Office of Health Compliance Assistance, OSHA Instruction CPL 2.94: OSHA Response to Significant Events of Potentially Catastrophic Consequences (July 22, 1991), Section G (7)(b). The only pre-emption that the document discusses is preemption by another federal agency under Section 4(b)(1) of the Occupational Safety and Health Act. See Section (G)(7)(f). It also specifically instructs OSHA’s Regional Administrator to “monitor the State’s response” and to “[a]dvice the Assistant Secretary whether, based on monitoring information, the State has sufficient resources and expertise to adequately respond to the significant event.” See Section E(8)(b) and (d).

that the flier was not issued because it was decided that New York City should handle worker protection issues.⁷⁰

As a result, EPA's factsheet on the need for using respirators at Ground Zero apparently never was distributed by FEMA, although EPA reportedly handed it to workers who came to its wash station at Ground Zero.⁷¹

The federal administration's decision to allow the City of New York to handle worker health and safety enforcement at Ground Zero with no federal oversight constituted a dereliction of duty in practical as well as legal terms. The City health department has only a tiny environmental staff, stretched impossibly thin in its coverage of issues across the five boroughs. The City Department of Environmental Protection is primarily a water utility, staffed by technicians who manage the City's drinking water and sewage systems, having only very poorly funded air and hazardous waste management departments. Neither agency has the clout of OSHA in worker safety. Clearly, worker safety was not a federal priority, or the federal administration would not have sought to delegate responsibility for it.

Even more remarkably, having deferred to the City for worker safety enforcement even though no City agency was equipped to deal with the scale of that task, the federal administration did not take action to correct problems after it became obvious, very early on, that enforcement was failing. Frank Goldsmith, Dr.P.H., Director of Occupational Health for the Transport Workers Union, noted:

Following the WTC disaster, the federal government did not provide leadership to our employer by helping and urging them to protect their employees, our members. . . . It was clear that the NYCT was not being pressured by the federal government to get involved in this crisis. . . . The "hands off" approach was a major mistake; and, it must not be repeated.⁷²

EPA's technical staff recognized the problem and alerted FEMA – as the federal agency coordinating all federal response to the disaster – as well as the City. A letter dated October 5, 2001, from EPA

⁷⁰ *IG Report*, App. L, p. 100.

⁷¹ EPA Region 2 reported to a U.S. Senate subcommittee that it provided a worker safety factsheet entitled *Asbestos Hazards and Precautions* to FEMA "for distribution at Ground Zero," but does not mention that FEMA did not distribute it. *EPA Region 2 Response to Questions from Senate Environment and Public Works Committee*, pp. 4-5. Similarly, EPA's February 2002 response to a question from *St. Louis Post Dispatch* reporter Andrew Schneider about worker protection states that EPA provided a flier warning workers that they needed "appropriate eye protection, air purifying respirators and personal protective clothing" to FEMA for distribution, yet fails to explain that FEMA did not distribute it. See "Response to Questions from Andrew Schneider, *St. Louis Post Dispatch*, Feb. 1, 2002" (undated, author not named). The same assertion, again not mentioning lack of distribution, also appeared in "Need for Respirators in World Trade Center Response Statement, Sept. 15, 2003" (author not named)(all documents provided in response to Sierra Club Freedom of Information request).

⁷² Testimony of Frank Goldsmith, Dr.P.H., Director of Occupational Health, Transport Workers Union Local 100, to the EPA WTC Expert Technical Review Panel (May 24, 2004), p. 2.

Region 2's Response and Prevention Branch to the City health department, and copied to FEMA as the federal agency responsible for coordination of all federal response to the disaster, emphasized that health and safety for workers at Ground Zero had been "a concern from the beginning of the response," not only with regard to standard construction and demolition safety concerns, but also with regard to "potential exposure to hazardous substances." The EPA Region 2 staff letter stated:

Sources of hazardous substances include (1) building materials from the destroyed buildings (primarily asbestos), (2) hazardous materials that were stored in the buildings (refrigerants, hazardous wastes, ethylene glycol, compressed gas cylinders, etc.), and (3) products of combustion being emitted from the fires that continue to burn within the debris piles. . . . Air sampling by EPA and others indicates that asbestos and other contaminants are present in the air at the WTC. EPA has recommended, and continues to recommend, that workers at the Site wear respiratory protection. . . . We have observed very inconsistent compliance with our recommendations, however, we do not have authority to enforce the worker health and safety policies for non-EPA/USCG employees.⁷³

Unfortunately, the federal government was slow to respond to the problem and never did take a firm enforcement role.

4. OSHA's lack of enforcement resulted in rampant site safety violations

Lack of enforcement promotes lack of safety. According to an investigator for the National Institute of Environmental Health Sciences (NIEHS), OSHA's own staff observed 1,002 hazardous "incidents" at Ground Zero from September 21 to October 14, 2001.⁷⁴ OSHA, however, continued to take no enforcement action. During the rescue and recovery effort at Ground Zero, as observed by Joel Shufro, Executive Director of NYCOSH:

There was a lot of finger-pointing about who was in charge. But in the confusion between EPA and the Occupational Safety and Health Administration and the City Health Department, laws weren't enforced."⁷⁵

The *IG Report* supports Mr. Shufro's assessment, expressing particular concern about asbestos control:

⁷³ Letter from Bruce Sprague, Chief, Response and Prevention Branch, to Mr. Kelly R. McKinney, P.E., Associate Commissioner, Bureau of Regulatory and Environmental Health Services, NYC Department of Health (Oct. 5, 2001). *IG Report*, App. P, p. 115.

⁷⁴ "Questions About Safety of Workers," *Newsday* (Oct. 25, 2001); Erik Lipton and Kirk Johnson, "Safety Becomes Prime Concern at Ground Zero," *New York Times* (Nov. 8, 2001); see also, Barbara Olshansky, *supra*, p. 6.

⁷⁵ Francesca Lyman, "Anger Builds Over EPA's 9-11 Report," *MSNBC* (Sept. 11, 2003).

We could not conclusively determine the extent to which required work practices regarding the control of asbestos were followed at the WTC site during demolition and debris removal.... We found that a significant requirement to reduce emissions in emergency demolitions – wetting damaged buildings before demolition and keeping the waste material wet after demolition – was followed. However, work practices applicable to the transport of debris from the site were employed inconsistently.⁷⁶

Mr. Shufro noted that if OSHA had enforced its rules for respiratory protection, “thousands of workers who are now sick could have been protected from the toxic substances.”⁷⁷ EPA itself reports that it faced a challenge in promoting decontamination of workers. It states:

By September 19, seven wash stations were in operation at Ground Zero, and five more would be added in the next few days. But without the authority to enforce compliance (the City of New York controlled the site), on-scene coordinators had to rely on the power of persuasion – and ultimately the lure of a warm meal.⁷⁸

Clearly, the federal government should have exercised its enforcement authority.

Enforcement works. The police and FBI inspectors at the Fresh Kills Landfill debris management operations, overseen by the U.S. Army Corps of Engineers, achieved approximately 90 percent compliance with respiratory protection; these workers reportedly were officially informed that not wearing respirators would result in disciplinary action.⁷⁹ Similarly, a report by Francesca Lyman for the National Environmental Health Association found, “at the Pentagon volunteers without sufficient respiratory protection were *thrown off* the site.”⁸⁰ Both, of course, were much smaller and more easily controlled operation. The employers of those workers were able to establish and enforce worker safety discipline with little difficulty. Ground Zero, in contrast, involved thousands of workers from a variety of agencies and contractors as well as, in the beginning, hundreds of volunteers. The situation required direct and centralized enforcement leadership.

⁷⁶ *IG Report*, p. ii.

⁷⁷ NYCOSH Update Aug. 18, 2003 (“Leaked Report Says EPA Soft-Pedaled 9/11 Health Hazards at Urging of White House”).

⁷⁸ EPA Region 2, “A Response to 9-11: Oh My God, Look at That Plane!” (retrieved Nov. 4, 2003; apparently written in fall 2002)(www.epa.gov/wtc/stories/yearreview.htm), p. 6.

⁷⁹ *IG Report*, App. L, p. 100, citing Bruce Libby, C.I.H., C.S.P., “Respiratory Protection at the World Trade Center: Lessons from the Other Disaster” (Jan. 15, 2002). FEMA assigned the management of the Fresh Kills Landfill debris operation to the U.S. Army Corps of Engineers. More than 1.6 million tons of debris and steel were processed there. See FEMA, *A Nation Remembers; A Nation Recovers – Responding to September 11, 2001, One Year Later* (2002), p. 17.

⁸⁰ Francesca Lyman, *Message in the Dust: What Are the Lessons of the Environmental Health Response to the Terrorist Attacks of September 11?* (National Environmental Health Ass’n, September 2003), Part 1, Section 3.

OSHA's National Emergency Management Plan, in recounting OSHA's role with regard to Ground Zero, called the non-enforcement "partnership" a success. It states:

OSHA worked with Federal, State and local officials as part of the Unified Command Structure, and also worked in partnership with the private sector to create a site health and safety plan (HASP) that was fully adopted and implemented. . . . A large part of the success at WTC can be attributed to the constant site monitoring and risk management efforts, and the robust collaboration among OSHA, other site response organizations, site employers, and site personnel.⁸¹

While OSHA can certainly take its portion of credit for helping to reduce traumatic injuries during the rescue/recovery effort (along with the skilled union construction workers who gave on-the-spot safety instruction to other rescue workers), still the breadth of its statement is astoundingly out of touch with reality. Given the widespread environmental safety problems documented at Ground Zero – and the fact that many hundreds of workers are now known to be ill – it is hard to imagine how OSHA could call its program of "cooperation" and "partnership" a success.

Also, while OSHA touts the existence of a "site health and safety plan," the truth is that an environmental safety and health plan for the WTC disaster was not established until October 29, 2001, over a month and a half after the disaster.⁸² The responsibility to develop such a plan was subcontracted to the Bechtel Corporation, which circulated a couple draft plans but never completed them.⁸³ A new company replaced it and, apparently, completed the plan, but this was long after many of the most dangerous phases of the operations at Ground Zero had already been carried out. As noted in Part Five of this Report, the first formal safety awareness training pursuant to that plan apparently did not begin until November 29, 2001 – *over two and a half months after the attack*.⁸⁴ In other words, site safety eventually improved, but it was far too late for most of the workers who experienced the worst of the exposures. And the result is that many hundreds of people are sick.

In fact, the Administrator of OSHA has acknowledged that compliance assistance is not enough to protect workers. In a statement made just a year after the terrorist attack, when announcing increased inspection goals for the year 2002, OSHA Administrator John Henshaw declared, "Without strong enforcement, our other work [outreach, compliance assistance, etc.] won't be as effective."⁸⁵ That statement, unfortunately, was equally true in 2001, when many thousands of workers were exposed to toxic hazards at and near Ground Zero.

⁸¹ OSHA, *National Emergency Management Plan*, p. 1.

⁸² Bruce Lippy (2002), p. 542. Prior to that time, there was only a preliminary "Accident Prevention Plan" in place. See Letter from Kenneth Becker, Chief, World Trade Center Unit, City of New York Law Department, to Rick Beusse, EPA Office of the Inspector General (Aug. 4, 2003), p. 9, in *IG Report*, App. S, p. 147. Apparently, additional details on health and safety training continued to be negotiated after that date. See G. Gittrich and F. Lombardi, "Safety Guidelines Set for WTC Site Workers: Dems Seeking Cleanup Czar," *supra*.

⁸³ *NIEHS Report*, p. 6-8; testimony of Barbara Olshansky, *supra*, p. 2.

⁸⁴ Bruce Lippy (2002), p. 542.

⁸⁵ Sandy Smith, "OSHA: 'Deeply Committed to Enforcement,'" *Occupational Hazards* (Sept. 16, 2002).

B. The Federal Government Failed to Respond Properly to the Toxic Release as a Terrorist Attack and Illegal Action – Which Left Families and Workers at Risk

The President has broad powers to respond to pollution from terrorist attacks and to releases of hazardous substances, and these powers are delegated to EPA. EPA's authority and duty to undertake cleanup of contaminated indoor spaces stems from a presidential directive and a major homeland security policy document addressing terrorist attacks and national disasters, and a federal emergency response statute. It also has general authority to act pursuant to a statute governing illegal releases of hazardous substances. Yet, during the critical early months, EPA attempted to place all of the burden of indoor cleanup on residents and left area workers without any guarantee of a safe workplace while encouraging them to reoccupy the area. Joel Kupferman of the New York Environmental Law & Justice Project observed, "They tried to make a public health problem into a private health problem."⁸⁶ While EPA eventually took limited action on indoor cleanup of residences, it left most residents and workers unprotected and its legal responsibilities unfulfilled.

Under the presidential directive and homeland security policy document, EPA is declared to be responsible for cleaning up buildings and other areas contaminated by a terrorist attack.

- EPA acknowledged as early as November 28, 2001, that it had lead responsibility to clean up buildings contaminated by an act of terrorism under a 1998 Presidential Decision Directive (PDD 62). As the EPA Inspector General explains, this directive instructs EPA to assume the leadership role in cleaning up buildings and other sites contaminated by chemical or biological agents as a result of an act of terrorism.⁸⁷ Then EPA Administrator Whitman testified to a Senate Subcommittee:

Under the provisions of PDD 62, signed by President Clinton in 1998, the EPA is assigned lead responsibility for cleaning up buildings and other sites contaminated by chemical or biological agents as a result of an act of terrorism. This responsibility draws on our decades of experience in cleaning up sites contaminated by toxins through prior practices or accidents.⁸⁸

⁸⁶ Personal interview of Joel Kupferman, Esq., Executive Director, New York Environmental Law & Justice Project, August 4, 2004.

⁸⁷ Presidential Decision Directive (PDD) 62, "Protection Against Unconventional Threats to the Homeland and Americans Overseas," May 22, 1998.

⁸⁸ Statement of Governor Christine Todd Whitman before the Subcommittee on VA, HUD and Independent Agencies of the Committee on Appropriations (Nov. 28, 2001), pp. 1-2. An identical statement was included in the Statement of Linda Fisher, Deputy Administrator, U.S. Environmental Protection Agency, Before the Committee on Science, U.S. House of Representatives (Dec. 5, 2001), pp. 1-2. Presidential Decision Directive 62 ("Protection Against Unconventional Threats to the Homeland and Americans Overseas," May 22, 1998) is a classified document unavailable to the public, but an unclassified abstract is available.

- Also, as the *IG Report* notes, the July 2002 *National Strategy for Homeland Security* issued by the Department of Homeland Security declares:

After a major incident, the Environmental Protection Agency will be responsible for decontamination of affected buildings and neighborhoods and providing advice and assistance to public health authorities in determining when it is safe to return to these areas.⁸⁹

EPA not only neglected to fulfill these executive mandates but also did not carry out the statutory duties established when the Department of Homeland Security declares that a hazardous materials release has occurred in the context of a national emergency, which provides additional authority for EPA to act. The federal Stafford Act authorizes FEMA to establish a Federal Response Plan to coordinate federal action in national emergencies.⁹⁰ Under the Federal Response Plan, which FEMA activated with regard to the WTC attack, the Department of Homeland Security has the power to decide whether hazardous materials releases require activation of the hazardous materials “emergency support function.” If it makes that declaration, EPA becomes the lead agency to ensure that actions in response to hazardous substance releases comply with the requirements of its National Contingency Plan (the plan that governs federal cleanup of toxic sites).⁹¹ According to the National Response Center’s “incident summary” for the September 11 attack, EPA received mission assignments to conduct field operations pursuant to the hazardous materials “Emergency Support Function #10.”⁹² Thus, it should have carried out those duties under the National Contingency Plan standards.⁹³

Finally, even in the absence of such directives, EPA always had the statutory authority to take action against the release of hazardous substances pursuant to the powers and duties delegated to it by the President to carry out the Comprehensive Environmental Response, Compensation and Liability Act (“CERCLA”), also known as “the Superfund Law.” The President is authorized by Congress to undertake a response under CERCLA when all of the following for thresholds are crossed:

⁸⁹ *IG Report*, p. 28.

⁹⁰ The Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. §5121, *et seq.*, as amended by the Disaster Mitigation Act of 2000, Pub. L. No. 106-390, 114 Stat. 1552 (2000)(“the Stafford Act”).

⁹¹ See “Emergency Support Function #10 Hazardous Materials,” Part I (A), in Federal Response Plan (<www.fema.gov/rrr/frp/>). The U.S. Department of Homeland Security decides whether or not to activate Emergency Support Function #10. See 40 CFR §300.130(i). For the National Contingency Plan, see 40 CFR § 300.

⁹² National Response Center, “2001 National Response Team Incident Summaries: Terrorist Attack - NY, DC, PA” (update report, Sept. 13, 2001, 10:00 AM)(www.nrc.uscg.mil/insum2001/terrorist2.html), p. 2. EPA notes, “A mission assignment from FEMA confirms that FEMA will provide funding for the . . . assigned activities.” *EPA Region 2 Response to Questions from Senate Environment and Public Works Committee*, p. 12.

⁹³ EPA claims that it did not act on indoor pollution until mid-2002 because “no requests were made to EPA from FEMA” to do so. *FEMA IG Report* (App. H: U.S.EP.A. Comments on Draft Report , Dec. 2, 2002), p. 62; Letter from EPA Administrator Whitman to Rep. Jerrold Nadler (Feb. 22, 2002). FEMA, however, has no authority to relieve EPA of its duties under Presidential Executive Orders or federal laws that EPA is mandated to implement.

- substantial
1. A hazardous substance or a pollutant that “may present an imminent and danger to the public health or welfare”
 2. Is released or there is a substantial threat of a release
 3. Into the environment and
 4. Response is necessary to protect public health or welfare, or the environment.⁹⁴

The “reportable quantity” for asbestos – that is, the amount of emissions that must be reported to the federal National response Center under CERCLA – is just one pound of asbestos.⁹⁵ The release from the September 11th attack far exceeded this amount and certainly warranted action under CERCLA.

- For example, EPA’s *Guidelines for Catastrophic emergency Situations Involving Asbestos* states out that while City environmental agency supervised the cleanup after the Gramercy Park steam pipe explosion (New York City) – which released 200 pounds of asbestos from pipe insulation – with oversight from EPA, “[a] federal response could have been carried out under CERCLA . . . if that had been needed.”⁹⁶
- Indeed, just three days before the September 11th terrorist attack, EPA Administrator Whitman had announced that the agency was undertaking the task of cleaning up the indoor areas of residences in Libby, Montana, an asbestos-laden community that had been polluted by an irresponsible mining company and its successor.⁹⁷

EPA’s failure to take action with proper regard for public health and safety under the circumstances of the WTC pollution was irresponsible and ran counter to CERCLA’s purpose. Also, as Representative Jerrold Nadler pointed out in his white paper on the topic, the Stafford Act does not supercede CERCLA, and the Federal Response Plan is not intended to eliminate other federal emergency response programs but rather is designed to ensure that emergency actions are coordinated.⁹⁸

⁹⁴ CERCLA, 40 U.S.C. § 9604(a); see 40 CFR § 300.404(h)(3). EPA was delegated the authority to administrate CERCLA by Exec. Order 12580, amended by Exec. Order 12777 (56 Fed. Reg. 54757, Oct. 21, 1991). See *Nadler White Paper*, p. 12. More generally, CERCLA states, “the president may respond to any release or threat of release if, in the president’s discretion, it constitutes a public health or environmental emergency and no other person with the authority and capability to respond to the emergency will do so in a timely manner.” 40 U.S.C. § 9604(a)(4). The *IG Report* observes that while New York City exercised a lead role regarding indoor air, “Nonetheless, we believe EPA could have taken a more proactive approach regarding indoor air cleanup. After the City was criticized for its response, EPA began to assume a lead role in February 2002.” *IG Report*, pp. ii and 28.

⁹⁵ 40 CFR § 302.4, Appendix A.

⁹⁶ U.S.E.P.A., *Guidelines for Catastrophic Emergency Situations Involving Asbestos*, pp. 3 and 7.

⁹⁷ Remarks of Governor Christine Todd Whitman, Administrator of the U.S.E.P.A., at a Town Hall Meeting, Libby, Montana (Sept. 7, 2001)(<<http://yosemite.epa.gov/administrator/speeches.nsf>>). See also Joel Kupferman in Brown, C., *Lost Liberties*.

⁹⁸ See 40 CFR § 300.130(i) and 44 CFR § 206.5(f). See also *Nadler White Paper*, p. 13. The Stafford Act itself declares that it is designed “to assist the efforts of the affected States” in rendering aid and services in a disaster. It includes no statement of preemption or replacement of other federal laws or duties. See 42 U.S.C. § 5121 (Congressional Findings and Declarations). Indeed, the Department of Homeland Security’s *Initial National Response Plan*, which is a coordinating document for Federal Response Plan and other emergency response

Under CERCLA, EPA has broad authority to address indoor contamination. The regulations established under the National Response Plan state:

Entry and access. (1) For purposes of determining the need for a response, or choosing or taking a response action, or otherwise enforcing the provisions of CERCLA, EPA, or the appropriate federal agency . . . has the authority to enter any vessel, facility, establishment or other place, property, or location described in paragraph (d)(2) of this section and conduct, complete, operate, and maintain any response actions authorized by CERCLA or these regulations.⁹⁹

Such properties may include “[A]ny . . . place or property from which, or to which, a hazardous substance or pollutant or contaminant has been, or may have been, released or where such release is or may be threatened.”¹⁰⁰ Indeed, EPA took early investigative action after the attack with regard to indoor contamination, conducting tests in certain publicly owned and privately owned buildings.¹⁰¹

1. EPA should have promptly undertaken cleanup of contaminated indoor spaces

People who lived or worked in lower Manhattan experienced many frustrations in their efforts to learn what the health hazards were and where they could go for help. Some people wrongly believed that only the City health department had authority to address the indoor pollution problem. Drs. Paul Liroy and Michael Gochfield, for example, asserted in a 2002 article, “The only agency authorized for indoor cleanup and reentry was the local health department, which did not have the resources to conduct or facilitate cleanup.”¹⁰² This, as noted above, is not correct. EPA is

documents, including the National Contingency Plan, emphasizes that such coordination must not alter or impede the ability of agencies to perform their statutory duties. *Initial National Response Plan*, p. 2.

⁹⁹ 40 CFR 300.400(d)(1).

¹⁰⁰ 40 CFR 200.400(d)(2). Such investigation and action would not have to “stigmatize” the area. EPA can undertake such action without placing the label of “Superfund site” on lower Manhattan. A site does not need to be declared a “Superfund site” for EPA to undertake cleanup action under CERCLA. EPA does not need to expend Superfund Trust Fund money for cleanup actions taken under CERCLA. *See* 40 CFR § 300.415 (b)(1). EPA reportedly has taken action on indoor air contamination at several non-Superfund sites. Testimony of Robert Martin, National Ombudsman, U.S.E.P.A., before the U.S. Senate Subcommittee on Clean Air, Wetlands and Climate Change (Feb. 11, 2002). *See Nadler White Paper*, p. 25; *see also* comment of EPA Ombudsman Chief Inspector Hugh Kaufman, *EPA Ombudsman Hearing Transcript Feb. 21, 2002*, p. 604.

¹⁰¹ EPA collected samples at Chase Manhattan Plaza and reportedly worked with the U.S. Coast Guard to monitor some Wall Street area buildings so that employees could re-enter to obtain work materials. It also tested a residential building at 110 Greenwich Street in September 2001 at the request of the Ground Zero Elected Officials Task Force. Publicly owned or operated buildings that EPA tested included three schools – Stuyvesant High School, Public School 234, and Manhattan Borough Community College (at the request of the Ground Zero Elected Officials Task Force), and the Jacob Javitz Center, 26 Federal Plaza, 290 Broadway (EPA Region 2), and Department of Justice offices at 100 Church Street. *IG Report*, pp. 24 and App. K, p. 93.

¹⁰² Paul Liroy, M.D. and Michael Gochfield, M.D., “Lessons Learned on Environmental, Occupational, and Residential Exposures from the Attack on the World Trade Center,” *Am. J. Industrial Med.* 42:560-565, 563 (2002). They asserted, “In May 2002, the U.S.E.P.A. gained authority, responsibility and funding to conduct voluntary cleanup of residences.” In fact, no legislation was required or passed to establish EPA authority to carry out this

the appropriate agency to conduct this cleanup and had full authority to do so from the outset of the disaster.

It was the staff of Congressional Representative Jerrold Nadler's office – especially Amy Rutkin, Linda Rosenthal and Lisette Morton – who pulled together the essential information that the residents needed to advocate for their needs. Kimberly Flynn of 9/11 Environmental Action recalls:

We called them “Jerry’s Angels” – and they were a force to be reckoned with. The residents had tried everything. They had been bounced from one agency to another. But they didn’t really know how strong their case for cleanup was or which agency really had the power to help them. Then Congressman Nadler’s office started putting together all of the information that was available about the pollution and explaining what it meant. And he is the one who explained to us the powers – and the duties – of the federal Environmental Protection Agency.¹⁰³

EPA resisted Representative Nadler’s call for action. It argued in letters to Rep. Nadler and 9/11 Environmental Action, which coordinated much of the residential and parent-based advocacy for cleanup, that it had the discretion to decide what, if any, parts of the National Contingency Plan it might choose to follow in responding to the disaster. Without explaining why the WTC disaster would not deserve a full response under the National Contingency Plan, EPA asserted that the sections of the Plan regarding investigation, cleanup of a hazardous release and the cleanup standard to protect against cancer risk did not apply. It stated that only the provisions regarding establishment of response teams and an on-scene coordinator and responding to public questions applied in this case.¹⁰⁴ In other words, EPA asserted that it did not need to take any protective actions against public exposure to the pollution; it only needed to coordinate monitoring and do public relations.

Armed with Rep. Nadler’s information, community leaders fought for a proper cleanup, and eventually, EPA relented. On May 8, 2002 – after several aggressive advocacy by Representative Nadler and many community groups – EPA finally announced the launching of a FEMA-funded program to test and clean up people’s apartments.¹⁰⁵ Actual cleanup operations did not begin until September 2002, and the deadline to request a cleanup was December 28, 2002. *The IG Report*

program; it was simply an appropriate administrative decision.

¹⁰³ Personal interview of Kimberly Flynn, spokesperson for 9/11 Environmental Action, May 11, 2004. Representative Nadler released his first in-depth “white paper” on Lower Manhattan WTC environmental issues on March 8, 2002. *See*, U.S. Representative Jerrold Nadler, News Release, “Rep. Nadler Issues First ‘White Paper’ on Disgraceful and Illegal EPA Response to Post-9/11 Air Quality Issues in Lower Manhattan” (March 8, 2002).

¹⁰⁴ *See* Letter from EPA Region 2 Administrator Jane Kenny to Rep. Jerrold Nadler, *supra*, p. 3; and letter from Kathleen Callahan, EPA Region 2 Asst. Regional Administrator, to Rachel Lidov, 9/11 Environmental Action (Sept. 12, 2002), Attachment A (Response to Questions), p. 3. pp. 3-4. *See* App. C of this Report for more details.

¹⁰⁵ In February 2002, EPA formed a multi-agency task force to develop a plan for FEMA-funded cleanup of residences in lower Manhattan. A May 2002 EPA memorandum provided the request for authorization of FEMA funding. EPA, New York City and FEMA publicly announced this plan on May 8, 2002. Residents of Lower Manhattan living south of Canal and Pike Streets were eligible for the program. *IG Report*, p. 27.

states that “the delay in providing a government-organized and adequately monitored cleanup in Lower Manhattan may have contributed to unnecessary exposures to asbestos and other pollutants by unprotected workers and residents.”¹⁰⁶

The CERCLA regulations set out the program goal for the National Contingency Plan as follows:

The national goal of the remedy selection process is to select remedies that are protective of human health and the environment, that maintain protection over time, and that minimize untreated waste.¹⁰⁷

Once EPA finally acted on the need to clean up the indoor WTC contamination, however, the remedy that it “selected” was not protective of human health and the environment, and its conduct prolonged certain hazards rather than ensuring that the cleanup would maintain protection over time. In other words, EPA’s misconduct in this cleanup did not end with the above-described delay period.

2. The federal government continued to mislead residents about safety even as it finally offered cleanup help, thus discouraging participation in the program.

The outreach material for the federal cleanup program can only be described as designed to fail. EPA offered professional cleaning, but did not tell the many thousands of less-informed residents why they needed it. The outreach flier contained no warnings about asbestos, lead or other potential hazards in the WTC dust. The agency did not explain why residents should invite strangers into their home to invade their privacy, move stuff around, maybe even throw out carpeting or upholstered furniture, and otherwise disrupt their lives just as they were trying to recover from the trauma of the terrorist attack.

EPA did not even provide compelling reasons to subscribe to its cleanup program to families with members who were more vulnerable to the harmful effects of pollution. It did not bother to inform residents that young children would be at special risk from exposure to the dust. Since asthmatics tend to have adverse reactions to certain types of pollution at levels of exposure ten times lower than healthy adults,¹⁰⁸ it would have been conservative to advise that they would be at risk if contamination were not professionally cleaned, but EPA did not do so.

Instead, EPA gave the impression that the program was not really needed. *A New York Daily News* reporter observed that EPA and New York City officials “said the sweeping new program is being carried out largely to ease fears of those who live near Ground Zero,” while the Associated Press reported, “EPA officials say the program is designed mainly to reassure jittery residents that

¹⁰⁶ *IG Report*, p. 29.

¹⁰⁷ 40 CFR § 300.430(a)(1)(i). Appendix C of this Report describes in greater detail the federal policies on cleanup of toxic contamination.

¹⁰⁸ Personal interview of Neil Schachter, M.D., Mount Sinai School of Medicine, March 23, 2004.

their homes are safe.”¹⁰⁹ Rather than making the case for professional environmental cleanup, EPA’s outreach flier for the program merely said:

Home is where we live our lives and feel safe with our loved ones. For some living in lower Manhattan, the possibility that dust from the collapse of the World Trade Center may linger in their homes has raised concerns. That is why the EPA, along with FEMA, New York City, New York State and OSHA is offering residents of Lower Manhattan . . . the option of having their homes professionally cleaned and/or tested for airborne asbestos contamination free of charge. While scientific data does not point to any significant long-term health risks, people should not have to live with uncertainty about the future. Call . . . to schedule an appointment or have your apartment cleaned and/or tested or for further information.¹¹⁰

The message was unmistakable: *If you have emotional, irrational fears, we’ll come and clean your home.* This is not the kind of invitation that will inspire people to line up for the program.

Disturbingly, EPA established a testing-before-cleaning option that misled residents into believing that if the EPA’s tests did not identify an asbestos hazard, their dwellings were safe. Residents were given the choice to request a cleanup, or to have the apartment tested first, ostensibly to determine whether or not a cleanup was necessary.¹¹¹ For residents who wanted to “get back to a normal life,” the prospect of testing the apartment first before engaging in a disruptive cleaning process may well have been attractive. Of the 757 apartment dwellers who chose the pre-testing option, fully 717 were found to have either no detectible airborne asbestos or levels below the EPA’s “ad hoc” risk-based clearance level of 0.0009 fibers per cubic centimeter (for a 1 in 10,000 cancer risk).¹¹² As a result, only 3,415 apartments actually were cleaned under the program.¹¹³

Most of those residents very likely did not understand the limited value of that “pre-testing.” In fact, EPA’s pre-cleaning test program for Ground Zero area residents was surprisingly unscientific.

¹⁰⁹ Greg Gittrich, “EPA Vows Housing Cleanup,” *New York Daily News* (May 9, 2002); Michael Weissenstein, “EPA Rapped for NYC Cleaning Program” (Associated Press)(May 15, 2002).

¹¹⁰ See EPA outreach flier, “We Protect More than the Environment” (flier for 2002 residential cleanup program), located at website: <<http://www.epa.gov/wtc/flyers/index.html>>.

¹¹¹ See, U.S.E.P.A., “EPA Response to September 11: Frequently Asked Questions” (Aug. 2003) (<www.epa.gov/wtc/questions/index.html>); Testimony of Kathy Callahan, Assistant Administrator for NYC Response and Recovery Operations, U.S.E.P.A. Region 2, before the NYC Council (Dec. 17, 2002), p. 5.

¹¹² *Id.*

¹¹³ U.S.E.P.A., “EPA Response to September 11: WTC Residential Testing Results” (<www.epa.gov/wtc/factsheets/clean_test_results.htm>).

- EPA tested apartments for only one pollutant, asbestos. On this basis alone, it decided whether or not to clean the residence.¹¹⁴ EPA did this even though the *USGS Report* stated that asbestos in WTC dust samples obtained a city block apart from each other showed significantly different results;¹¹⁵ ATSDR’s testing of residential dust and found that “there is not a consistent spacial distribution pattern of asbestos” and other contents of WTC dust;¹¹⁶ and EPA’s own sampling had revealed “an uneven spread of asbestos-containing dust” in the Ground Zero area.¹¹⁷

Many apartments may have contained other toxic chemicals from the WTC dust that were not cleaned up. By way of comparison, Joan Greenbaum, co-chair of Health and Safety for the Professional Staff Congress of the City University of New York reports that the Borough of Manhattan Community College, heavily affected by Ground Zero pollution as well as the barge debris transfer operation, had high levels of lead in the air intakes and return ducts of the building. She noted, “These lead levels were found despite the fact that the building was cleared for asbestos – the supposed proxy substance considered representative of other contaminants. . . .”¹¹⁸

- EPA only did air sampling, not dust wipe testing. Air tests would not reveal whether toxic lead dust (which is heavy and tends to settle), asbestos or other chemicals from Ground Zero were on the floor or in carpets or upholstery.¹¹⁹
- EPA invented and used a weaker asbestos testing protocol for residents. EPA offered residents the option to choose an air sampling method that it called “modified aggressive” testing. Under this method, EPA did not use a leaf-blower to kick up dust before air testing, even though such “aggressive testing” is required for asbestos testing in schools.¹²⁰ Instead, only a fan was used to raise the dust. Many people

¹¹⁴ *Id.*

¹¹⁵ *USGS Report (Integration of Results and Conclusions)*, p. 9.

¹¹⁶ *ATSDR and City Health Department Residential Dust Study 2002*, pp. 7 and 42. Preliminary results of its tests had been made public on February 4, 2002.

¹¹⁷ EPA Region 2, “A Response to 9-11: Oh My God, Look at That Plane!” (retrieved Nov. 4, 2003; apparently written in fall 2002)(www.epa.gov/wtc/stories/yearreview.htm). Indeed, because asbestos was not used throughout both towers, one would not expect the mineral to be uniformly distributed in the air or dust.

¹¹⁸ Testimony of Joan Greenbaum, Ph.D., Co-chair of Health and Safety for the Professional Staff Congress of City University of New York, to the EPA WTC Technical Review Panel (April 12, 2004), p. 2.

¹¹⁹ Standard asbestos air sampling guidelines assume that carpets and upholstered furniture or other soft surfaces have been removed, but EPA’s program did not call for removal of these materials. Air tests would not reveal whether those carpets or upholstery were free of asbestos.

¹²⁰ While EPA argued that aggressive sampling was not a “representative condition for testing and potential exposure,” *EPA Response Memorandum*, App., p. 9, in *IG Report*, p. 128, the Inspector General pointed out that it is not a representative condition in schools either, yet EPA’s AHERA standard requires it. *IG Report*, App. R, p. 137. Also, the purpose of this testing was to determine whether any significant amount of WTC dust was present in the home that might require professional cleaning. Asbestos was being used as a “surrogate” for all contamination. Whether or not asbestos itself presented an exposure risk was not the sole issue.

chose that option because it was less disruptive to their lives. Craig Hall, President of the World Trade Center Residents Coalition, explains:

Then came the confusing testing that EPA offered, aggressive or modified aggressive. Was not the modified one better? . . . We tried to persuade people to use aggressive testing, but the EPA failed to point out that this was five times as likely to detect asbestos as compared to the modified version. People were concerned that [aggressive] testers might damage furniture, pictures and delicate items. After all, [many believed that] the EPA would not offer the method if it would not pick up similar levels of asbestos.¹²¹

David Newman, NYCOSH industrial hygienist, noted that this protocol had not been peer-reviewed. He observed, “That’s troubling when the invented protocol is weaker than what is provided in the regulation.”¹²² As noted above, in fact, the aggressive method identified asbestos six times more frequently than the modified approach.

Residents were left with the sense that the cleanup program was designed to cost as little as possible and intended to find nothing. Diane Lapson, a tenant advocate at Independence Plaza, a large residential complex near Ground Zero, asserts:

People here are sick. We have new onset asthma, more sensitivity with allergies. Will it ever go away? If you don’t clean the environment, how *can* it go away? But the cleanup program, I feel, was really for show. They did bad outreach – they didn’t even bother to advertise on the local buses – and they did a bad cleanup. Why couldn’t the professionals figure out what to do? Any decent person who cares about families could have done a better job.¹²³

Members of the community, consequently, remain concerned about the as yet undetermined exposure risks that may exist even in residences that participated in the EPA cleanup program.

3. Most residences within EPA’s Ground Zero “cleanup zone” (below Canal and Pike Streets) were not cleaned by trained abatement workers

¹²¹ Testimony of Craig Hall, President, World Trade Center Residents Coalition, to the EPA WTC Expert Technical Review Panel, May 24, 2004, pp. 2-3.

¹²² Personal interview of David Newman, Industrial Hygienist, NYCOSH, May 12, 2004.

¹²³ Telephone interview of Diane Lapson, tenant advocate, Independence Plaza North.

Not surprisingly, EPA's 2002 residential cleanup program left many thousands of homes unabated. Community District 1, which is the district that was most heavily polluted by WTC dust, is inhabited by some 34,000 people and contains at least 15,830 occupied housing units.¹²⁴ The entire EPA "cleanup zone" below Canal Street has an estimated 22,000 housing units.¹²⁵ Nevertheless, EPA actually cleaned only about 3,425 apartments in lower Manhattan in that \$60 million program.¹²⁶ According to Congressman Nadler, the project left some 16,000 to 18,000 apartments south of Canal and Pike Streets, plus apartments in Brooklyn that fell within the smoke plume, without a cleanup.¹²⁷ The City Department of Health and Mental Hygiene's October 2001 survey of residents living near Ground Zero found that 60 percent of these residents had not even had their carpets cleaned with a HEPA vacuum.¹²⁸

Residents (as well as area employees and small business owners) continue to wait, now, while a body called the EPA World Trade Center Expert Technical Review Panel (the third such body to be created since the attack) deliberates over the type of testing and cleanup that it will recommend should be conducted. The White House Council on Environmental Quality created this newest Panel in 2004 only under heavy pressure from Senator Hillary Rodham Clinton, who had held up the nomination of Governor Leavitt as the new EPA Administrator until the Council agreed to re-visit the issue of indoor contamination. (The community liaison to the panel is area resident Catherine McVay Hughes.) While it is unclear what the Panel ultimately will recommend, members of the public have expressed concern at the lack of representation of Mount Sinai's treatment program on the Panel and EPA's continued unwillingness to follow standard cleanup procedures under federal law. Brooklyn resident Jenna Orkin expressed the frustration of many in her testimony to the Panel:

Why is this environmental disaster different from all other environmental disasters? The word "unprecedented" is used *ad nauseum* to describe it. But in crucial ways, the environmental consequences of 9/11 do have precedent and EPA has established protocols to clean up the contaminants that were released. Why are they not following them here? Why are they reinventing the wheel in the shape of a triangle? If this disaster was greater than its predecessors, all the more reason why state-of-the-art testing and cleanup should have been and still should be instituted ASAP. Instead,

¹²⁴ "Manhattan Community District 1," NYC Department of City Planning (Dec. 2001).

¹²⁵ *EPA Response Memorandum*, Attachment, p. 8, in *IG Report*, App. Q, pp. 127.

¹²⁶ *IG Report*, p. 48. EPA tested or cleaned 4,100 apartments in total. Letter from James Connaughton, White House Council on Environmental Quality, to Senators Clinton and Lieberman, (Oct. 27, 2003).

¹²⁷ Francesca Lyman, "Anger Builds Over EPA's 9-11 Report," *supra*; Juan Gonzalez, "Time to Come Clean on Mess Downtown," *New York Daily News* (Aug. 28, 2003).

¹²⁸ *Community Needs Assessment Dec. 2001*, p. 8.

EPA says on the one hand, “poor us, this was unprecedented” and on the other, “But there’s no problem.”¹²⁹

Although the White House Council on Environmental Quality had promised in October 2003 to form the panel, it did not hold its first meeting until March 2004, and it did not put forth a written proposal for testing of spaces until late July 2004. Much of the delay was caused by EPA’s attempts to take an unscientific approach to testing and cleanup.¹³⁰ Even in its newest proposal, EPA suggests using “passive” air sampling in apartments, which would not “stir up” any dust before testing – an approach that makes no sense three years after the event, when the only likely source of contamination is settled dust. The only purpose that passive testing could serve now would be to provide false assurances of safety. As EPA and its Panel continue to deliberate, nearly three years after the attack, many thousands of indoor spaces in the affected areas still have not been properly tested or professionally cleaned.

4. EPA refused a request from firefighters to clean the contaminated firehouses

As firefighters and other emergency personnel entered and left the Ground Zero area, the contaminated dust from the towers traveled with them, creating further exposure risks. Recently retired firefighter Palmer Doyle observes:

They hosed off our trucks, but not us and our gear. So there was World Trade Center dust in the firehouses. We had to clean it up ourselves. No one came in with the proper equipment to do it the right way.¹³¹

Unfortunately, despite requests from the Uniformed Firefighters Association and Representative Jerrold Nadler, the federal EPA refused to provide professional cleaning for firehouses affected by Ground Zero pollution. An EPA official asserted that the cleanup program was only for residential properties. The health and safety officer for the Uniformed Firefighters Association, Philip McArdle, expressed serious concern that firefighters cleaned up contaminated WTC dust in the firehouses themselves even though they did not have proper training or equipment for the task.¹³² He explained,

¹²⁹ Testimony of Brooklyn resident Jenna Orkin to the EPA WTC Expert Technical Review Panel (Apr. 12, 2004). Indeed, CERCLA states that in the event of a hazardous substance release, “The President shall select remedial actions to carry out [the statute’s requirements] in accordance with section of this title (relating to cleanup standards).” 40 U.S.C. § 9604(b)(4). See Appendix A of this report regarding EPA’s use of “ad hoc” cleanup guidelines with a comparatively low risk threshold, which was criticized by the *IG Report*.

¹³⁰ See Testimony of Robert Gulack, Union Steward, National Treasury Employees Union (NTEU), Chap. 293, to the EPA WTC Expert Technical Review Panel (July 26, 2004).

¹³¹ Personal interview of Palmer Doyle, retired firefighter, Fire Department of New York (FDNY), March 21, 2004.

¹³² Letter from Congressional Representative Jerrold Nadler to Kathleen Callahan, EPA Region 2 Acting Deputy Director (Mar. 12, 2003)(requesting cleanup); Office of Rep. Jerrold Nadler, Press Release, “Nadler Blasts EPA on Firefighter Snub, Demands Answers” (Mar. 13, 2003)(relating Kathleen Callahan’s verbal response, “The program that we have is strictly residential and therefore, we would not do firehouses); Greg Gittrich, “Feds Brush

These guys are trained to fight fires, not do asbestos and lead abatements. I'm sure that many of them added to their own exposure when they cleaned the firehouses. If EPA was following the national contingency plan, why did it then distinguish between different classes of people when no mention of different classes of people are in the national contingency plan document?¹³³

Indeed, EPA's scientific or legal basis for deciding to do even less for the firefighters than it did for area residents has never been made clear.¹³⁴

5. EPA's indoor cleanup program excluded non-residential buildings, and it did not ensure that workplaces were properly cleaned

The EPA indoor cleanup program completely ignored non-residential buildings. No legal or scientific analysis was ever provided to justify this narrowed focus. While some well-managed buildings were able to shut down their ventilation systems and reduce contamination from the dust cloud, many buildings had loose or open windows or vents, and received a layer of dust. In one office about seven blocks from Ground Zero, for example, six of nine dust samples contained greater than one percent asbestos.¹³⁵ EPA's reason for excluding non-residential buildings from its cleaning program apparently was economic – it stated, “EPA's judgment is that commercial establishments had alternative sources of assistance to fund cleanup.”¹³⁶ As a result, the program failed to address some 1,550 commercial buildings used each day by tens of thousands of workers.¹³⁷

In addition, EPA apparently did not take steps to ensure that all publicly owned buildings were properly cleaned. Frank Goldsmith, Dr.P.H., Director of Occupational Health for the Transport Workers Union, noted that “MTA/NYCT buildings such as 2 Broadway, which is in the immediate vicinity of the disaster, have not had an industrial hygiene testing of its rooms, hallways and other areas.”¹³⁸ A review of EPA documents obtained through Sierra Club's Freedom of Information

Off FDNY's Plea for Toxic Cleanup,” *Daily News* (Mar. 12, 2004).

¹³³ Personal interview of Philip McArdle, Health and Safety Officer, Uniformed Firefighters Association, May 26, 2004.

¹³⁴ Firefighters are still struggling to get proper decontamination of firetrucks. Samples taken in July 2002 of dust in firetrucks found asbestos ranging up to 5 percent, even using the less effective PLM analysis. Scientific Laboratories, Inc., “PLM Bulk Asbestos Report” (July 20, 2002). Samples taken from a firetruck in August 2002 similarly found asbestos ranging up to 4 percent, again using the less effective PLM analysis. Scientific Laboratories, Inc., “PLM Bulk Asbestos Report” (August 12, 2002).

¹³⁵ Advanced Environmental Corporation, “Asbestos Bulk Sample Results – Dust from World Trade Center Disaster, 132 Nassau Street, New York, NY” (Sept. 17, 2001). The office was then cleaned by a professional environmental abatement firm.

¹³⁶ *EPA Response Memorandum*, App., p. 9, in *IG Report*, App. Q, p. 128.

¹³⁷ Francesca Lyman, “Anger Builds Over EPA's 9-11 Report,” *supra*; Juan Gonzalez, “Time to Come Clean on Mess Downtown,” *supra*; see *EPA Response Memorandum*, App., p. 8, in *IG Report*, App. Q, p. 127.

¹³⁸ Testimony of Frank Goldsmith, Dr.P.H., Director of Occupational Health, Transport Workers Union Local 100, to the EPA WTC Expert Technical Review Panel (May 24, 2004), p. 3.

Request did not identify any instructions or advice for testing and cleanup of public buildings or evaluation of whether or not such cleanup occurred.

The City Department of Environmental Protection did instruct private building owners to clean the common spaces, or public areas, of buildings, but did not instruct them to clean their tenants' individual offices or workplaces.¹³⁹ Representative Nadler expressed concern about a potential conflict of interest for building owners in performing testing and cleanup. He observed:

A particularly problematic issue is the fact that there is an inherent conflict of interest for building owners to actually do testing, which is expensive, because it might result in them having to hire a professional hazardous materials contractor to do proper remediation, which is even more expensive. . . . In a related problem, building owners may use testing methods that are either incapable of finding the type of hazardous materials emitted from the World Trade Center . . . or, if one takes a more cynical view, specifically designed to find nothing dangerous that would require expensive remediation.¹⁴⁰

EPA did not establish a follow-up program to certify that private buildings were properly cleaned, and the City reported to the EPA Inspector General that it had no authority to create such a program “unless a complaint was made or an asbestos abatement notification was filed with the City.”¹⁴¹

Many of the commercial tenants affected by the WTC pollution were small businesses; it should not be assumed that they had the financial resources or cooperation from their insurance companies to fund professional environmental abatements of their spaces. Certainly some building owners took very responsible action. One professional environmental cleanup company did report cleaning some 45 buildings in a systematic way using trained workers.¹⁴² Some individual businesses and nonprofit organizations within buildings also had their own spaces environmentally cleaned. Congressional Representative Jerrold Nadler concluded, however, that there had been “no enforcement whatsoever of any rules or regulation with respect to testing or cleaning indoor private spaces.”¹⁴³

¹³⁹ Letter from R. Radhakrishnan, P.E., Director of the Asbestos Control Program, N.Y.C. Department of Environmental Protection to Building Owners (Feb. 12, 2002), cited in *Nadler White Paper*, pp. 8-9.

¹⁴⁰ *Nadler White Paper*, p. 13.

¹⁴¹ Letter from Kenneth Becker, Chief, World Trade Center Unit, City of New York Law Department, to Rick Beusse, EPA Office of the Inspector General (Aug. 4, 2003), p. 4, in *IG Report*, App. S, p. 142.

¹⁴² The professional environmental cleanup company reported that its clients included banks, insurance companies and major institutions in the periphery of the WTC site. Testimony of David Harvey, Vice President, Trade Winds Environmental Restoration, Inc., *EPA Ombudsman Hearing Transcript Feb. 21, 2002*, pp. 90 and 92.

¹⁴³ *Nadler White Paper*, p. 10; see Testimony of Joel Miele, N.Y.C.D.E.P. Commissioner, Testimony before the United States Senate Subcommittee on Clean Air, Wetlands and Climate Change (Feb. 11, 2002), statement made during question and answer period.

The federal government apparently took no effective steps itself to ensure that the financially-based decision that it had made to omit non-residential buildings from its cleanup program did not result in health hazards for lower Manhattan area employees.

6. EPA’s chosen “cleanup zone” was not based on scientific sampling, and WTC dust very likely permeated some buildings outside the zone in Manhattan and Brooklyn

EPA’s chosen “cleanup zone” – limited to residences south of Canal and Pike Streets in Manhattan – was not based on a scientific sampling program to determine which neighborhoods were permeated by the WTC dust. The *IG report* noted that the northern boundary of the cleanup area:

. . . was not based on systematic and representative sampling to determine the likely outer boundary of WTC contamination....
Consequently, it has not been determined whether buildings north of Canal Street or east of Lower Manhattan, in Brooklyn, were contaminated.”¹⁴⁴

The Inspector General recommended that representative sampling be conducted to answer this important question about the extent of the contamination.

Reports from residents indicates that the dust did penetrate neighborhoods outside EPA’s “cleanup zone.” The Inspector General’s survey of 1,110 New York City residents released in September 2003 found that nearly a quarter of Brooklyn residents and 11 percent of Manhattan residents above Canal Street who responded to the survey reported that they had found WTC dust inside their homes.¹⁴⁵ *New York Newsday* described “wayward paperwork” from the towers, sometimes including readable addresses, landing in Brooklyn neighborhoods close to Manhattan, including Brooklyn Heights, Carroll Gardens and Red Hook.¹⁴⁶ This is consistent with the neighborhoods identified in the Inspector General’s survey, which indicated that affected areas included those three districts as well as Cobble Hill and Park Slope.¹⁴⁷ Stanley Mark, Program Director for the Asian American Legal Defense and Education Fund, has expressed concern that limiting the Manhattan cleanup to areas below Canal Street meant that low-income neighborhoods in the Lower East Side and Chinatown were excluded, and that the childhood asthma study and other

¹⁴⁴ *IG Report*, p. 52.

¹⁴⁵ *IG Survey*, pp. 11-12. See also Testimony of Jenna Orkin, Brooklyn resident, to the EPA WTC Expert Technical Review Panel, regarding October 2002 asbestos test results from her Brooklyn apartment (Mar. 31, 2004).

¹⁴⁶ Rocco Parascandola, “America’s Ordeal: Collecting the Rain of WTC Paper - B’klyn Finds Could Be Clues,” *New York Newsday* (Queens Edition)(Sept. 27, 2001).

¹⁴⁷ *IG Survey*, p. 13.

evidence indicates that many of these people have suffered respiratory effects from the WTC pollution.¹⁴⁸

Tracking by federal agencies of the dust cloud from the attack also gives reason for concern about potential contamination of buildings outside of EPA's chosen cleanup "perimeter."

- USGS maps found that asbestos dust extended outside EPA's designated cleanup zone in lower Manhattan,¹⁴⁹ although an EPA researcher asserts that his modeling and USGS satellite image indicated that dust did not extend beyond Canal Street.¹⁵⁰

[check]

- NASA aerial photographs taken by Airborne Visible/Infrared Imaging Spectrometer (AVIRIS) indicate that the WTC dust plume moved southeast across lower Manhattan and reached areas of Brooklyn on the afternoon of September 11, 2001.¹⁵¹

Organizations such as 9/11 Environmental Action, NYCOSH and Sierra Club, along with many other community-based and tenant organizations, labor unions, individual residents, advocates and experts have recently re-doubled their efforts to obtain proper testing to determine what areas of the City contain buildings contaminated by the WTC dust. The EPA WTC Expert Technical Review Panel will review data on the characteristics of the WTC plume and where it was dispersed, and "recommend any additional evaluations for consideration by EPA and other public entities." While their written charge is to complete that task within 18-24 months, under which timetable the Panel would not have been expected to make recommendations on testing until sometime between October 2005 and March 2006,¹⁵² Panel members have expressed a desire for EPA to move forward much sooner.¹⁵³ Still, residents and area employees remain in the dark about how long they must wait before a proper testing and cleanup program will be carried out. Certainly, to allow significant further delay in action is irresponsible.

¹⁴⁸ Statement of Stanley Mark, Program Director, Asian American Legal Defense and Education Fund, to the EPA WTC Expert Technical Review Panel (Apr. 12, 2004), pp. 2-3.

¹⁴⁹ Roger Clark, *et al.*, "World Trade Center Area, New York, NASA/JPL Aviris data, September 16, 2001, 16:21 GMT, USGS, Imaging Spectroscopy Tetracorder 4.0a* product, Material Absorption Feature map (minerals with Mg - OH features near 2.3 - microns)"; see <<http://pubs.usgs.gov/of/2001/ofr-01-0429/dustplume.html>>.

¹⁵⁰ *IG Report*, pp. 52-53.

¹⁵¹ *Health and Environmental Consequences*, p. 22; *Newsday* (Aug. 23, 2002), p. A5. Photographs may be viewed at www.911ea.org.

¹⁵² Letter from James Connaughton, White House Council on Environmental Quality, to Senators Clinton and Lieberman (Oct. 27, 2003); U.S.E.P.A., "Purpose" factsheet included with press release, "World Trade Center Expert Technical Review Panel Formed by EPA: Panel to Begin Assessments in March" (Mar. 1, 2004).

¹⁵³ Michael Saul, "Panel Urges More Ground Zero Tests," *New York Daily News* (Apr. 13, 2004); Elizabeth O'Brien, "E.P.A. Watchdog Panel Looks to Expand Testing," *Downtown Express* (Apr. 16-22, 2004); Heather Moyer, "Panel Urges More NYC Tests," *Disaster New Network - Current News* (Apr. 19, 2004)(<www.disasternews.net/news/news.php?articleid=2210>). The Panel also determined to go beyond the White House Council on Environmental Quality's original charge to launch a testing program that would cover only the lower Manhattan apartments that were already cleaned under EPA's program.

PART FOUR:

**THE BUSH ADMINISTRATION PLANS TO MAKE THE MISTAKES
OF GROUND ZERO INTO POLICY FOR THE NATION**

The federal government must assume that there is a substantial likelihood that a future disaster could release toxic substances into a residential area somewhere in this country again. Consider, just as an example, the extent of asbestos use in New York City buildings that could be targeted by a terrorist attack, as provided in a 1992 EPA document:

<u>Type of Building</u>	<u>Percent of Buildings Containing Asbestos</u>	<u>Average Amount of Asbestos per Building Containing Asbestos</u>
Tall office buildings	84 percent	64,341 square feet
Short office buildings	64 percent	2,109 square feet
Govt/Transportation bldg	43 percent	8,282 square feet ¹⁵⁴

Nationally, a 1984 EPA survey found that taller buildings generally contain asbestos pipe and boiler wrap, and 41 percent also contain sprayed or trowelled on asbestos material.¹⁵⁵ Most such buildings also contain lead, plastics, fluorescent lights and other substances that could create hazards in a fire or collapse. While what happened at the twin towers was unexpected, the need to clean up asbestos contamination – as well as lead and other likely products of incineration and destruction of buildings – should have been and certainly must become a foreseeable hazard in emergency planning. Policies and procedures must be developed now to prevent the mistakes of Ground Zero from recurring.

Disturbingly, the Bush administration has determined to make the mistakes of Ground Zero into policy for future national emergencies. The Bush administration has already issued one national emergency management planning document that seeks to eliminate enforcement of worker safety and health standards for those workers who respond to national emergencies. It has issued another more overarching emergency planning document that contains no mention of the crucial need for an effective mechanism to ensure that the public is not given false assurances of safety. Finally, it may be poised to issue new cleanup standards in environmental disasters that would be less protective than current law. All three of these initiatives are wrong-headed, and imperil the health of workers and the general public.

¹⁵⁴ U.S.E.P.A., *Guidelines for Catastrophic Emergency Situations Involving Asbestos*, p. 24.

¹⁵⁵ *Id.*, p. 22.

A. The Bush Administration Intends to Eliminate OSHA’s Enforcement Role at All Future Terrorist Attack and Other National Emergency Sites

Reporting on an April 2004 conference on workplace safety in disaster response organized by the National Institute of Environmental Health Sciences (NIEHS), a writer for *Occupational Hazards* observed:

While many questions about the government’s efforts were answered during the three-day (April 21-23) Washington, DC event, one key issue remains up in the air: if disaster strikes and the nation again faces an event like the terrorist attacks of 9/11, will OSHA require first responders and other workers to abide by the hazardous waste operations and emergency response standard, 29 CFR 1910.120 (HAZWOPER)?¹⁵⁶

The answer, apparently, is no.

In future national emergencies, risk management will be handled under the National Incident Management System, which is administered by the Department of Homeland Security, and FEMA will be charged with carrying out the management of future emergency recovery operations. The National Incident Management System document states that “the agencies . . . that contribute to joint safety management efforts do not lose their individual identities or responsibility for their own programs, policies, and personnel,” and that “[n]o agency’s legal authorities will be compromised or neglected.”¹⁵⁷ In OSHA’s new National Emergency Management Plan, however, the agency explicitly seeks to avoid its statutory obligation to enforce workplace safety standards, declaring that it will only provide “technical assistance and consultation” in national emergencies.¹⁵⁸

Under this new system of response, an OSHA regional administrator will not be able to obtain enforcement authority during a national emergency unless he or she can convince the Assistant Secretary of Labor to request it. Instead, a “safety officer,” working under the “incident commander” rather than the OSHA administrator, will monitor and advocate for safety measures. This “safety officer” can only enforce OSHA standards by taking the extraordinary action of invoking “emergency authority to stop and/or prevent unsafe acts during incident operations.”¹⁵⁹

¹⁵⁶ James Nash, “Will OSHA Invoke the HAZWOPER Rule [29 CFR § 1910.120] at the Next Disaster Site?” *Occupational Hazards* (Apr. 26, 2004)(<www.occupationalhazards.com/articles/11715>).

¹⁵⁷ Department of Homeland Security, *National Incident Management System* (March 1, 2004), pp. 15 and 17.

¹⁵⁸ OSHA, *National Emergency Management Plan (NEMP)*(Directive No. HSO 01-00-001)(Effective Date: December 18, 2003), p. 2. *See also*, “National Emergency Management Plan Clarifies Procedures, Policies for OSHA,” *Occup’l Safety & Health Rptr* 34(3)(Jan. 15, 2004).

¹⁵⁹ *DHS National Incident Management System*, p. 17. *See OSHA National Emergency Management Plan*, p. D-13. *See also*, “In National Emergencies, OSHA to Provide Assistance, Not Enforcement,” *Occupational Hazards* (Apr. 8, 2004)(< <http://occupationalhazards.com/articles/11624> >).

While many would see this step as an abandonment of the very people that our nation relies upon for first response in a disaster – and an action consistent with a growing trend within the administration against worker safety enforcement¹⁶⁰ – OSHA has tried to put a “positive spin” on this development. At the April 2004 conference on disaster response, OSHA’s special assistant for homeland security, John Ferris, urged that OSHA had achieved a victory by convincing the Department of Homeland Security of the need to have a “safety officer” and including that official’s duties in the National Incident Management System. He asserted that while OSHA would not enforce its worker safety rules in disasters, the safety officer would be expected to implement OSHA standards.¹⁶¹

The approach is nevertheless troubling for at least two reasons.

- While the National Incident Management System supposedly “requires” compliance with OSHA regulations,¹⁶² FEMA is not a regulatory agency and has no role in enforcing workplace safety regulations. It is not clear how enforcement will occur other than when the safety officer uses his or her emergency power to stop or prevent unsafe acts. It is unlikely that this emergency power will be invoked sufficiently.
- FEMA does not have OSHA’s technical background in worker safety, and cannot be “pressured from within” by experts to do the right thing. Inter-agency “turf wars” or lack of cooperation could interfere with protection of emergency workers.

The most likely result of this approach is sporadic failures in enforcement of proper protection standards for the hard-working and courageous Americans who respond to disasters.¹⁶³

¹⁶⁰ See, e.g., Amy Goldstein and Sarah Cohen, “Bush Forces a Shift in Regulatory Thurst: OSHA Made More Business-Friendly,” *Washington Post* (August 15, 2004).

¹⁶¹ James Nash, *supra*.

¹⁶² The Department of Homeland Security is adopting many health and safety standards already developed under the NIOSH/OSHA system and overseeing work to improve these standards (see, DHS, “Fact Sheet: Homeland Security Adopted Standards for First Responder Personal Protective Equipment” [Feb. 26, 2004] [www.dhs.gov/dshpublic/display?theme+43&content+3299]), but standards are just paper unless they are properly enforced. Standards already were in place under OSHA’s HAZWOPER regulations that could have prevented much of the illness that occurred from WTC pollution exposure.

¹⁶³ OSHA will, however, entertain the media. Its National Emergency Management Plan specifically instructs the Office of Communications that after 48 hours following the commencement of a national emergency, it should “Develop and issue human-interest stories for local media on individuals and circumstances involved in the crisis. By this time the media and the public are interested in more depth and frequently are anxious for human-interest details.” *OSHA National Emergency Management Plan*, App. F, p. F-10. While the Plan also urges the Office to correct any rumors or misinformation that it identifies in media coverage (*Id.*, p. F-9), it contains no strong message about avoiding misleading assurances that might cause workers to take less precautions. As noted above, the EPA Administrator had issued a similar instruction with regard to WTC disaster management, directing staff to monitor the media for misleading or incorrect statements, but the agency’s efforts in that regard appear to have been exclusively or nearly exclusively focused at refuting critics, while misleadingly broad assurances went uncorrected.

B. National Emergency Planning Documents Fail to Address the Crucial Need to Avoid Giving False Assurances of Safety, and the Bush Administration Appears Poised to Weaken Cleanup Standards for All Future National Emergencies

EPA's conduct in the proceedings of the EPA WTC Expert Technical Review Panel meetings has evidenced a resistance to the need to correct past errors. Robert Gulack, a union steward in a government office at the Woolworth Building, testified regarding residents' and workers' frustration with EPA conduct and delays in action, stating:

What, in fact, have we been doing since March 2004? First, the EPA wasted April trying unsuccessfully to persuade this panel that there was no need to test for anything beyond asbestos. This panel wisely dismissed that foolish suggestion. Second, the EPA wasted May and June trying unsuccessfully to persuade this panel that comprehensive testing could not begin until an alleged WTC signature had been established. This panel widely dismissed that foolish suggestion, noting that comprehensive testing could be pursued concurrently with signature research, and would only make the proposed signature research that more reliable. Third, in July, . . . the EPA [testing] proposal quite arbitrarily leaves out lead and dioxins, insists on only passive and voluntary sampling, and fails to name as an objective reducing surface levels of asbestos, for example, to at least pre-attack levels.¹⁶⁴

Also, EPA apparently has not consulted with leading community and environmental organizations over the past year regarding its "Plan for Incident Communication" that it reportedly is developing in response to the August 2003 *IG Report*.¹⁶⁵ Indeed, EPA public affairs staff in the Region 2 office were unfamiliar with the document when the author of this report called to request a copy after failing to find it posted anywhere on the EPA website.¹⁶⁶

National emergency planning documents, similarly, are devoid of any real acknowledgment of the failure of federal safety communications. The *National Incident Management System* document proclaims that, "Since the September 11, 2001, attacks on the World Trade Center and the Pentagon, much has been done to improve prevention, preparedness, response, recovery, and mitigation capabilities and coordination processes across the country."¹⁶⁷ Nevertheless, the document provides no evidence of awareness of the need to make sure that politics do not trump science. While the *IG Report* urged EPA to make efforts "to ensure that public pronouncements

¹⁶⁴ Testimony of Robert Gulack, Union Steward, National Treasury Employees Union (NTEU), Chap. 293, before the EPA WTC Expert Technical Review Panel (July 26, 2004), p. 1.

¹⁶⁵ See *IG Report*, pp. ii and 19.

¹⁶⁶ Telephone queries of Mary Mears and Peter Brandt, EPA public affairs staff, by Suzanne Mattei, Aug. 12 and 13, 2004.

¹⁶⁷ *DHS National Incident Management System*, p. 1.

regarding health risks and environmental quality are adequately supported with available data and analysis and are appropriately qualified,”¹⁶⁸ the heavy oversight of EPA by the White House Council on Environmental Quality makes such EPA policy-making almost irrelevant. The message must come from the top.

As a matter of common sense, pollution should be considered “guilty until proven innocent” – that is, harmful until proven safe. Any message of assurance about safety must be well-documented and qualified regarding scope. (The absence of one toxic chemical, such as asbestos, for example, does not mean that all other harmful substances are also absent). The Bush administration should have followed the “Precautionary Principle,” which the United States endorsed when it signed the Rio Declaration on Environment and Development. It holds that a public health decisions must often be made in the absence of perfect information because cause and effect relationships can be hard to prove when effects do not appear for many years and also may be affected by complex variables. It argues that when threats of serious or irreversible damage are present, lack of full scientific certainty must not be used as a reason to postpone cost-effective measures to prevent environmental degradation.¹⁶⁹ Using the precautionary principle could have prevented much of the toxic exposure that people experienced in the aftermath of the September 11 terrorist attack.

Unfortunately, no such language is included in either the *National Incident Management System* or the *Initial National Response Plan*. Merely stating that a “joint information center” will “ensure that timely, accurate, easy-to-understand, and consistent information is disseminated to the public”¹⁷⁰ is not enough. Many hundreds of people are sick in New York City today despite (and indeed, it can certainly be argued, because of) a clearly evidenced top-down management approach to incident communications from within the White House itself. Without an explicit statement of precautionary policy and a discussion of how such precautions will be implemented, the *National Incident Management System*’s call for “integrated communications” as “necessary to maintain communications connectivity and discipline and enable common situational awareness and interaction,”¹⁷¹ could bode more ill than good. Similarly, the insistence that “multiple organizations at different levels of government” should use “standardized analysis processes”¹⁷² raises the concern that the inferior sampling and testing methodologies used by EPA for Ground Zero pollution could be mandated for the rest of the country at all levels of government.¹⁷³

¹⁶⁸ *IG Report*, pp. ii and 19.

¹⁶⁹ See *American Journal of Public Health* 91(3):20-21 (Mar. 2001).

¹⁷⁰ *DHS National Incident Management System*, p. 29.

¹⁷¹ *Id.*, p. 11

¹⁷² *Id.*, p. 52.

¹⁷³ EPA’s *Strategic Plan for Homeland Security*, produced in 2002, is similarly lacking in such language. It states only that EPA will “improve the ability to communicate effectively with the public regarding incidents and threats” and ensure that lines of authority and communication roles are well-understood. See, U.S.E.P.A., *Strategic Plan for Homeland Security* (Sept. 2002), p. 35. The Office of Homeland Security Building Air Protection Work Group developed a guidance document that provides preventive measures that owners and managers can implement to reduce a building’s overall vulnerability to penetration by contaminants, but its focus is not on risk and response. See CDC/NIOSH, *Guidance for Protecting Building Environments from Airborne Chemical, Biological or Radiological Attacks* (May 2002).

Nothing in the new national planning documents provides the kind of assurance that the public should receive that the missteps of Ground Zero will not happen again – in New York City or in some other town or city of this country.

Equally troubling is the news that the Bush administration plans to develop new emergency cleanup standards for releases of chemical weapons or industrial chemicals that are caused by a terrorist attack. Despite substantial criticism of EPA's choice to develop *ad hoc* cleanup guidelines for WTC pollution that correlated with a risk of one excess cancer per 10,000 people rather than the more appropriate goal of 1 excess cancer per one million people (see Appendix C of this Report), the federal government has expressed no regret or concern over this approach, or any resolve to conduct itself differently in the future. Indeed, *Inside EPA* reports that the White House Office of Science and Technology Policy has established a "high-level 'steering group' of federal agencies" to develop new chemical cleanup standards. These agencies reportedly include EPA, the Nuclear Regulatory Commission, the National Cancer Institute, the Department of Energy and the Department of Homeland Security.¹⁷⁴ The Director of the Office of Science and Technology Policy, a political appointee, reports directly to the White House Chief of Staff.¹⁷⁵ Reportedly, the Administration already is drafting new radiological cleanup standards that would apply in the event of an unexpected release of radioactive material.¹⁷⁶ The author of this report recently was able to confirm from agency staff that a proposal for radiological cleanup standards was nearing final form, but in asking for more information, the author was referred not to EPA and not even to the Nuclear Regulatory Commission, but to the Department of Homeland Security.

These matters require broader public examination. Most terrorist attacks are designed to harm residential areas or areas frequented by the public; civilians are the intended target. Failing to ensure that proper precautionary warnings are issued or establishing weakened cleanup standards to apply in the aftermath of a terrorist act could actually prolong the harm from such an attack. (There may be some extraordinary circumstance under which a two-stage cleanup process might be needed, but to leave toxins permanently in place should be unacceptable.)

Based on the real world experience of these policies in action at Ground Zero, this is the wrong direction for our country to take.

¹⁷⁴ "Administration to Draft Emergency Toxic Cleanup Standard Different than Superfund," *Inside EPA* (Oct. 30, 2003).

¹⁷⁵ See James Glantz, "At the Center of the Storm Over Bush and Science," *New York Times* (Mar. 30, 2004).

¹⁷⁶ *Inside EPA, supra*.

PART FIVE:

HOW THE FAILURE TO WARN HAD AN ADVERSE IMPACT ON PUBLIC HEALTH AND SAFETY

If EPA had given proper warnings, it would have changed things tremendously. We would have been able to get better protections for the workers, and sooner. The combination of EPA's lies and weak worker protection standards tied our hands in many respects. I blame many of the agencies for their lack of enforcement and for their failure to mandate protections for workers, particularly after it was evident that people were getting sick.¹⁷⁷

Micki Siegel de Hernandez, Health and Safety Director
Communication Workers of America, District One

The misinformation that the federal government distributed on safety had a harmful impact on rescue/recovery workers, communications/ transport/emergency services workers, and residents and area employees. Dr. Robin Herbert of Mount Sinai said, "Accurate and timely information from government is a cornerstone of good public health. By deleting good information the public – people in their apartments, people on the pile – we lost opportunities for disease prevention."¹⁷⁸ This problem has long-term implications for the "front line" in disaster response. Tom Ridge, Secretary of Homeland Security, correctly observes:

In the aftermath of that tragedy, we relied heavily on the courage and bravery of first responders. . . . We relied on fire fighters, police officers, and emergency medical personnel . . . not to mention hundreds of citizens – with skills of all varieties – who rushed to the scenes in New York, Washington, and Pennsylvania to offer their help. And in the event of another attack, we will rely on each of them . . . again.¹⁷⁹

New York City lost hundreds of its most experienced first responders on the day of the September 11th attack, but we lost even more of them in the months and years that have followed – to illnesses that very likely could have been avoided or at least significantly reduced in both severity and frequency. We cannot afford to use up our first responders like tissue paper. We also cannot afford

¹⁷⁷ Personal interview of Micki Siegel de Hernandez, Director, Communication Workers of America District One Health and Safety Program, Mar. 17, 2004.

¹⁷⁸ Francesca Lyman, "Anger Builds Over EPA's 9-11 Report," *supra*.

¹⁷⁹ Department of Homeland Security, Press Release, "Remarks by Secretary of Homeland Security Tom Ridge at the 'News and Terrorism: Communicating in a Crisis' Roundtable" (Aug. 11, 2004), p. 2.

to have an ailing population in a hard hit city. What happened in New York City *after* 9/11 cannot be allowed to happen again.

A. **Many Rescue/Recovery Workers and Emergency Responders Were Given Inadequate Safety Gear and Conflicting Messages About the Need to Use It**

During the first few days, we ran down there. I was there when the second building came down. I worked from 9:45 to 2:30 AM. I came back again at 9 AM and worked until very late. By Friday, you could see the shoulders sagging. We knew no more survivors were likely. By Sunday, the adrenaline was spent. Sunday was torture. But we rallied ourselves. We said, “Let me get something for the family to bury.”¹⁸⁰

Palmer Doyle, rescue worker, recently retired firefighter
Coney Island Engine number 254, Ladder number 153

Bring him home to bury. That’s why we stayed on the site. The bureaucrats didn’t understand that, but it’s what we would expect of each other. You always carry your dead off the battlefield. We’d been digging for two months. There were people looking for a vault of money. The day after they found it, after the armored cars came and took it away, all of a sudden they wanted us off the pile. They wanted to turn it into a heavy equipment operation. Well, we were not going to have our friends torn apart by bulldozers. That’s why we fought to stay there.¹⁸¹

Patrick Bahnken, rescue worker
President, Uniformed EMT’s & Paramedics-FDNY

No one expects perfection in safety measures on the day of a major catastrophe or shortly thereafter, as people rush in with little care for their own safety to save any possible survivors. Also, it takes some time to get governmental management controls in place at a site. Nevertheless, safety measures should have been firmly in place after that first, urgent stage. Philip McArdle, Health and Safety Officer for the Uniformed Firefighters Association, explains:

¹⁸⁰ Personal interview of Palmer Doyle, retired FDNY firefighter, March 21, 2004.

¹⁸¹ Personal interview of Patrick Bahnken, President, Uniformed EMT’s & Paramedics-FDNY, April 1, 2004.

There are certain risks that first responders take. But at every point, you have to ask, ‘What is the purpose of this risk? To save a life or to recover a body?’ There’s a difference between the kinds of risks that one should take for different purposes. Usually after the first 72 hours, you are no longer in the high risk, mitigation and control phase. By that point, there should be a lot more protection in place.¹⁸²

Unfortunately, significant risk-taking conditions became commonplace at the WTC site and continued long after the truly “urgent action” stage had passed.¹⁸³

NIEHS inspector John Moran, observing the site on September 21, ten days after the terrorist attack, reported, “Respiratory protection is rare.” He noted, for example: “Workers were observed at or near the top of the debris pile in the smoke plume emanating from the pile in tee shirts without hard hats, eye wear, or respirators.” The only significant exceptions he observed were the heavy equipment operators, nearly all of whom wore half mask air purifying respirators with HEPA/OVAG combination cartridges, and a small percentage of truck drivers. Even the torch cutters he observed were not wearing respiratory protection or even protective goggles or face shields.¹⁸⁴ A survey of firefighters supports the inspector’s observations. It found that during the first two weeks at Ground Zero, 19 percent of firefighters studied reported not using a respirator, and 50 percent reported using a respirator only rarely.¹⁸⁵

This problem persisted over time. It has been estimated that only 30 percent to 50 percent of Ground Zero workers wore proper respiratory protection. Given that 5,135 workers were at the site daily during the second week after the attack, this means that from 1,700 to as many as 2,500 workers may have been without proper respiratory protection on a given day.¹⁸⁶ New York State Assemblymember Pete Grannis observed, during the November 26, 2001 Assembly hearing on Ground Zero health issues, “I’ve been down at the site, and I see many, many rescue workers not wearing respirators.”¹⁸⁷

Bush administration officials have complained that workers themselves are to blame for failing to wear protective equipment. Former EPA Administrator Whitman complained that EPA advised wearing protective clothing and masks, but many workers at the site rejected them as too

¹⁸² Personal interview of Philip McArdle, Health and Safety Officer, Uniformed Firefighters Association, May 26, 2004.

¹⁸³ *Rand Report*, p. 50.

¹⁸⁴ *NIEHS Report 2001*, p.13.

¹⁸⁵ Debra Feldman, *et al.*, “Symptoms, Respirator Use, and Pulmonary Function Changes Among New York City Firefighters Responding to the World Trade Center Disaster,” *Chest* 125:1256-64 (2004).

¹⁸⁶ *NIEHS Report 2001*, p. 7.

¹⁸⁷ Statement of Assemblymember Pete Grannis, on the hearing panel of the NYS Assembly Standing Committees on Environmental Conservation, Health and Labor, Hearing Transcript (Nov. 26, 2001), p. 112.

cumbersome. She complained, “We couldn’t force them to do it.”¹⁸⁸ While that may have been true of EPA, it certainly was not true of OSHA, as Part Three of this Report explains.

Also, even if the federal government had not had enforcement authority, EPA’s “blame the rescue worker” stance is disturbing. EPA Acting Administrator Marianne Horinko complained to MSNBC about the Ground Zero rescue and recovery workers’ conduct, claiming that “[M]any did not wear professional gear despite our best efforts.”¹⁸⁹ This, however, is not an accurate or fair characterization of what happened to the people who worked at Ground Zero.

The people who worked at Ground Zero deserved to know the truth about what they were being exposed to, and they deserved proper safety gear. Also, given that these people were laboring under heavy strains, both physical and emotional, their natural tendency to ignore their own hardship and risk in their desire to respond to the great dimensions of this atrocity needed to be curbed by a sound health and safety protocol. Unfortunately, no health and safety plan (or OSHA enforcement, as noted above) was in place during the many weeks of highest danger; many of them were not given proper safety gear or training; and they were not told the truth about the hazards that made use of the gear so critical.

1. The Health and Safety Plan for Ground Zero Workers Was Not in Place Until a Month and a Half After the Attack and Training Was Delayed for Another Month

Just because contamination is there doesn’t mean that people have to get sick. If people are protected from exposure, they can avoid getting sick. In this case, they needed to be protected against absorption, inhalation and ingestion.¹⁹⁰

Philip McArdle, Health and Safety Officer
Uniformed Firefighters Association

Thousands of workers were at Ground Zero, laboring in the heat and dust. They needed a strict health and safety plan, with training, to curb their natural “selflessness” in wanting to get that important but dangerous work done. Ten days after the attack, NIEHS inspector John Moran reported:

There was no evidence or even suggestion that any safety and health program was operative at the site, indeed the very opposite seemed to be the case. The lack of an operating safety and health program was

¹⁸⁸ Eleanor Clift and Julie Scelfo, *supra*.

¹⁸⁹ Francesca Lyman, “Anger Builds Over EPA’s 9-11 Report,” *supra*.

¹⁹⁰ Personal interview of Philip McArdle, Health and Safety Officer, Uniformed Firefighters Association, June 3, 2004.

confirmed by various support personnel, workers and various government officials.¹⁹¹

They also needed uniform standards of prudence, which are impossible to establish when precautions are exercised in an entirely *ad hoc* manner. The *Rand Report* observed:

One picture passed around the trades panel showed four workers next to each other, each wearing a different level of breathing protection: One had an SCBA, one had a half-face respirator with canister filters, one had a dust mask, and one had no breathing protection. . . . In addition to variation by organization, special operations personnel noted, PPE [personal protective equipment] enforcement varied by shift supervisor and from squad to squad.¹⁹²

As of October 5, 2001, NIEHS still had not seen a final environmental safety and health plan for Ground Zero operations, and plans to restrict access to the site for workers without proper respiratory protection had not yet been implemented.¹⁹³

The problem, unfortunately, continued long after that date. While certainly many efforts were made to improve respirator use and other environmental safety measures from one day to the next, the Ground Zero health and safety plan was not established until October 29, 2001, and the first formal safety awareness training pursuant to that plan reportedly did not begin until November 29, 2001 – *over two and a half months after the attack*.¹⁹⁴

2. Many rescue/recovery workers did not receive properly protective masks

Those first few days when everything was in chaos and the turmoil, we're willing to take calculated risks, we're willing to put our lives on the line to do what we can do to serve the community, to protect and serve. However, at a certain point, we were asking for protective gear.¹⁹⁵

David Duffy, N.Y.P.D. Sergeant
Testimony, *EPA Ombudsman Hearing February 21, 2002*

¹⁹¹ *NIEHS Report 2001*, p. 14.

¹⁹² *Rand Report*, p. 51.

¹⁹³ A contractor hired to develop the WTC Disaster Project Environmental, Safety and Health Plan, announced on September 25, 2001 the intention to restrict access to the site to workers equipped with half masks with combination HEPA/organic vapor gas cartridges and other safety gear. *Id.*, pp. 7 and 16.

¹⁹⁴ Bruce Lippy (2002), p. 542.

¹⁹⁵ Testimony of David Duffy, N.Y.P.D. Sergeant, *EPA Ombudsman Hearing Transcript Feb. 21, 2002*, p. 432.

The air pollution from Ground Zero included both toxic particles and vapors. An ordinary paper dust mask (the kind that painters and cleaners often wear), does not protect the wearer from asbestos fibers, vapors or very small particles.¹⁹⁶ People working in the Ground Zero area needed to wear at least half-face “respirator” masks equipped with particulate and vapor protection, such as HEPA/OVAG combination cartridges.¹⁹⁷ (Many experts urge that eye protection also was needed. See Appendix C of this Report for a discussion of several types of masks that offer different levels of protection to workers in a polluted area.)

Nevertheless, as a report on the proceedings of a December 2001 conference on protecting emergency responders concluded, there was “an acute shortage of respirators early on” in among emergency response workers at Ground Zero.¹⁹⁸ While commercial air transport may have contributed to the delays in providing safety equipment during the very first couple days, problems in either availability or distribution of equipment persisted for seven to nine days¹⁹⁹ or longer – and during this period heavy exposures occurred.

Transit workers. About 3,000 of the New York City Transit’s steelworkers, welders, masons and heavy equipment operators responded immediately to the disaster, working regular and volunteer shifts.²⁰⁰ Most, if not all, of these workers never got respirator masks during that first week or so when they labored long hours at the site. “We only had paper masks, and they got clogged so quickly, you had to take the mask off just to breathe,” recalls Jimmy Willis, a rescue worker and Assistant to the President for the Transport Workers Union. “It was bad. Some of the people who worked down there will never work again.”²⁰¹

Federal assurances reportedly played a role in the transit authority’s lack of sufficient caution on safety. Frank Goldsmith, Dr.P.H., Director of Occupational Health for the Transport Workers Union, reported:

When our union contacted the New York City Transit “experts,” all they would say was, “Check out the EPA Web Site.” They said,

¹⁹⁶ Personal interview of Philip McArdle, Health and Safety Officer, Uniformed Firefighters Association, May 26, 2004.

¹⁹⁷ Personal interview of David Newman, NYCOSH Industrial Hygienist, May 12, 2004; personal interview of Israel Miranda, Recording Secretary and Health and Safety Coordinator, Uniformed EMT’s & Paramedics-FDNY, May 1, 2004. NIOSH reportedly recommended the half-face elastomeric reusable respirator with combination P100 and organic vapor/acid gas cartridges (to protect against both particulates and vapors) for Ground Zero workers. For those not scheduled to work in debris, a half-face P100 or N100 respirator, either disposable or elastomeric, was recommended. See CDC, “Use of Respiratory Protection Among Responders at the World Trade Center Site – New York City, September 2001,” *MMWR* 51 (special issue) (Sept. 11, 2002), p. 5 note.

¹⁹⁸ *Rand Report*, p. 31.

¹⁹⁹ *Id.*, p. 31.

²⁰⁰ See American Public Transportation Association, Special Report, *America Under Threat: Transit Responds to Terrorism* (supplement to *Passenger Transport*)(2002), p. 5.

²⁰¹ Personal interview of Jimmy Willis, 9/11 rescue worker and Assistant to the President, Transport Workers Union, March 19, 2004.

“Things are OK.” Websites did not protect our members. . . . Only after strong action by our union leadership and members did the NYCT start to take air and other measurements where our members were working.²⁰²

Eventually, workers on the pile got safety equipment, but apparently many who worked near – but not on – the pile, did not. Phil Caruana, now a workers’ compensation counselor for the union, worked in the MTA’s safety department at the time. He explains:

I was down in the area every day, in the tunnels and stations. I never had anything but a paper mask. We were told it would protect us from the particles. A couple months later they told us it was useless against the asbestos and fiberglass. They never did tell us that the dust was caustic, too. Now I have asthma. I’m 58 years old, and all of a sudden I’ve got asthma. It started in December 2001. At first, I thought I had a cold. But it wasn’t a cold. My life is changed now.²⁰³

Firefighters. Retired FDNY Firefighter Palmer Doyle informed *Newsday* reporter Dennis Duggan that two days after the attack, he took a busload of 50 firefighters to the pit, but when he asked for respirator masks he was told that there was just one left. “We gave it to the youngest firefighter,” he said.²⁰⁴ When he came back on Sunday, five days after the event, with another busload of 50 firefighters, he recalled, “this time they only had four masks. During that first week, most of us only had paper masks.” He adds, “It’s criminal that they did not have the proper gear by Friday. By Friday, they should have had masks for everyone.”²⁰⁵

Palmer Doyle got bronchitis in October. He lost 18 days of work. An athletic man who before had been able to run up several flights of stairs, carrying heavy equipment, and haul down an injured person, he now has trouble even going bicycling with his daughter.²⁰⁶

Volunteers. Congressional Representative James Langevin sent a letter to EPA Administrator Whitman in March 2002, regarding health effects of Rhode Island citizens who helped out at Ground Zero. He stated:

I am particularly concerned about the health of sixty-one members of the Rhode Island Disaster Medical Assistance Team (DMAT) who

²⁰² Testimony of Frank Goldsmith, Dr.P.H., Transport Workers Union Local 100, to the EPA WTC Expert Technical Review Panel (May 24, 2004), p. 2.

²⁰³ Personal Interview of Phil Caruana, Workers’ Compensation Counselor, Transport Workers Union, June 3, 2004.

²⁰⁴ Dennis Duggan, “Unmasking ‘The Cough,’” *Newsday* (Sept. 21, 2003).

²⁰⁵ Personal interview of Palmer Doyle, retired FDNY firefighter, March 21, 2004. Thomas Willoughby, a former police officer who had become a firefighter in 1995, similarly told the *Newsday* reporter that getting masks during the first few days was on a “first come, first serve basis.” Dennis Duggan, “Unmasking ‘The Cough,’” *Newsday* (Sept. 21, 2003).

²⁰⁶ Personal interview of Palmer Doyle, retired FDNY firefighter, March 29, 2004.

were mobilized on September 11th and worked until September 25th. After they returned home, many of them experienced illnesses apparently caused by their work at Ground Zero. Twenty-five percent of the emergency responders, including Don Dragon of the Narragansett Fire Department, have developed severe respiratory problems, or what has been referred to as “World Trade Center Cough,” and various other symptoms, such as shortness of breath, weakness, coughs or stress. . . . The entire emergency response effort depends on volunteers from around the country donating their time and efforts, often at risk to their health and safety. We must treat these volunteers with the respect they deserve, lest we deter others from volunteering in the future.²⁰⁷

Volunteer firefighter Vincent Forras observed that there did not seem to be a well-organized effort to ensure that rescue/recovery workers had proper safety gear. “It took at least two weeks to get properly equipped. By then we were pretty well cooked,” said Forras. He confirmed that he and thousands of other rescue workers on “the pile” were largely unprotected in those first days. He reported that workers got little more than paper masks, if that, and there weren’t enough respirators to go around. He still suffers from headaches and other ailments, after sinus surgery.²⁰⁸

Marc Ameruso, a volunteer rescue worker, showed a photograph to the New York State Assembly Committee on Environmental Conservation on November 26, 2001, to express concern about the fate of the volunteers. He stated:

If you look closely at the picture you can see in the background that the other rescue workers around me do not have the proper equipment. . . . The three and a half days I spent at the site I observed very few rescue workers wearing respirator masks, and I did not hear anyone giving instructions to do so. . . I still have a nagging deep chest cough, as do many other people I have spoken with who were not rescue workers.²⁰⁹

Police officers. Many, if not most, of the police officers engaged in rescue/recovery work on the pile reportedly did not have respirators in the first few days. New York Police Sergeant David P. Duffy stated at the February 21, 2002 EPA Ombudsman Hearing that during the early days, police officers on the pile had only paper surgical masks. He testified:

²⁰⁷ Letter from Congressional Representative James R. Langevin, Rhode Island, to EPA Administrator Christine Todd Whitman (March 1, 2002).

²⁰⁸ Francesca Lyman, “Anger Builds Over EPA’s 9-11 Report,” *supra*.

²⁰⁹ Testimony of Marc Ameruso, rescue worker and member of Community Board One, to the New York State Assembly Committee on Environmental Conservation (Nov. 26, 2001).

We requested respirators. We were told, “We are saving them for the next emergency.” [Congressman Nadler: What? You requested respirators – you requested respirators from whom?] Members of the department. [Congressman Nadler: Higher ups in the department?] Yes I pointed over to the burning piles in the World Trade Center and I asked them, “What do you think this is?”²¹⁰

This police sergeant’s testimony is supported by the Israel Miranda, Health and Safety Coordinator for the Uniformed EMT’s & Paramedics-FDNY, at the pile, who observes, “The police officers that I saw had nothing but dust masks.”²¹¹

Emergency Medical Services and Paramedics. The *Rand Report* asserted that emergency medical technicians “who were themselves treating casualties in the heart of the disaster site” should have been wearing personal protective equipment “but frequently were not, in large part because this equipment was not part of their standard training regimen.”²¹² Don Faeth, Vice-President of the Uniformed EMT’s & Paramedics-FDNY, however, explains that during the first few days, they were provided only paper masks. He observed, “By the fourth or fifth day, they finally came up with cannister masks, but by then, we’d already had a lot of exposure.”²¹³

Government assertions about the numbers of workers who eventually “had” masks²¹⁴ were also misleading, because having a mask and being able to use it properly for several hours are two different things. Respirator gear is not designed for long hours of service without equipment replacement. Half-face respirators are useless if their filter cartridges are not replaced regularly. Many workers did not know about the need to replace cartridges, did not know how to tell when their cartridges needed to be replaced, or did not have ready access to replacement cartridges.²¹⁵

²¹⁰ *Id.*, pp. 434-35.

²¹¹ Personal interview of Israel Miranda, Recording Secretary and Health and Safety Coordinator, Uniformed EMT’s & Paramedics-FDNY, April 24, 2004.

²¹² *Rand Report*, p. xii.

²¹³ Personal interview of Don Faeth, Vice-President, Uniformed EMT’s & Paramedics-FDNY, April 1, 2004.

²¹⁴ OSHA reported in late November 2001 that it had distributed up to 4,000 respirators a day in the early weeks. Testimony of Patricia Clark, Regional Administrator, OSHA, to the New York State Assembly Committees of Environmental Protection, Health and Labor, Hearing Transcript (Nov. 26, 2001), p. 230. It later reported that it provided 130,000 half-face, cartridge respirators overall. U.S. Secretary of Labor Elaine L. Chao Statement on Conclusion of WTC Recovery (2002) (<www.osha.gov/media/statements/secretarychao05302002.html); The International Union of Operating Engineers reportedly provided 1,000 respirators as well. Bruce Lippy (2002), p. 540. EPA reportedly distributed 22,100 air purifying respirators and 30,500 sets of P100 particulate cartridges in New York City by September 22, 2001. *IG Report*, App. L, p. 100. The NYC health department reportedly obtained and distributed some 20,00 to 30,000 respirator at Ground Zero. David Rosner and Gerald Markowitz, *September 11 and the Shifting Priorities of Public and Population Health in New York* (Millbank Memorial Fund, 2003), p. 11.

²¹⁵ Personal interview of Israel Miranda, Recording Secretary and Health and Safety Coordinator, Uniformed EMT’s & Paramedics-FDNY, April 24, 2004. Some immigrant cleanup workers similarly suffered from a shortage of filter cartridges. See Part Five, subdivision D of this Report.

The problem of access to replacement equipment was also true of the special gear that only the firefighters had. The self-contained breathing apparatus (“SCBA”) that firefighters use actually provides clean air to breathe. Unfortunately, it typically provides the wearer with only 15 to 30 minutes of fresh air. It is not designed for long hours of work.²¹⁶ As the Fire Department of New York’s Medical Officer Dr. Michael Weiden testified at the October 28, 2003 Congressional hearing:

After their first SCBA bottle ran out, 70% of FDNY’s firefighters working on Day 1 stated that they had access to only a dust mask And, only 18% stated that they were able to wear a mask during most of their work time. So we’re talking about 82% without any respiratory protection, regardless of what type of mask they actually had. By Week 2, 70% of the firefighters had a fit-checked half-face P-100 respirator.²¹⁷

This, apparently, still left 30 percent of the firefighters without protection. A survey of 319 firefighters who responded to the WTC disaster found that even three to seven days after the attack, approximately 45 percent of them were wearing either no protection or only a dust mask.²¹⁸

Also, the fact that the agencies “provided” masks does not necessarily mean that all of these masks actually reached the hands of workers expeditiously. The distribution of masks – once they became available – may not have been well-organized. Israel Miranda, Health and Safety Coordinator for the Uniformed EMT’s & Paramedics-FDNY recalls:

There was no uniform message. OSHA people were giving out PM100s [respirators] in a building. I only found out because someone was wearing one and I asked him where he got it. When I went to the building, the person told me, “This is only for police and firefighters.” I said, “You’d better give it to everyone on the pile.” So he starting giving them out.²¹⁹

Between problems of access and problems of replacement equipment, many, if not most, of the rescue/recovery workers and emergency responders apparently did not have consistent, easy access to proper respiratory protection.

NIEHS concluded that the protective equipment and instruction that workers did obtain was garnered mainly through the activism of the workers’ unions, not the governmental agencies and

²¹⁶ See *Rand Report*, p. xii (stating that the SCBA could not be used for more than 15-30 minutes before the air bottle needs to be refilled).

²¹⁷ Testimony of Dr. Michael Weiden to the House Committee, p. 2; see also *Rand Report*, p. xii, and NIEHS, *Learning from Disasters*, p. 40.

²¹⁸ CDC, “Use of Respiratory Protection Among Responders at the World Trade Center Site – New York City, September 2001,” *Morbidity and Mortality Weekly Report* 51 (special issue)(Sept. 11, 2002), p. 4.

²¹⁹ Personal interview of Israel Miranda, Health and Safety Coordinator, Uniformed EMT’s & Paramedics-FDNY, May 1, 2004.

private companies that employed the workers.²²⁰ NYCOSH, whose board of directors consists mostly of union health and safety advocates, played an important role in that effort, but its efforts were frustrated by the lack of a site health and safety plan and the lack of enforcement of basic safety measures.

²²⁰ *NIEHS Report 2001*, p. 15.

3. Respirator masks often were not fit-tested; workers did not have training and/or supplies for changing cartridges; and equipment often was not decontaminated

Simply providing a respirator mask – even one with replacement cartridges – was not enough. A respirator that does not properly fit a worker’s face does not provide the air seal necessary to protect the worker, to prevent the worker from inhaling air that has not gone through the mask’s filter. A respirator, for example, cannot be worn properly by a man with a beard. Also, the worker must be trained to self-test the seal each day and to change the filter cartridges of the mask at least daily, and more often when conditions warrant it. A respirator with a compromised seal or a clogged filter will not protect the worker.²²¹ The City of New York, in responding to the *IG Report*, stated, “[F]or respiratory protection to be effective, the user must be fit-tested first.”²²² OSHA states, “Respirators . . . help prevent illness and injury. A proper fit is essential, however, for respirators to be effective.”²²³ This is why OSHA regulations require that respirator masks be fit-tested when respirators are required at a work site.²²⁴ “Fit-testing” (a method to make sure that the mask is airtight on the person’s face) is particularly necessary for half-face respirators which – other than the entirely inadequate paper dust masks – apparently were the most commonly worn protective mask at Ground Zero. The half-face respirator often does not make as good a seal as a full face mask, so people may believe they are being protected when they are not. Careful fit-testing is essential.²²⁵

While OSHA asserts that over 6,100 Ground Zero workers were fit-tested for respirator masks during the eight-and-a-half-month recovery period,²²⁶ this apparently did not occur in a timely manner for many workers. The industrial hygiene firm, Emilcott Associates, reported its observations of conditions at the Staten Island Fresh Kills Landfill debris inspection and disposal program on September 27, 2001, nearly a week after the disaster:

Respirators are being handed out by Federal OSHA personnel to whoever walks in the tent and requests one. . . . The OSHA personnel provide basic instruction on how to assemble and put on (don) the respirator and instruct individuals on performing a positive and negative fit check. . . . Upon further evaluation, it was determined that few individuals were fit-tested, had been given adequate training, had medical clearance to wear a respirator, nor met many of the basic good practice or requirements for using respiratory protection.²²⁷

²²¹ Personal interview of David Newman, Industrial Hygienist, NYCOSH, May 12, 2004.

²²² Letter from Kenneth Becker, Chief, World Trade Center Unit, City of New York Law Department, to Rick Beusse, EPA Office of the Inspector General (Aug. 4, 2003), p. 6, in, *IG Report*, App. S, p. 144.

²²³ OSHA, Factsheet, “Personal Protective Equipment” (U.S. Department of Labor, 2002), p. 2.

²²⁴ See 29 CFR §1910.134.

²²⁵ Personal interview of Micki Siegel de Hernandez, Health & Safety Director, Communication Workers of America, District One, May 27, 2004.

²²⁶ OSHA, Press Release, “U.S. Secretary of Labor Elaine L. Chao Statement on Conclusion of World Trade Center Recovery” (May 30, 2002).

²²⁷ Emilcott Associates, Inc., *supra*, p. 2.

At Ground Zero, a certified industrial hygienist for the International Union of Operating Engineers reports, “respirator fit tests were not offered widely onsite until October 17, thirty-six days after the attack.”²²⁸ Thus, statistics on provision of respirators and even on fit-testing – if it is not accompanied by training in proper use of the mask – can be misleading. It appears that many workers did not have adequate training and protection during the early weeks, when exposures were likely to be most severe.

Also, equipment often was not decontaminated between periods of use. The *Rand Report* notes that some rescue workers used gear that had not been decontaminated for weeks, and some gear was not decontaminated at all during the three months following September 11, in part because a good system for cleaning and replacing gear was not in place. Patrick Bahnken, President of the Uniformed EMT’s & Paramedics-FDNY, agrees, stating, “In the beginning, decontamination was non-existent. Later, it still was not strong. We had to insist on decontamination. We started making waves.”²²⁹

Placing workers on shorter shifts once the immediate rescue phase of operations had passed would have reduced the severity of exposure for Ground Zero workers. The NIEHS notes:

It is generally accepted that rescue workers can function on a 12 hours on-12 hours off, 7 days/week for a period of around two weeks. Protracted search and rescue activities begin to take a toll in both physical and mental terms, which leads to increased risk taking and injuries in addition to potentially adverse physiological consequences.²³⁰

The American Public Health Association has recommended that the federal Department of Labor develop regulations to reduce the number of hours worked by disaster site cleanup workers to a maximum of one eight hour shift, although it notes that this also may require the training of additional workers and establishment of a “mutual aid” system to mobilize support for the cleanup activity.²³¹ Shorter shifts also might have provided better opportunities for equipment decontamination and filter cartridge replacement. One consultant who worked at the Pentagon terrorist attack site, for example, notes that his company had a commercial service clean and dry the work clothes of technical rescue workers while they were off their 12-hour shifts.²³²

In the case of Ground Zero, shorter shifts could have and should have become part of the health and safety plan. It is true that people felt a strong urgency to recover the bodies of loved ones

²²⁸ Bruce Lippy (2002), p. 541.

²²⁹ Personal interview of Patrick J. Bahnken, President, Uniformed EMT’s & Paramedics-FDNY, April 1, 2004.

²³⁰ NIEHS, *Learning from Disasters*, p. 40.

²³¹ American Public Health Association, Resolution: “Protecting the Health and Safety of Workers Who Respond to Disasters,” pp. 2-3.

²³² *Rand Report*, p. 34.

and co-workers. Still, if Fire Department workers had not had to worry, as Patrick Bahnken described above, that the bodies of their “brethren” would be handled by dump trucks, they might have been more willing to work shorter hours and extend the operation, if need be, by doing so. Shorter shifts could have benefitted the rescue and recovery workers significantly, and helped to offset the problems that the workers faced coping with cumbersome or inadequate protective gear.

4. The lack of federal warnings apparently reduced motivation to use safety equipment and contributed to a lack of uniform enforcement at Ground Zero

They created a culture of casualness. By them not telling us the truth about the severity of what we were breathing, we got the sense that it wasn't so bad.²³³

Robert Ortiz, rescue worker
Safety Representative, Transport Workers Union

It is unreasonable to expect an on-site staffperson from any agency to achieve success in getting hard-working rescue and recovery laborers to wear cumbersome protective gear if the head of the national agency is assuring the public that the area is safe. Environmental and occupational safety professionals know that most protective gear is uncomfortable and can slow down the progress of work. Respirators are very difficult to wear during prolonged work activities. They make a worker more tired because breathing itself is more work. Also, respirators can make it hard to communicate – which was a serious problem given the hazardous conditions of the Ground Zero pit.²³⁴ Many workers at a challenging work site are reluctant to wear protective equipment if they believe that it is not really necessary.

Unfortunately, the Bush administration's improper assurances about safety discouraged Ground Zero workers from wearing proper protective equipment in the area.

- EPA's September 13, 2001, press release gave explicit assurances not only to the general public but also to the Ground Zero workers. As noted above, it stated “Monitoring and sampling conducted on Tuesday and Wednesday have been very reassuring about potential exposure of rescue crews and the public to environmental contaminants.”²³⁵ (*Emphasis added.*)

²³³ Personal interview of Robert Ortiz, rescue worker and Safety Representative, Transport Workers Union, June 3, 2004.

²³⁴ *Rand Report*, p. 24; see also Letter from Kenneth Becker, Chief, WTC Unit, City of New York Law Department, to Rick Beusse, EPA Office of the Inspector General (Aug. 4, 2003), p. 8, in *IG Report*, App. S, p. 146; Testimony of Dr. Michael Weiden to the House Committee, p. 2. See also, R. Nielson, *et al.*, “The Effect of Temperature and Humidity Levels in a Protective Mask on User Acceptability During Exercise,” *Am. Ind. Hyg. Assoc. J.* 48:639-45 (1987).

²³⁵ U.S.E.P.A., “EPA Initiates Response Activities, Reassures Public About Environmental Hazards” (Sept. 13, 2001); *I.G. Report*, App. H, p. 87.

- While EPA and OSHA stated on October 3, 2001 that rescue crews should wear protective equipment, this message was buried in the fifth paragraph of a press release that was subtitled, “Data Confirms No Significant Public Health Risks” and only sub-subtitled vaguely, “Rescue Crews and Nearby Residents Should Take Appropriate Precautions.” Also, the release contained the contradictory statement that several air samples of volatile pollutants around Ground Zero “have been above the OSHA standard for workers” but “[n]one presented an immediate risk to workers.”²³⁶ In other words, the samples violated workplace standards but for some reason it did not matter.
- Paragraph six and a factsheet attached to the October 3, 2001 release – which workers may or may not have seen – instructed them to wear respirators, but the federal agencies did not inform the Ground Zero workers in that October 3, 2001 release that the dust was highly caustic, or that the dust itself was a respiratory hazard.²³⁷

In fact, no OSHA or EPA press release from that period appears to have headlined or focused primarily on the need for workers to have protective equipment.

Proper information on health risks is essential to motivate people to use exhausting, uncomfortable equipment. The *Rand Report* notes generally that, “better and more consistent information provision could motivate responders to wear PPE [personal protective equipment] and could decrease the tendency to modify it or take it off when it becomes uncomfortable.”²³⁸ Lackadaisical government assertions of safety were irresponsible given the likely impact on worker use of safety gear during the rescue and recovery efforts.

Several reports of the impact of the Bush administration’s health assurances on Ground Zero worker safety have surfaced. The workers themselves were influenced by declarations of safety.

- Volunteer firefighter Vincent Forras, who drove down from South Salem, New York on September 11, 2001, to help out, described how Mayor Giuliani stood next to EPA administrator Whitman and announced that the air was safe. Forras said, “When you have someone of the caliber of Mayor Giuliani saying it, they took that as gospel.”²³⁹
- Joel Shufro, Executive Director of NYCOSH, recalls:

²³⁶ OSHA Press Release, “EPA and OSHA Web Sites provide Environmental Monitoring Data from World Trade Center and Surrounding Areas” (Oct. 3, 2001).

²³⁷ OSHA Press Release, “EPA and OSHA Web Sites provide Environmental Monitoring Data from World Trade Center and Surrounding Areas” (Oct. 3, 2001).

²³⁸ *Rand Report*, p. xiii.

²³⁹ Francesca Lyman, “Anger Builds Over EPA’s 9-11 Report,” *supra*.

We knew at the time the smoke and dust from the collapse was a serious health hazard and we made our best effort to get the word out to workers and the general public, but it is difficult to make a big impression when you have federal and city officials falsely claiming that they have the scientific basis for saying that everything is safe.²⁴⁰

- The laboratory director of an environmental testing firm, interviewed for the *IG Report*, believed that EPA intended its assurance that the air was safe to apply to Ground Zero itself, as did the construction company that had hired him. The company questioned the laboratory director's recommendation that workers wear respirators. Although the laboratory director, preferring to be more careful, convinced the company to provide the respirators, he reported that it was difficult to convince the workers to wear them.²⁴¹
- Patrick Bahnken, President of the Uniformed EMT's & Paramedics- FDNY, explained that many Ground Zero rescue workers were confused by the assurances of safety:

I think all of us were surprised when they said it was safe. With all that jet fuel and asbestos, there's no way it could be right. But then you say to yourself, there's no way that the United States government would falsify something as important as this. They're here, they're helping us. They're not here to hurt us. People didn't know how to react to it.²⁴²

Also, the government's suppression of warnings made it hard for safety-conscious supervisors to know what levels of precautions were appropriate. An expert for the National Council of Structural Engineers Association, which assisted in disaster response, stated bluntly:

The most confusing safety issue at Ground Zero involved the use of respirators. It was not known if respirators were needed, what the appropriate type of respirator was to use and how to use it. . . . A system needs to be in place that provides the proper information to allow teams to make educated decisions on accepting environmental dangers at Ground Zero.²⁴³

²⁴⁰ NYCOSH Update Aug. 18, 2003 ("Leaked Report Says EPA Soft-Pedaled 9/11 Health Hazards at Urging of White House").

²⁴¹ *IG Report*, pp. 43-44.

²⁴² Personal interview of Patrick Bahnken, President, Uniformed EMT's & Paramedics-FDNY, April 1, 2004.

²⁴³ August Domel, Jr., Ph.D., S.E., P.E., *World Trade Center Disaster: Structural Engineers at Ground Zero* (prepared for National Council of Structural Engineers Associations - Structural Engineering Emergency Response Plan Committee)(Nov. 2001), p. 22.

Similarly, Bruce Lippy, an industrial hygienist for the operating engineers union, which had some 300 members running heavy equipment at Ground Zero, reported to the *St. Louis Post-Dispatch*:

Part of the dilemma we faced was not knowing precisely what was in the dust. We knew it was caustic but had no information on exactly how caustic it was. I was trying to get people to wear the respirators, but if I knew how high the pH levels were, I could have been more persuasive in convincing the workers of the dangers.²⁴⁴

Lack of strong health warnings clearly contributed to the lack of environmental safety at Ground Zero.

Conversely, supplying information about hazards can motivate workers to use safety gear.²⁴⁵

- The *Rand Report* noted that after an article appeared in a local newspaper discussing the potential asbestos hazard, “respirator use increased dramatically.”²⁴⁶
- Patrick Bahnken, President of the Uniformed EMT’s & Paramedics-FDNY, states that if proper warnings had been given, “We’d have demanded better protection and our members would have used it more.”²⁴⁷
- Harold Schapelhouman of the California Urban Search & Rescue Task Force 3, said that if they had known the air quality was so dangerous, the team could have added extra filters to the respiratory masks they were using.²⁴⁸

Stronger, clearer warnings very likely would have resulted in better voluntary use of safety equipment at Ground Zero.

²⁴⁴ Andrew Schneider, “Caustic Dust Blankets World Trade Center Area,” *supra*.

²⁴⁵ It was not, after all, impossible for workers to wear protective gear. The City of New York did inform the EPA Inspector General somewhat vaguely that “a city official monitoring safety at Ground Zero “personally observed many who did wear respirators diligently.” Letter from Kenneth Becker, Chief, World Trade Center Unit, City of New York Law Department, to Rick Beusse, EPA Office of the Inspector General (Aug. 4, 2003), p. 9, in, *IG Report*, App. S, p. 147.

²⁴⁶ *Rand Report*, p. 52.

²⁴⁷ Personal interview of Patrick Bahnken, President, Uniformed EMT’s & Paramedics-FDNY, April 1, 2004.

²⁴⁸ KTVU news (Sept. 8, 2003).

Unfortunately, it has been estimated that only between 10 percent and 60 percent of Ground Zero workers wore respirators. Even after the operation changed from one of “rescue” to the sadder task of “recovery,” reportedly few workers wore safety gear during the early weeks.²⁴⁹

²⁴⁹ D. Elisburg and J. Moran, National Inst. of Env'tl. Health Sciences Worker Educ. And Training Program, “Response to the World Trade Center Disaster: Initial WETP Grantee Response and Preliminary Assessment of Training Needs (Oct. 6, 2001), p. 9.

B. Most Repair and Services Restoration Workers Apparently Were Given Inadequate Safety Gear – If Any – and Conflicting Messages About the Need to Use it

Missing from many discussions about the lack of health warnings is the impact on people who worked in the dust – inspecting damaged buildings, making repairs, and restoring power lines, plumbing, or cable and telephone connections. EPA Region 2 Administrator Jane Kenny later testified that EPA’s statement of safety “was basically about walking around in Lower Manhattan.”²⁵⁰ Neither EPA nor OSHA’s press releases at the time, however, included a warning that people should take precautions when working on streets or in buildings affected by WTC dust.

Micki Siegel de Hernandez, Director of the Communication Workers of America District One Health and Safety Program, found her efforts to obtain health and safety protections for a variety of CWA-represented workers in the aftermath of the attack frustrated at nearly every turn. She observes:

Employers looked to EPA. We all looked to EPA. But the message was, “It’s okay.” And that was bad information, so the decisions that followed it were wrong.²⁵¹

Proper EPA warnings would have created more pressure on companies to *mandate* the use of respirators – which would have entailed the training and fit-testing of equipment required by OSHA’s respiratory protection standard – rather than having respirator use as only voluntary. A 2001 study found that fit-testing and training enhances the likelihood that workers will use respiratory equipment properly.²⁵²

Telecommunications workers, for example, slogged through the dust in the hours and days following the attack. They got the City’s emergency 911 telephone system back up and restored services on Wall Street. They spliced cable above ground, and in manholes, and entered dusty buildings to restore equipment. An important central office building where cables are routed, for example, was located at the northern border of Ground Zero. The 7 World Trade Center building had collapsed against it, and dust and vapors from the pit permeated the building for weeks. It needed extensive repairs. Many communications workers operated during the early days in lower Manhattan without respirators. Because indoor passive air-monitoring results for asbestos (only) did not exceed levels specified in the OSHA asbestos standard, when half-face respirators were made available to workers, it was generally on a voluntary rather than mandatory basis. This meant that fit-testing was

²⁵⁰ Testimony of Jane Kenny, EPA Region 2 Administrator, before the United States Senate Subcommittee on Clean Air, Wetlands and Climate Change (Feb. 11, 2002).

²⁵¹ Interview of Micki Siegel de Hernandez, Director, Communication Workers of America District One Health and Safety Program, March 16, 2003.

²⁵² M. Salazar, *et al.*, “An Evaluation of Factors Affecting Hazardous Waste Workers’ Use of Respiratory Protective Equipment,” *Am. Ind. Hyg. Assoc. J.* 62(2):236-245 (March April 2001); Lioy and Gochfeld (2002), p. 563.

not required. “Then people started getting sick,” said Micki Siegel de Hernandez.²⁵³ As noted in Part Seven of this Report, of the 250 workers randomly selected from the first 500 workers to be examined by the WTC Worker and Volunteer Medical Screening Program, 44 percent of those found to suffer high rates of illness long after the attack were telecommunications workers.²⁵⁴

The health and safety of the City sanitation workers who managed the Ground Zero debris and cleaned the dusty City streets appears to have been largely ignored. The City Department of Sanitation’s website declares with pride:

In lower Manhattan, 800 Sanitation Workers and supervisory personnel worked around the clock on rotating 12-hour shifts – despite the fear and concern for further building collapses – using hoses, flusher trucks, street sweepers, . . . hand brooms and open dump trucks to clear debris. Wearing protective clothing (face masks, eye protection, gloves) they hosed down buildings, loaded debris, swept streets (manually and with mechanical street sweepers) and flushed streets.²⁵⁵

Yet, the City’s own website shows a sanitation worker sweeping the WTC dust with a broom and wearing only a paper dust mask.²⁵⁶ Some workers who spoke to the *Staten Island Advance* on condition of anonymity reported that they were told to sweep debris from buildings near the towers into the street, and when they asked for respirators, they were told that paper dust masks were “standard issue.”²⁵⁷

C. Residents Did Not Have Proper Information to Make Informed Choices About How to Protect Themselves and Their Families

When reconnecting after September 11th, one of the first questions we asked of each other on Warren Street was, were your windows open? In our loft on the third floor, both our front and back

²⁵³ Interview of Micki Siegel de Hernandez, Director, Communication Workers of America District One Health and Safety Program, March 16, 2003.

²⁵⁴ As of May 2003, technical and utilities workers comprised 14.5 percent of the total number of workers examined by the Program who reporting having a union or organization affiliation. Power-point presentation of the WTC Worker and Volunteer Medical Screening Program at a NIOSH sponsored conference (May 3, 2003).

²⁵⁵ “We Were There at Ground Zero Helping New York,” *D.S.N.Y. Newsletter* (June 2002)(Department of Sanitation)(www.nyc.gov/html/dos/html/newsltr/n1001001/n1002.html).

²⁵⁶ Photograph caption: “Wearing a face mask, a Sanitation worker is sweeping the street with a hand broom at Ground Zero,” in, “Scenes from Ground Zero,” *DSNY Newsletter* (“We Were There at Ground Zero Helping New York”)(June 2002) (www.nyc.gov/html/dos/html/newsltr/n1001001/n1003.html)

²⁵⁷ Diana Yates, “NYC Sanitation Department Admits It Was Slow on Respirators,” *supra*. The rate for use of respirators by carpenters, electricians, plumbers, and services restoration workers in the Ground Zero area is unknown, but generally is believed to be much, much lower than for those working directly “on the pile.”

windows were open, so we returned to find a thick layer of dust on every remotely horizontal surface.²⁵⁸

Bill Hall, tenant, lower Manhattan
Testimony to NYS Assembly Standing Committees

Like the workers at and around Ground Zero, residents affected by the WTC pollution were falsely reassured by the federal government and thus were endangered. As Mayor Rudy Giuliani himself stated in late October 2001, “You smell it and you feel there must be something wrong, but what I’m told is it’s not dangerous to your health.”²⁵⁹ Essentially, residents were told to ignore their own common sense about the unhealthfulness of noxious fumes and dust/ash from an incinerated building. Unfortunately, residents who believed the assurances from EPA were subject to four risks:

- exposure to outdoor fumes and dust as they walked in their neighborhood without adequate protection;
- exposure to indoor contamination, including any fumes that penetrated indoors from the fire and any WTC dust that entered the home;
- close exposure to WTC dust if they cleaned their own homes without sufficiently protective equipment; and,
- in some cases, continued exposure after inadequate cleaning of the home.

It is important to recognize, also, that residential exposure is not limited to an eight hour day. Regarding indoor exposure to asbestos from WTC dust, for example, medical researchers have noted, “Because some residents had prolonged exposures to uncleaned apartments, these indoor exposures may have added significantly to ambient exposures.”²⁶⁰ Proper warnings from the federal government could have made a significant difference in the toxic exposure that residents experienced.

1. Residents did not have proper information to make informed choices about evacuation and returning to the area

While many people had an understandable desire to remain home or return home as soon as possible, they might have made different choices about timing or used greater precautions when returning to the area if they had received proper warnings.

²⁵⁸ Testimony of Bill Hall, Lower Manhattan tenant, to the NYS Assembly Standing Committees on Environmental Conservation, Health and Labor, Hearing Transcript (Nov. 26, 2001), pp. 181-82.

²⁵⁹ Alex Cukan, “WTC’s Toxic Exposure a Worry,” *United Press International* (Oct. 28, 2001).

²⁶⁰ *Health and Environmental Consequences*, p. 20.

- Among the 5,747 residents living south of Canal Street on September 11, 2001, who responded to the City-managed World Trade Center Health Registry (see Appendix D), 29 percent did not evacuate their homes following the disaster. A resident who lives two blocks from Ground Zero said to MSNBC reporter Francesca Lyman, “I might not have stayed down here – with dust on me for days – had I known of the dangers.”²⁶¹
- Among the 3,722 people who informed the Registry that they eventually returned to the area after evacuating, 38 percent returned during the first week – just days after the disaster, and another 24 percent returned the following week.²⁶² Parents of very young children and people with respiratory or cardiovascular conditions, in particular, might have made some different choices if they had known more about the potential risks.

Unfortunately, these people were not given the full information that they needed to make such decisions about how best to protect themselves and their families.

2. Most residents cleaned up much of the toxic dust themselves and some may have been hampered in their ability to obtain insurance coverage for proper clean-ups

As Part One explains, residents were exposed to the WTC dust when they followed government advice that they could clean it up themselves, without protection. Also, EPA’s broad safety assurances apparently created obstacles for some residents who made early efforts to obtain a proper cleanup of WTC dust in their homes. One couple testified at an EPA Ombudsman hearing that their insurance company would only cover cleaning of their personal belongings, not the apartment itself. Their landlord, in turn, refused to act, telling them that EPA said that everything was safe, even though private testing of their apartment had found asbestos.²⁶³ Other witnesses had similar complaints.²⁶⁴ Since environmental decontamination of an apartment might cost from \$10,000 to \$20,000,²⁶⁵ residents who could not get their insurance companies to pay for it were faced with a significant financial burden.

²⁶¹ Statement of Kim Todd, resident, in F. Lyman, “Anger Builds Over EPA’s 9-11 Report,” *supra*.

²⁶² N.Y.C. Department of Health and Mental Hygiene, “World Trade Center Health Registry Data Snapshot: Understanding the Health Impact of 9/11,” Vol. 1, No. 3 (Apr. 2004), p. 8. Pedestrian and vehicular traffic restrictions below Canal Street were modified on September 19. *ATSDR and City Health Department Residential Dust Study 2002*, p. 10. It is estimated that over 7,000 residents evacuated their homes. Tom Sessel, John S. Watson Institute for Public Policy, Thomas Edison State College, *The Philanthropic Response to 9/11: A Report Prepared for the Ford Foundation* (August 2002)(hereafter, *Ford Foundation Report*), p. 1.

²⁶³ Testimony of Wendy Tabb, resident, *EPA Ombudsman Hearing Transcript Feb. 21, 2002*, pp. 151-53.

²⁶⁴ Residents testified that some insurers denied claims for rental assistance to tenants whose apartments were contaminated, or for air purifiers and testing or cleanup based on EPA’s safety assurances. *See EPA Ombudsman Hearing Transcript Feb. 21, 2002*, Testimony of Catherine McVay Hughes, resident, pp. 317-19; Mr. Jain, Chair of Lower Manhattan Tenants Coalition, pp. 330-31; Mr. Cooper, pp. 681-82; *Nadler White Paper*, p. 15.

²⁶⁵ Rough estimate for a typical 1,000 to 2,000 square feet apartment given by Jeff Micheli, Vice President, Trade Winds Environmental Restoration, Inc. *EPA Ombudsman Hearing Transcript Feb. 21, 2002*, p. 106.

D. Low-income, Privately-hired Dust and Debris Cleanup Workers Seldom Had Proper Safety Gear

Thousands of day laborers and workers who had lost their jobs because of the attack²⁶⁶ were hired to clean up buildings and sidewalks in lower Manhattan. Unfortunately, federal assurances about safety certainly did not motivate employers to provide protective equipment to these workers, many of whom were immigrants. In fact, the federal government's failure to warn gave unscrupulous employers free rein to put their own employees at risk of exposure to toxic substances in order to cover up potential hazards to the general public. Dr. Ekaterina Malievskaia, with the Queens College Center for the Biology of Natural Systems, reported with regard to the drive to "open up Wall Street," that:

[O]ne of the [cleaning companies] told me that in the beginning . . . they employed up to 1,800 day laborers for cleaning purposes. It's just one corporation. And there were about 30 major cleaning companies involved in efforts to clean up [the buildings] around Ground Zero. . . They got all these illegal immigrants on every corner and they threw them into the buildings and gave them rags and sometimes paper masks and that's it. They cleaned for 12, 15 hours a day without any protection, without knowing what they were exposed to. And Wall Street got opened on time.²⁶⁷

Dr. Steven Markowitz and colleagues from Queens College, in their study of the health impacts of WTC pollution on low-income, privately-hired cleanup workers, found that "Few of the program participants were provided with personal protective equipment, particularly respirators and cartridges."²⁶⁸ Indeed, Dr. Ekaterina Malievskaia, a member of the Queens College team of experts, reported that even workers who sought to use their own respirators were, at least on occasion, told not to wear them on the job "so they wouldn't scare the rest of their co-workers off."²⁶⁹

These unsafe working conditions occurred not only in commercial buildings but also in residential spaces. Patricia Dillon, spokesperson for the Independent Plaza Tenants' Association, in written comments for EPA's National Center for Environmental Assessment ("NCEA") peer review panel regarding the cleaning of apartments and indoor common areas, observed with concern:

²⁶⁶ As many as 13,000 workers earning a median wage of less than nine dollars per hour are estimated to have lost their jobs as a result of lay-offs or business relocation after the attack. Fiscal Policy Institute, *World Trade Center Job Impacts Take a Heavy Toll on Low-wage Workers: Occupational and Wage Implications of Job Losses Related to the September 11 World Trade Center Attack* (Nov. 5, 2001), Table 3.

²⁶⁷ Statement of Ekaterina Malievskaia, M.D., Queens College Center for the Biology of Natural Systems, in Rosner and Markowitz (2003), p. 22.

²⁶⁸ Ekaterina Malievskaia, Nora Rosenberg and Steven Markowitz, "Assessing the Health of Immigrant Workers Near Ground Zero: Preliminary Results of the World Trade Center Day Laborer Medical Monitoring Project," *Am. J. Ind. Med.* 42:548-49, 549 (Dec. 2002).

²⁶⁹ Rosner and Markowitz (2003), p. 22.

Most of the workers who did the cleaning did not wear any protective gear whatsoever. Even during the tearing up and removal of hallway carpeting that had been tested and found to contain large amounts of asbestos, none of the workers we observed wore even masks or gloves. Tenants reported that a few workers wore gloves and a few wore paper dust masks while cleaning some apartments. We were told by several workers that they had been told by their supervisors not to wear any protective clothing, because ‘the residents would be frightened’ by that.²⁷⁰

This testimony was confirmed by the testimony of Harriet Grimm, also a resident of Independence Plaza, to the EPA World Trade Center Expert Technical Review Panel.²⁷¹ Also, like the rescue and recovery workers, even the few cleanup workers who had respirators suffered from a shortage of cartridges. Researchers interviewing immigrant cleanup workers found, “The minority of clean-up workers who had their own respirators were not provided with sufficient disposable filters for proper protection.”²⁷²

As a result, these workers often were placed at significant risk.

The federal government paid no attention to these workers’ needs. Pat Clark, OSHA’s regional administrator, testified at the October 2003 Congressional hearing in New York City that her agency handed out 131,000 respirators to Ground Zero site workers, but not for the workers who cleaned the insides of homes and offices in lower Manhattan.²⁷³ The EPA Inspector General stated that while EPA recommended that the rescue/recovery workers at Ground Zero should wear respirators, it did not direct this advice “to workers who contained contaminated indoor spaces outside the perimeter of Ground Zero.”²⁷⁴ The independent public interest organization, NYCOSH, in collaboration with the Queens College Center for the Biology of Natural Systems and the Latin American Workers Project, managed to provide respirators and training to hundreds of dust and debris cleanup workers through a Mobile Medical Unit launched on January 14, 2002.²⁷⁵ Unfortunately, under the circumstances, they certainly could not achieve comprehensive outreach.

²⁷⁰ Letter from Patricia Dillon, spokesperson for Independence Plaza Tenants’ Association, to David P. Bottimore, Senior Project Manager, Versar, Inc., NCEA peer review panel, dated July 22, 2003.

²⁷¹ Testimony of Harriet Grimm, resident of Independence Plaza North, to the EPA WTC Expert Technical Review Panel (Mar. 31, 2004). She added that her family received no notice when workers pulled up hallway carpeting and had no opportunity to protect themselves from the dust that was generated by the activity.

²⁷² E. Malievskaya, N. Rosenberg and S. Markowitz, *supra*, p. 549.

²⁷³ Laurie Garrett, “Ground Zero Illnesses Linger: Rescuers Suffering from Fumes, Debris,” *Newsday* (Oct. 29, 2003).

²⁷⁴ *IG Report*, App. R, p. 135.

²⁷⁵ The project was funded by the New York Community Trust and the September 11th Fund. Testimony of David M. Newman, M.A., M.S., Industrial Hygienist, NYCOSH to the NYC Council Select Committee on Lower Manhattan Redevelopment and the Committee on Health (Mar. 29, 2004), p. 1; NYCOSH and Center for the Biology of Natural Systems, Joint Press Release, “WTC Medical Monitoring for Building Cleanup Workers” (Jan. 14, 2002). The project was funded by the September 11 Fund through the New York Community Trust and United Way of New York City.

Also, while their charitable program helped many of these workers, substantial exposures had already occurred. Many – if not most – of the privately hired cleanup workers had no protection as they swept and mopped the contaminated dust in the early weeks following the attack.

Dr. Steven Markowitz and his colleagues observed, “Providing properly fitted appropriate respirators to building cleanup workers would have reduced exposures and decreased the likelihood of illness.”²⁷⁶ Unfortunately, the result of the neglect of these low-income workers was exposure to WTC pollution, which, as described in Part Seven of this Report, caused many hundreds of them to become ill.

E. Many Area Worksites Were Not Properly Cleaned and Some Employees Were Refused Permission to Protect Themselves

Employees who worked in areas affected by the terrorist attack were subject to exposure to outdoor fumes and dust as they walked in their work neighborhood without adequate protection. They also were exposed to indoor contamination, including any fumes that penetrated indoors from the fire and any WTC dust that entered the workplace; and to very close exposure to WTC dust if they cleaned their own workplace or work station without sufficiently protective equipment.

No government agency ensured that workplaces contaminated by the terrorist attack were properly cleaned. While those who doubted the federal government’s health assurances might have obtained and worn respirator masks as they walked in the area, their ability to protect themselves against hazards in the workplace often was limited. As Micki Siegel de Hernandez, Director, Communication Workers of America District One Health and Safety Program reported:

Thousands of our members returned to their offices prematurely. No government agency – local, state or federal – cared enough or took the responsibility to make sure that these workplaces were properly cleaned and free of known toxic substances.²⁷⁷

Many of these spaces were not properly cleaned and made safe for re-entry by employees. Joel Shufro, Executive Director of NYCOSH, testified at the November 2001 New York State Assembly Hearing that very few of the buildings were being cleaned according to the City’s asbestos control regulations and that employers were not hiring licensed asbestos trained workers.²⁷⁸ He added that because no agency established a clearance standard for reoccupancy of buildings contaminated by WTC dust:

²⁷⁶ E. Malievskaya, N. Rosenberg and S. Markowitz, *supra*, p. 549.

²⁷⁷ Testimony of Micki Siegel de Hernandez, Director, Communication Workers of America District One Health and Safety Program, to the EPA WTC Expert Technical Review Panel (Mar. 31, 2004), p. 3.

²⁷⁸ Testimony of Joel Shufro, Executive Director, NYCOSH, to the New York State Standing Committees on Environmental Protection, Health and Labor, Hearing Transcript (Nov. 26, 2001), p. 331.

[W]orkers and individuals whose residences or offices have been contaminated by dust resulting from the collapse, have no recourse when their employer or landlord tells them that the cleanup job has been completed and reentry is safe.²⁷⁹

In the casual atmosphere promoted by the federal government toward Ground Zero pollution, no agency stepped in to fill this important gap in safety.

Some employers reportedly used the federal government's health assurances to pressure workers into behaving as though there was no environmental hazard in the area.

- *Newsday* interviewed several workers who refused to give their full names, fearing reprisals from their employers. They said their employer ordered them back to their offices after EPA said the downtown air was safe to breathe.²⁸⁰
- David Newman, Industrial Hygienist for NYCOSH, testified at the February 21, 2002 EPA Ombudsman Hearing that, based on discussions that he and other NYCOSH staff had with area employees at the time, many employers cited federal government health assurances as they instructed employees to return to work.²⁸¹
- Dr. Stephen Levin of the Mount Sinai Selikoff Center for Occupational and Environmental Medicine said, "I have patients who knew it was wrong – they could feel it. But their employer said, 'The EPA says it's safe.'"²⁸²

Some workers reported to the New York Environmental Law & Justice Project that their employers refused even to let them wear a mask indoors at their jobs because it might create "panic."²⁸³

F. Many Small Business Owners Cleaned Their Own Spaces, and Some Who Sought a Proper Cleanup Had Trouble Convincing the Insurer of the Need for Coverage.

²⁷⁹ *Id.*

²⁸⁰ Laurie Garrett, "Danger in the Dust," *supra*.

²⁸¹ Testimony of David Newman, M.A., M.S., Industrial Hygienist, NYCOSH, *EPA Ombudsman Hearing Transcript Feb. 21, 2002*, p. 394.

²⁸² Laurie Garrett, "Danger in the Dust," *supra*.

²⁸³ Joel Kupferman in Brown, C., *Lost Liberties*. This is consistent with a similar problem experienced by some immigrant building cleanup workers, who, Queens College researchers report, disclosed that they were forbidden to wear respirators "in order to avoid alarming co-workers. See E. Malievsкая, N. Rosenberg and S. Markowitz, *supra*, p. 549.

While many people may assume that small business owners were protected because their insurance companies covered the costs of an environmental abatement of their business spaces,²⁸⁴ this was not consistently true. Given the public assurances of safety and the absence of warnings from federal agencies to obtain proper testing and cleanup, some small business owners who controlled their own spaces were unaware of the importance of testing and cleaning their businesses. One small business owner recalls:

Life then was a fog. You just did what you had to do to function. When we finally got back into our place, dust was everywhere. Dust was even packed into the gates that cover the storefront – that we roll up to get in. No one was there to tell us to wear a mask. I don't recall any signs warning us about the dust.²⁸⁵

Like the Ground Zero area residents, these small business owners cleaned up the dust initially themselves using little or no protection. They did not receive clear instruction that this was an unsafe activity. Others, located in commercial buildings that they did not own, may have cleaned their own businesses yet may have been left vulnerable to recontamination because the overall building had not been cleaned.

While some insurance companies were very helpful, some small businesses had trouble convincing their insurers of the need to cover the cost for environmental testing and cleanup, or found themselves caught in the middle of arguments between their building owner and their insurance company over who was responsible, and for how much. In the absence of strong federal warnings and instructions about the need for testing, small businesses had little recourse. In some cases, the losses that small business owners experienced was severe. Jan Fried, co-owner of Steamers Landing less than two blocks from Ground Zero, which was penetrated by WTC dust, explains:

Because we continued to experience headaches and because word was circulating in the press that asbestos and other dangerous substances were present, we arranged for a cleaning by a certified contractor to fully decontaminate our restaurant. The cleaning cost nearly \$18,000. Our insurance paid only \$10,000 because they feel my landlord . . . is responsible for the rest, [but it] refuses to pay, saying it is the responsibility of the insurance company. In addition, our contractor advised us that we had to replace all our contaminated equipment, our

²⁸⁴ EPA argued that it was focusing its cleaning program on residential buildings in part on the ground that many commercial building owners “have private insurance to cover cleanup costs.” Jane Kenny, Region 2 EPA Administrator, Statement, “Indoor Air Cleanup Program in Lower Manhattan” (February 10, 2003). (EPA also referred to small businesses having access to programs the Lower Manhattan Development Corporation and federal Small Business Administration “to help them with their cleanup efforts,” but many small businesses could not afford the loans offered through such programs because their businesses had already suffered significantly because of the decreased commercial and customer activity following the attack.)

²⁸⁵ Personal interview of small business owner, July 1, 2004.

light fixtures, ceiling panels, fabrics, refrigeration system, and our entire ventilation system. This cost us an additional \$90,000. The insurance company refused to pay anything but a tiny fraction of the bill.²⁸⁶

Even nonprofit organizations had problems in certain cases. Charlotte Hitchcock, Esq., Health and Safety Officer for the Association of Legal Aid Attorneys, observes:

The resolve of the insurance industry to arbitrarily and capriciously dismiss claims has been strengthened by the lack of uniform cleaning protocols that should have been immediately promulgated by the EPA, as well as an early misleading announcement by the EPA declaring the WTC area safe. . . . Although the LAS [Legal Aid Society] has the ability to obtain *pro bono* representation from the best insurance and real estate law firms within New York City, it has yet to settle its outstanding property claim with its insurance carrier.²⁸⁷

In some other cases, apparently, the insurance companies avoided responsibility entirely by testing only the air inside the business, and only for asbestos. Like the EPA's own indoor cleanup program, these companies ignored the presence of settled WTC dust in the indoor environment. Based on these inadequate tests, such insurance companies told the business owners that there was no hazard and therefore no need for an environmental abatement.²⁸⁸

Federal assurances about safety apparently made it more difficult for small business owners to argue with their insurance companies about the need for a proper environmental abatement. Restaurant owner Harriet Grimm reports that when her business partner approached Gregory Serio, Superintendent of Insurance for New York State, about the failure of their insurance company to pay their claims,

[H]e was told that if the appropriate agency would have made an official recommendation for replacement of contaminated equipment, getting paid for our loss would have been much easier. Because government agencies did nothing, they have let insurance companies walk all over small businesses.²⁸⁹

²⁸⁶ Testimony of Jan Fried, co-owner of Steamers Landing restaurant, to the EPA WTC Expert Technical Review Panel, Apr. 12, 2004.

²⁸⁷ Testimony of Charlotte Hitchcock, Esq., Health and Safety Officer, Association of Legal Aid Attorneys, UAW Local 2325, to the EPA WTC Expert Technical Review Panel (April 12, 2004), p. 4.

²⁸⁸ Telephone interview of Jeanine Chanes, Esq., attorney representing small businesses in insurance claims, July 27, 2004.

²⁸⁹ Testimony of Harriet Grimm to the EPA WTC Expert Technical Review Panel, *supra*.

Small businesses in the immediate vicinity of the towers sometimes faced additional contamination because their space was used by emergency personnel. One restaurant, for example, was used by FEMA as a staging area while the business was officially closed. When the owners were able to return, they found the space filled with dust-covered stretchers and boxes of medical supplies. They had to dispose of these materials themselves, and did not receive any compensation for the expense. This added to their losses – which included two other small businesses in the area that were unable to reopen after the attack.²⁹⁰

G. Charities Were Not Alerted in a Timely Way to the Tremendous Need for Long-term Medical Monitoring and Healthcare

The American response to 9/11 was an outpouring of generosity. An in-depth report on this charitable giving, prepared for the Ford Foundation, observed:

One survey found that 58 percent of Americans gave money to a 9/11-related cause within a month after the attacks. The philanthropic response was so great that the two largest relief agencies, the American Red Cross and September 11th Fund, issued public statements saying that they did not wish to receive more money; nevertheless, another approximately \$500 million was contributed to these two organizations by June 2002.²⁹¹

Most of this funding went to immediate financial assistance for bereaved families, destroyed or disrupted small businesses, unemployment and other losses related to the disaster. Some foundations also gave to help schools and arts programs to survive the economic impacts of the attack. With the significant exception of the \$1 million grant from the Bear Stearns Charitable Foundation to the Mount Sinai Medical Center for medical treatment of rescue, recovery and cleanup workers,²⁹² private charities up until very recently provided funds mostly for mental health services or immediate emergency care rather than WTC-related medical treatment for persistent health effects.²⁹³

²⁹⁰ Personal interview of small business owner, July 1, 2004. Small businesses did have access to loans through the federal Small Business Administration. That agency apparently issued some \$906 million in loans. See FEMA, *A Nation Remembers; A Nation Recovers*, *supra*, p. 26. The larger \$8 billion program (“Liberty Bonds”) authorized by Congress to repair damaged buildings and promote rebirth of the financial district, however, reportedly has gone mostly to developers of prime real estate outside the Ground Zero area – in midtown Manhattan and Brooklyn – and to developers of luxury housing. Michael Powell and Michelle Garcia, “Ground Zero Funds Often Drifted Uptown: Money Also Went to Luxury Apartments,” *Washington Post* (May 22, 2004).

²⁹¹ *Ford Foundation Report*, p. i. Indeed, the American Red Cross stopped soliciting for its 9/11 Liberty Fund on October 31, 2001. Donations came from all 50 states, three U.S. protectorates, and 150 countries. *Id.*, pp. 1 and 3.

²⁹² Sandy Smith, “Health Care for Heroes in NYC,” *Occupational Hazards* (Oct. 21, 2002)(available at <www.occupationalhazards.com/articles/5017>). This was followed by other funding from various sources.

²⁹³ The September 11th Fund and the American Red Cross, for example, offered up to \$3,000 per covered individual, or 32 visits, for mental health treatment of people who meet their eligibility requirements. See American Red Cross, September 11th Fund, Mental Health Association of New York City, “9/11 Mental Health and Substance Abuse Program: Summary” (Factsheet distributed with cover letter dated May 5, 2004). The American Red Cross

Adequate federal warnings would have sent a timely message to the charitable community – as well as Congress – of the need for both expeditious and long-term medical assistance for people harmed by Ground Zero pollution. Micki Siegel de Hernandez points out that if EPA had acknowledged the health risks of exposure:

We probably could have gotten more funding, and sooner, for health screening and monitoring. We have received so little compared to what is needed out there.²⁹⁴

Indeed, it is possible that the series of studies that emerged on health effects in 2002 and 2003 are slowly starting to have an impact. On July 1, 2004 – nearly three years after the disaster – the Red Cross announced that it was making a large fund available over the next two years for programs that provide long-term relief from the September 11 attacks, and the Mount Sinai Medical Center’s World Trade Center Health Effects Treatment Program is receiving \$1.5 million from this sum for one year’s funding of medical treatment for rescue, recovery and cleanup workers.²⁹⁵

While charities cannot hope to shoulder the full burden of future healthcare (even the generous \$1.5 billion in charitable giving overall to New York City was only a small fraction of the federal funding that was provided, and even less of what was truly needed for recovery from the disaster²⁹⁶), the American Red Cross donation is a helpful step. Unfortunately, an early opportunity for the federal government to partner with private resources to help those made ill by exposure to WTC pollution – at a time when the philanthropic community was most attentive to the needs stemming from the disaster – was lost because the federal administration was telling the public that the area was environmentally safe.

did provide health services for approximately 118,000 people and the September 11th Fund reimbursed NYU Downtown Hospital for emergency care after the attack (*see Ford Foundation Report*, pp. 31 and 35), but this assistance did not focus on long-term environmental health effects from the WTC pollution.

²⁹⁴ Interview of Micki Siegel de Hernandez, Director, Communication Workers of America District One Health and Safety Program, March 16, 2003.

²⁹⁵ The full amount of the fund for long-term needs is \$50 million. American Red Cross, press release, “Red Cross Announces \$50 Million 9/11 Grant Program” (July 1, 2004).

²⁹⁶ Rosner and Markowitz (2003), p. 26.

PART SIX:

NEW EXPOSURE TO INDOOR WTC DUST VERY LIKELY CAN STILL OCCUR – AND CHILDREN ARE AT SPECIAL RISK

After the dust settled from the incineration and collapse of the towers, it was clear that both the exteriors and the interiors of many buildings had been contaminated by the WTC dust. The cleanup of this contamination needed to include both visible dust and the dust particles that are too small to be seen by the naked eye but – as noted in Part One of this Report – are often the most hazardous.

Unfortunately, the federal administration’s approach to cleanup of contaminated buildings was minimalist and poorly conceived. Appendix C of this Report explains that the cleanup program, which was developed by a multi-agency task force that included FEMA, EPA and OSHA,¹ had glaring flaws. Buildings were only partially cleaned and the cleanup methods were weak. One of the most significant flaws was the failure to clean building ventilation systems. Carolyn Martin, a resident at 366 Broadway, described the so-called inspection that EPA contractors performed on her building’s dust-laden ventilation system:

I asked how they knew it was not WTC dust. Mr. Fitzpatrick said he knew as he had worked on the pile. WTC dust he declared was brown-grey, not the grey dust that we had at 366 Broadway. . . . I asked [a resident who has roof space] if there had been WTC dust on the roof after the WTC collapse. She said there had. She told me the dust was grey. This information cut no ice with the team inspecting the vents. They also took a brief look at the elevator shafts. Mr. Fitzpatrick ran his finger over some dust in the shaft and declared it not WTC dust, as when he rubbed it between his fingers, he felt no fibers. I received a report saying the vents were clear of WTC dust. This meant that neither the vents nor the elevator shafts would be cleaned. . . . My only science education is high school biology. You are a panel of experts. Are you confident based on these “inspections” that there is no WTC dust at 366 Broadway?²

Tribeca Towers resident Jo Polett recalls a meeting of residents, school parents, and small business owners at which NYCOSH industrial hygienist Dave Newman made a list of all of the different colors (grey, brown/grey, pinkish, etc.) and textures (sandy, fluffy, chunky, etc.) that they had been told characterized the WTC dust. “It was amazing – how many different descriptions people had been given to convince them that their dust was not World Trade Center dust.”³

¹ FEMA, *A Nation Remembers; A Nation Recovers*, *supra*, p. 23.

² Testimony of Carolyn Martin, resident at 366 Broadway, to the EPA WTC Expert Technical Review Panel (Apr. 12, 2004).

³ Personal interview of Jo Polett, Tribeca Towers resident, May 7, 2004.

These flaws limited the program's effectiveness even for the residents who participated – and the federal administration's late launching of the program and weak outreach efforts guaranteed that many would not. As a result, many homes were not decontaminated. Also, most non-residential buildings were not decontaminated unless the owner undertook the expense. This leaves a still unmeasured level of WTC contamination in indoor spaces that presents potential exposure risks.

While ordinary household and building cleaning may have removed the bulk of the World Trade Center dust, it is likely that such cleaning has not removed all of the contaminants from the specific areas targeted, and that certain areas in homes and workplaces have not been cleaned at all. The residue that remains can still present a health hazard, especially to children and people with respiratory diseases or immune-related disorders. At the February 21, 2002 EPA Ombudsman hearing, Congressman Nadler asked Dr. Stephen Levin of the Mount Sinai Selikoff Center for Occupational and Environmental Medicine whether a contaminated apartment, if it is not cleaned, would be just as contaminated ten years from now. Dr. Levin responded, using the example of asbestos:

We know that asbestos is a material that doesn't disappear. That, in fact, in homes of insulators [workers who installed asbestos insulation], construction insulators, 25 years after such workers have left the home, we can find evidence of elevated asbestos levels. So it's likely that the apartment or the office space that's not adequately cleaned, that contamination will persist overall.⁴

Liam Horgan, a certified industrial hygienist with Assessment Resources & Technologies, which tested many buildings in lower Manhattan, would agree with Dr. Levin's assessment and notes that the concern applies to all other metals as well. He stated:

The metals are not going anywhere. They will never break down into less toxic components. So if they have not been cleaned up, then they are certainly still there. They may be in the carpet, or the furniture upholstery, or some porous material. Those are the most likely areas where the dust would still be found because it usually requires professional, expert cleaning to remove contamination from fiber or porous material. In fact, sometimes it is safer to dispose of a contaminated carpet than to try to clean it.⁵

As noted above, in October 2003, the White House Council on Environmental Quality finally agreed to Senator Hillary Rodham Clinton's request to have EPA convene an expert advisory panel to consider questions about existing testing and cleanup, and whether further testing is needed.

⁴ Testimony of Dr. Stephen Levin, Medical Co-Director, Mount Sinai-Irving J. Selikoff Center for Occupational and Environmental Medicine, *EPA Ombudsman Hearing Transcript Feb. 21, 2002*, p. 144.

⁵ Personal interview of Liam Horgan, C.I.H., Assessment Resources & Technologies, Oct. 29, 2003.

Disturbingly, the White House Council's mandate to the panel allows it to delay making recommendations on testing of additional buildings or areas until sometime between October 2005 and March 2006.⁶ In other words, the mandate contemplates allowing public exposure to toxins that were released as a result of international terrorist activity to extend to *four years*, and possibly five and a half years or longer, depending on agency deliberation over the panel members' various recommendations. As Micki Siegel de Hernandez, Director of the Communication Workers of America District One Health and Safety Program, noted:

While there is clearly the need to look at science and re-evaluate standards and models of exposure, that debate can take years. At what point will the irrefutable fact that thousands of workers and community members are already ill as a direct result of their 9/11-related exposures be considered in this debate and spur the necessary action?⁷

In current Panel meeting discussions, there appears to be a general consensus that action should get underway more expeditiously, but it is not yet clear what recommendations the Panel members will make to EPA, or how long EPA will take to act on them – if it acts upon them at all. This Administration must not delay any longer; it must take action now to complete the cleanup job from Ground Zero.

A. Some Harder-to-clean Areas in Homes Present a Special Exposure Risk to Children

Children roll around on carpets and bounce on upholstered couches and chairs. When they do this, they can stir up dust which they directly breathe. Also, young children engage in more hand-to-mouth activity than adults. They can accidentally eat the dust if they get it on their fingers and then put their fingers in their mouths. In other words, unlike most adults, children have two potentially very significant routes of exposure to lingering WTC dust – inhalation and ingestion. Many parents of young children, following the EPA's and City's advice, only wet-mopped and wet-wiped surfaces, which is not efficient in removing contaminants from carpets and cloth-covered furniture to safe levels.

Disturbingly, when EPA launched its 2002 residential cleanup program, it did not emphasize the importance of professionally cleaning homes contaminated by dust if small children were in residence or frequented the home. Such parents were never told that:

⁶ Letter from James Connaughton, White House Council on Environmental Quality, to Senators Clinton and Lieberman (Oct. 27, 2003). The panel did not hold its first meeting until five months later, in March 2004.

⁷ Testimony of Micki Siegel de Hernandez, Director, Communication Workers of America District One Health and Safety Program, to the EPA WTC Expert Technical Review Panel (Mar. 31, 2004), p. 3.

- Ingestion of lead – which is prevalent in WTC dust, as is explained further in subdivision C below – can cause permanent brain damage, and children are especially vulnerable because their brains are still developing;⁸
- Inhalation exposure to the caustic WTC dust would be especially hazardous for young children with asthma because children’s airways have small diameters, so a pollutant that produces only slight irritation in an adult will significantly narrow the airways of a child and produce wheezing, bronchiolitis, and asthma; also, children tend to breathe more rapidly than adults and thus may have greater exposure.
- Children absorb a greater proportion of many substances from the intestinal tract or lungs. Children absorb approximately half of the lead that they swallow while adults absorb only about one-tenth. Children’s immune system and detoxifying mechanisms are less developed, and may be less protective.⁹

Finally, children are at greater risk from WTC pollution because they have more years of life ahead of them than adults. As Drs. Philip Landrigan and Herbert Needleman, experts in children’s environmental vulnerabilities, explain, “Children have more time for the diseases initiated by early exposure to unfold and become manifest.”¹⁰ Dr. Stephen Levin of the Mount Sinai Selikoff Center for Occupational and Environmental Medicine testified at a February 2002 EPA Ombudsman hearing:

[T]he risk of mesothelioma in fact increases as time goes on with the fourth power of time. That means the longer one is from the time the exposure occurs, the greater the risk. And since children have a long lifetime ahead of them in which that risk can increase, we worry most about their exposure. If you have an apartment that’s contaminated and young children are crawling around on the floor, close to the source of contamination, we worry most about them.¹¹

The Bush administration, however, made no special effort to identify and include children’s residences in the residential cleanup program (even though New York City landlords must keep records of tenant apartments housing children under age 10 because of the window guard law).

⁸ The synaptic connections within the brain reach a peak at around age two, and then selectively are reduced. H. Ruff, M. Markowitz, P. Bijur and J. Rosen, “Relationships Among Blood Lead Levels, Iron Deficiency and Cognitive Development in Two-Year-Old Children,” *Envtl. Health Persp.* 104:180-185 (Feb. 1996); *see also* Herbert Needleman, M.D., and Philip Landrigan, M.D., p. 6.

⁹ Herbert Needleman, M.D., and Philip Landrigan, M.D., pp. 5-6 and 180. The same amount of pollution in the body of a child rather than an adult also may have a greater toxic effect because the child’s body is smaller, so the ratio of toxic material to body mass is higher.

¹⁰ *See* Herbert Needleman, M.D. and Philip Landrigan, M.D., p. 180.

¹¹ Testimony of Dr. Stephen Levin, Medical Co-Director, Mount Sinai-Irving J. Selikoff Center for Occupational and Environmental Medicine, *EPA Ombudsman Hearing Transcript Feb. 21, 2002*, pp. 143-44.

B. Less Frequently Cleaned Areas Can “Store” WTC Dust and Become Sources of Future Unexpected Exposures

Industrial hygienist Liam Horgan of Assessment Resources & Technologies observes that even though most tabletops and other easily accessible areas in buildings of lower Manhattan may have been wiped clean, other less easily accessible areas very likely still are storing WTC dust. He stated,

Think about the dust that settled on books, the top of a picture frame hanging on a wall, or the top of a door jamb. These are areas that are less frequently cleaned, but at some point, maybe when a resident is moving things around in the apartment or just spring cleaning, new exposures certainly can occur.¹²

Other less obvious sources of contamination also can exist. Mr. Horgan described one residence where the old, unused chimney had been sealed up inside the house. Contaminants entered the chimney and infiltrated the plenum between the ceiling and drop ceiling. “So the next time someone needs to repair a light fixture or do some other kind of work that disturbs the drop ceiling, there’s a risk of exposure,” he explained.¹³

Industrial hygienist David Newman of NYCOSH observes that while regularly cleaned surfaces in an apartment may be relatively contamination-free, the person cleaning those surfaces may have become exposed while doing it, and some of the contamination may have simply moved elsewhere, such as from a table to a carpeted floor. He further notes that additional potential reservoirs for uncleaned dust include under radiators and behind stoves. He notes:

A child’s ball may roll underneath a radiator. The child may get exposed to the dust when retrieving it, and the ball may be covered with dust as well. Or someone may move the stove or refrigerator to clean behind it, and stir up dust. The bottom line is, we don’t know how available the dust is, how likely it is that someone may become exposed to it. The actual amount of exposure may be small, but we also don’t know how vulnerable that person will be to the potential health effects. A small amount of lead exposure can be very toxic to a young child.¹⁴

¹² Personal interview of Liam Horgan, C.I.H., Assessment Resources & Technologies, Oct. 29, 2003.

¹³ *Id.*

¹⁴ Personal interview of David Newman, Industrial Hygienist, NYCOSH, May 12, 2004.

C. The Presence of Lead-contaminated WTC Dust in Homes Presents a Higher Risk to Very Young Children

Many New York City children already suffer from the permanent brain damage caused by childhood lead poisoning because of exposure to lead-contaminated dust from old indoor lead paint. Unfortunately, residual WTC dust presents a lead contamination risk.

An independent study identified lead in all 16 samples of indoor WTC dust taken in buildings close to Ground Zero just a couple months after the attack.¹⁵ EPA itself found that 17 percent of the 214 homes that it tested for dust in 2002 and 2003 had pre-cleaning lead levels that exceeded its cleanup benchmark of 25 micrograms per square foot.¹⁶ For, EPA dust wipe tests in one apartment at Tribeca Tower, located seven blocks from the WTC site, revealed pre-cleaning lead levels five times higher than the EPA guideline for its lower Manhattan cleanup, and other apartments in the building had elevated lead dust levels as well, even though the building did not contain lead paint.¹⁷

The source of the lead is not certain in all cases, because lead-based paint in old buildings can generate such dust. Still, while some suggest that the lead dust found by EPA may not have come from Ground Zero, it is very likely that a significant amount of it did, based on the following facts:

- New York City banned the use of lead paint inside housing in 1960, and the federal government also banned its use inside housing nationally in 1978.¹⁸ While some violations may have occurred after the ban, generally buildings constructed in the 1980s and later can be presumed to be free of lead paint. Yet, test results of Ground Zero area buildings built in the 1980s or later have revealed lead dust. Elevated levels of lead dust were found not only at Tribeca Towers, described above, but also at Stuyvesant High School at 345 Chambers Street, a building that was completed in

¹⁵ Lih-Ming Yiin, James Millette, *et al.*, “Comparisons of the Dust/Smoke Particulate that Settled Inside the Surrounding Buildings and Outside on the Streets of Southern New York City After the Collapse of the World Trade Center, September 11, 2001,” *J. Air & Waste Mgt. Ass’n* 54:515-528, 519 (2004).

¹⁶ EPA Region 2, *World Trade Center Residential Dust Cleanup Program* (Draft Final Report, Mar. 2004), p. 43.

¹⁷ The lead measured 127 micrograms per square foot on a floor in Ms. Polett’s apartment. Pre-cleaning dust tests in other apartments in the building found levels ranging from 30.1 to 103 micrograms per square foot. Letter from Pat Evangelista, EPA Indoor Air Residential Assistance Program, to Jo [“Rosemary” - sic] Polett, resident (Oct. 9, 2003); *see also* Elizabeth O’Brien, “E.P.A. Delays Release of Lead Tests,” *Downtown Express* (Oct. 14, 2003). There was no visible dust in Ms. Polett’s apartment; she viewed it only when she ran her finger along the windowsill. Personal interview of Jo Polett, May 4, 2004.

¹⁸ *See* N.Y.C. Health Code (24 R.C.N.Y. § 173.13) and, U.S. Consumer Product Safety Commission, 1977a, Ban of Lead-Containing Paint and Consumer Products Bearing Lead-Containing Paint. 44 *Fed. Reg.* 44199 (Sept. 1, 1977), codified at 16 CFR § 1303. Questioning of an EPA Region 2 representative by industrial hygienist and EPA WTC Expert Technical Review Panel member David Newman of NYCOSH at a meeting of the Panel revealed that EPA had not tested paint in apartments where its dust samples revealed lead, nor made any attempt to correlate the lead dust data with the age of the buildings.

1992.¹⁹ While lead paint was used in some schools through the early 1980s, it is highly unlikely that it was still used in the 1990s.²⁰

- In EPA’s dust testing program, residences located on the third floor or lower had significantly higher pre-cleanup lead dust levels than on higher floors,²¹ which would not be consistent with a presumption of indoor lead paint as the source of the dust.
- While some have argued that lead dust could be tracked or blown in from pre-existing (non-WTC) outdoor “ambient” sources,²² the chances of this occurring are small. Certified industrial hygienist Liam Horgan observes:

If lead dust is such an urban environmental problem, why isn’t it everywhere? The commercial buildings that I service shut their air systems down on September 11th, and they didn’t have lead dust. But in residential buildings in the area, I found lead in about half of the samples that I took in less frequently cleaned locations. The ambient world is not as polluted as some people would like us to believe.²³

Also, EPA acknowledges that it detected lead dust exceedences of the HUD screening guideline eight times more frequently in the lower Manhattan residences than in comparison apartments in upper Manhattan.²⁴

The federal Department of Housing and Urban Development (“HUD”) has found generally that only four percent of homes with no interior lead-based paint contain lead dust hazards.²⁵ This is

¹⁹ See <www.stuy.edu/about/history.php>.

²⁰ See Chancellor’s Task Force on Lead Hazard Reduction, *Report on Lead-based Paint Policy Recommendations* (Aug. 4, 1993), p. 1.

²¹ Residents on the third floor had average lead dust levels of 39.52 micrograms per square foot, compared with 21.08 micrograms per square foot for residences located on floors four through 10 and 14.18 micrograms per square foot for floors higher than 10. EPA Region 2, *World Trade Center Residential Dust Cleanup Program* (Draft Final Report, Mar. 2004), p. 43.

²² See, e.g., Letter from Kenneth Becker, Chief, World Trade Center Unit, City of New York Law Department, to Rick Beusse, EPA Office of the Inspector General (Aug. 4, 2003), p. 7, in *IG Report*, App. S, p. 145 (citing the “ubiquity of tetraethyl lead in urban environments from its use in leaded gasoline” as a likely source for the lead found in the ventilation system of Stuyvesant High School near a WTC debris transfer station).

²³ Personal interview of Liam Horgan, May 12, 2004. Similarly, despite assertions that asbestos is a common urban pollutant, the ATSDR and City residential dust study found no asbestos at all in the four “control” buildings that they tested north of 59th Street, but found it in 18 percent of the indoor samples that they took in the Ground Zero area. *ATSDR and City Health Department Residential Dust Study 2002*, pp. 5 and 20.

²⁴ EPA Region 2, *World Trade Center Residential Dust Cleanup Program* (Draft Final Report, Mar. 2004), Table 3-9, p. 51. The “control” samples were taken in residences north of 78th Street in Manhattan.

²⁵ HUD, *National Survey of Lead and Allergens in Housing* (Vol. I: Analysis of Lead Hazards)(Apr. 18, 2001), p. 5-16. In recent years before September 11, 2001, Community District 1 has had comparatively low rates of childhood lead poisoning. The district ranks 36th among the City’s 51 districts for childhood lead poisoning and 45th for severe childhood lead poisoning. By way of comparison, the Washington Heights neighborhood of upper

consistent with the findings of Dr. Lih-Ming Yiin and Dr. James Millette, who tested seven resident-provided samples of ordinary house dust gathered a couple months after the attack, and found that lead was not detected in any of them.²⁶

D. Demolition of WTC-contaminated Buildings Poses a New Risk to Ground Zero Area Residents, Business Owners and Workers; Reoccupation also Raises Concerns

While the details of these projects are not within the scope of this report, the impending demolition of heavily contaminated buildings near Ground Zero pose a new risk to people who live and work in the area, as well as the children who attend day care or school nearby. The heavily damaged Deutsche Bank building (soon to be owned by the Lower Manhattan Development Corporation) and the Borough of Manhattan Community College's Fiterman Hall (located beside 7 World Trade Center) are of primary concern. Both buildings are severely contaminated and remain vacated. Congressional Representative Jerrold Nadler and area residents have urged the EPA WTC Expert Technical Review Panel to evaluate these risks and advise EPA to exercise its authority to prevent new exposures in the community.²⁷

Reoccupation of the Post Office building at 90 Church Street, across the street from Ground Zero, is raising concerns as well. The building had been evacuated because of the extensive damage and contamination caused by the attack. Charlotte Hitchcock, Esq., Health and Safety Officer for the Association of Legal Aid Attorneys, explains:

An engine from one of the airliners that collided with one of the WTC towers pierced through the roof of our Site in the Southwest quadrant of the 15th floor of the building. In addition, the petroleum-fueled collapse of WTC 7 directly across East Broadway from the Site propelled flaming debris into 90 Church Street, causing fires on floors 5 and 6 of the building. . . . Windows were shattered on the West and South facades of our workspace, debris and dust were projected through these windows and throughout the Site by the force of the collapse. Elevator shafts, stairwells, the HVAC system, and other air shafts within the building provided additional pathways for airborne contaminants to travel from floor to floor.²⁸

Manhattan has nearly double District 1's number of lead poisoned children and ranks 7th in the City, behind neighborhoods in Brooklyn and the Bronx. New York Public Interest Research Group, *Do You Know Where the Lead Is?* (June 13, 2002)(Tables 3 and 5).

²⁶ L. Yiin and J. Millette, *et al.*, pp. 519 and 524. They identified ordinary house dust as being characterized by a pH less than 7.0, a lack of glass fibers and a significant percentage of biological materials.

²⁷ See Presentation of Mary Perillo, resident, 125 Cedar Street, to the EPA WTC Expert Technical Review Panel (July 26, 2004).

²⁸ Testimony of Charlotte Hitchcock, Esq., Health and Safety Officer, Association of Legal Aid Attorneys UAW Local 2325, to the EPA WTC Expert Technical Review Panel (April 12, 2004), pp. 1-2.

This testimony also noted that because the HVAC system was shut down on September 11th, humidity levels rose and allowed for the growth of mold and bacteria. The building was heavily permeated by WTC contaminants, including lead and other metals, asbestos, fiberglass dust, fungi and bacteria.²⁹ When the Legal Aid Society determined that it would not return to its offices in the building upon its reopening in the summer of 2004, the State of New York decided to take up the three floors formerly leased by the Legal Aid Society and one floor formerly leased by the United States Postal Service.

The New York State Public Employees Federation (“PEF”) and the Civil Service Employees Association (“CSEA”) have objected to this move. They have concerns about the potential impact of the impending demolition of the nearby Deutsche Bank building and Fiterman Hall on its members, as well as reconstruction at the WTC site itself. The unions have asked for high efficiency particulate air (HEPA) filters on all air distributions units, double pane windows to keep out contamination and noise, and periodic indoor air quality testing.³⁰

Also, Paul Stein, Health and Safety Committee Chairperson for the PEF Division 199, expressed concern that the building cleanup might not have been complete, because the unions still had not received copies of any testing protocols or clearance test results for the air-handling units and air intake vents for each floor of 90 Church Street, despite repeated requests. The union learned, simply by an internet search, that a sealant had been used on the air intake vents (“dampers”) of the building, apparently because the vents were still contaminated after cleaning. It has not, however, been able to obtain information on the impact that the dampers, which have metal slats and hinge mechanisms that rub against each other, might have on those sealants.³¹

²⁹ *Id.*, pp. 2-3.

³⁰ Testimony of Paul Stein, Health & Safety Chairperson, New York State Public Employees Federation, Division 199, to the EPA WTC Expert Technical Review Panel (May 24, 2004), pp. 2-3.

³¹ Testimony of Paul Stein, Health & Safety Chairperson, New York State Public Employees Federation, Division 199, to the EPA WTC Expert Technical Review Panel (June 22, 2004), pp. 2-3. Personal interview of Paul Stein, August 13, 2004.

PART SEVEN:

**MANY HUNDREDS OF PEOPLE ARE SUFFERING ADVERSE HEALTH EFFECTS
FROM EXPOSURE TO WTC POLLUTION**

The Bush administration's denial of health hazards from Ground Zero has unfortunately gone hand-in-hand with a failure to provide proper health screening and medical treatment for the many people who were exposed to the pollution. Over two years after the terrorist attack, Doctor Robin Herbert of Mount Sinai expressed in frustration:

Unfortunately, with the exception of screening of New York firefighters and assembly of the ad-hoc working group by NIOSH, many months passed with no comprehensive plan put in place by the federal government to provide diagnostic evaluation or treatment for WTC-related conditions among workers and volunteers involved in rescue and recovery efforts at the WTC disaster, and still no plan has been developed for community residents or other workers from the WTC area.³²

At a Congressional hearing on the health effects of the attack, Congressional Representative Carolyn Maloney urged:

There is substantial evidence of high levels of upper airway and lung problems; respiratory and digestive conditions, psychological trauma problems, and there are certainly more injured that are waiting to be documented. But there still seems to be no coordinated response from Washington. Anyone looking at thousands sickened by one event would think it should be treated as a health emergency of the highest order. But it doesn't seem that there's been any sense of urgency from the federal government.³³

So long as the federal government continues to insist that health risks did not exist and deny or ignore the fact that health effects are occurring, people will not get the health services that they need to cope with the aftermath of the WTC disaster.

The health effects that have been identified so far are mostly respiratory effects. While some people experienced only temporary symptoms, the effects have been prolonged for many others.

³² Testimony of Dr. Robin Herbert to the House Committee, p. 2.

³³ Congressional Representative Carolyn Maloney, "Opening Statement," Hearing of the Government Reform Subcommittee on National Security, Emerging Threats and International Relations, held in New York City, (Oct. 28, 2003), p. 2.

Unfortunately, some of these people will suffer lifelong harm. Dr. Stephen Levin of Mount Sinai testified to the Assembly Committee on November 26, 2001:

We know from previous experience with heavy exposures to irritants, some people who have new onset asthma will continue to have asthma the rest of their lives. The population divides into two groups – ones who get better within a year or two, and another group that doesn't get better within a year or two, and will remain provokable by exposure to irritants for the rest of their lives and . . . by going from a warm room to cold outside air in the winter; also provokable by exercising, by running, and finding that they now have chest tightness, cough, wheezing in ways they never had before this exposure occurred. So, to call these short term effects only short term, I think, misses the clinical fact that some people will continue to have these problems for the rest of their lives.³⁴

In other words, some people will recover, but some people will never enjoy the same quality of life and health again.

What follows is a description of health impacts that have already emerged (greater detail is provided in Appendix B of this Report), and a discussion of concerns for the future.

A. Health Impacts on Rescue/Recovery Workers and Service Restoration Workers

I knew from the very beginning that we were going to have a lot of sick people.³⁵

Israel Miranda, Health and Safety Coordinator
Uniformed EMTs & Paramedics -FDNY

Many thousands of workers were involved in the rescue, recovery and cleanup operations. During the second week at Ground Zero, for example, approximately 5,135 workers were on site each day, generally working 12-hour shifts.³⁶ The World Trade Center Worker and Volunteer Medical Screening Program reported that of the first 5,196 patients examined, the median length of service in the rescue, recovery or restoration effort was 165 days.³⁷

³⁴ Testimony of Dr. Stephen Levin, Medical Co-Director, Mount Sinai Selikoff Center for Occupational and Environmental Medicine, to NYS Assembly Committees on Environmental Protection, Health and Labor, Hearing Transcript (Nov. 26, 2001), pp. 304-05.

³⁵ Personal interview of Israel Miranda, Recording Secretary and Health and Safety Coordinator, Uniformed EMT's & Paramedics-FDNY, May 1, 2004.

³⁶ *NIEHS Report 2001*, p. 7.

³⁷ Powerpoint presentation by the WTC Worker and Volunteer Medical Screening Program at a NIOSH Conference (May 3, 2003).

An October 2001 report by the National Institute of Environmental Health Sciences declared that Ground Zero was “a very dangerous working environment” and that “the exposure data, as well as the potential for serious exposure to toxic materials (including asbestos) among the construction response workers, raises significant concerns.”³⁸ These concerns were justified.

1. Early findings of World Trade Center Cough

The term, “World Trade Center Cough,” apparently was invented by the Ground Zero workers themselves. Reports of the syndrome arose just a few weeks after the attack,³⁹ and were widely known within a few months. Joel Shufro, Executive Director of NYCOSH, reported in January 2002:

Workers have been complaining to us about what they call the “World Trade Center Cough.” These are asthma like symptoms. Some people have experienced these early on and others are just now developing these symptoms, three months later.⁴⁰

Scientists confirmed its existence in a study of firefighters released in September 2002, which identified 332 firefighters who had developed World Trade Center Cough.⁴¹ Although it may sound like a minor illness, it is not. A more general term, “Reactive Airways Disease Syndrome” (“RADS”), commonly called “occupational asthma,” is a respiratory illness characterized by coughing or shortness of breath, and often wheezing or periodic gasping for air, as well hyper-reactive airways (an unusual sensitivity to airborne irritants).⁴² The scientists conducting this study defined World Trade Center Cough more specifically as a set of respiratory symptoms, including a persistent cough, so severe that they compelled a Fire Department physician to place the firefighter on medical leave for at least *four consecutive weeks*. The researchers noted that firefighters are screened frequently for respiratory impairment and excluded from fire-suppression duties if they have symptoms.⁴³

³⁸ NIEHS WETP National Clearinghouse, Press Release, “NIEHS WETP Releases Assessment Report on Worker Safety and Training Needs at WTC Site” (Oct. 23, 2001); *NIEHS Report 2001*, p. 14.

³⁹ See, comments of Dr. Alan Fein, chief of pulmonary and critical care medicine at North Shore-Long Island Jewish Health System, in David France, “Is Ground Zero Safe?” *Newsweek Web Exclusive, MSNBC* (Oct. 5, 2001).

⁴⁰ Comments of Joel Shufro, Executive Director, NYCOSH, in “Day Laborers to Be Tested for Exposure to WTC Toxins,” *WABC Eyewitness News* (<abclocal.go.com/wabc/news/WABC_011402_wtc.html>)(Art McFarland’s report).

⁴¹ David J. Prezant, et al., “Cough and Bronchial Responsiveness in Firefighters at the World Trade Center Site,” *New Engl. J. Med.* 347(11)(Sept. 12, 2002). Only 3 percent of the firefighters with World Trade Center cough were current smokers. Only 20 percent of them were former smokers.

⁴² See Mount Sinai School of Medicine, “Breath Easy: Occupational Asthma and Bronchitis” (factsheet) (<www.mtsinai.org/pulmonary/books/breathe/sectd.htm>).

⁴³ *Id.*

Ironworkers, many of whom came to Ground Zero voluntarily and were widely credited with preventing injuries on site, especially during the early days of the effort, were hit heavily with respiratory illness. New York and Los Angeles researchers found that 77 percent of the 96 ironworkers they examined who spent at least three days at Ground Zero had one or more respiratory problems. The researchers determined that the respiratory symptoms that occurred in the majority of these were not attributable to smoking, and that lack of a respirator mask with a filter canister was a risk factor for large airway dysfunction.⁴⁴

2. Long-lasting lung ailments and ear, nose and throat problems

Contrary to the broad assurances that had been given about the temporary nature of expected respiratory effects,⁴⁵ many of these symptoms have proven to be long-lasting. A study of Ironworkers who had spent at least three days at Ground Zero found “high rates of persistent respiratory and psychological symptoms . . . five months after the initial exposure.” Out of 97 Ironworkers, the researchers found that 64 percent suffered from a persistent cough, 52 percent from sinusitis or rhinitis, 51 percent from dyspnea (shortness of breath) on exertion, 45 percent from chest tightness and 45 percent from wheezing.⁴⁶

As of May 2004 – two years and eight months after the attack – 325 firefighters affected by Ground Zero reportedly still are on restricted light duty, and 69 are on medical leave. An additional 320 who had lung impairments have retired.⁴⁷ Philip McArdle, Health and Safety Officer for the Uniformed Firefighters Association, observes that the number of impaired firefighters may be higher because not all of them felt comfortable disclosing their illness. He notes that nearly three times as many firefighters retired in 2002 as in 2001, and retirement numbers were unusually high in 2003 as well.⁴⁸

A follow-up screening of 575 police officers funded by the private Living Heart Foundation in the Spring of 2003 found that many were still suffering health symptoms two years after the attack:

⁴⁴ Gwen Skloot, *et al.*, “Respiratory Symptoms and Physiologic Assessment of Ironworkers at the World Trade Center Disaster Site,” *Chest* 125:1248-55 (2004).

⁴⁵ *See, e.g.*, Testimony of Kathleen Callahan, Region 2 EPA Acting Deputy Regional Administrator, to the NYC Council Committee on Environmental Protection (Nov. 1, 2001)(the particulate matter “does not cause any irreversible health effects”); and Testimony of Jessica Leighton, Assistant Commissioner, NYC Dept. of Health to the NYS Assembly Standing Committees (Nov. 26, 2001)(short term health effects “should subside after the fires have been extinguished” and “may persist as long as smoke and dust are present near the site,” while levels of more hazardous contaminants “are unlikely to be high enough or persistent enough to cause long-term health effects”).

⁴⁶ Stephen Levin, Robin Herbert, *et al.*, “Health Effects of World Trade Center Site Workers,” *Am. J. Indep. Med.* 42:545-47, 546 (2002).

⁴⁷ Anthony DePalma, “Many Who Served on 9/11 Are Still Pressing Fight for Workers’ Compensation,” *New York Times* (May 13, 2004).

⁴⁸ Personal interview of Philip McArdle, Health and Safety Officer, Uniformed Firefighters Association, June 3, 2004. He states that according to the UFA pension records, there were 1,245 retirees in 2002 among the union’s members, compared with 452 retirees in 2001; in 2003, there were 707 retirees.

70 percent	ear, nose or throat problems
56 percent	chronic cough
50 percent	stomach and digestive ailments
44 percent	shortness of breath
27 percent	chest pain ⁴⁹

The researchers, from Monmouth University and the Pennsylvania State University Medical School, had conducted an earlier survey of 446 police officers between September 28 and October 11, 2001, and had noted a correspondence of exposure with cough, shortness of breath and sputum.⁵⁰

The Mount Sinai School of Medicine reported in January 2003 that in medical examinations of a random sample of 250 rescue/recovery and essential service restoration workers, 78 percent of the workers reported having suffered lung ailments and 88 percent reported experiencing ear, nose and throat problems in the months following the attack. Disturbingly, the medical examinations of these workers revealed that ten months to a year after the attack, 73 percent of them still had either ear, nose or throat symptoms or abnormal physical examination findings, and 57 percent had either pulmonary symptoms or an abnormal pulmonary function test.⁵¹ Dr. Robin Herbert, Medical Co-Director of the Mount Sinai-IJ Selikoff Center found these results “alarming.”⁵² Dr. Stephen Levin, Medical Co-Director of the Mount Sinai Selikoff Center for Occupational and Environmental Medicine, reported in October 2003 that Ground Zero workers who are being examined now show roughly the same rates of illness as they did in 2002. He stated, “We’re finding that these problems are not going away.”⁵³

Also, contrary to the more detailed assurances that had suggested that only Ground Zero workers were at risk, these long-lasting symptoms were not limited to workers who were directly “on the pile” at Ground Zero. Indeed, 44 percent of these people were telecommunications and field technician workers, most of whom were working at sites adjacent or very close to, but not directly

⁴⁹ George Kapalka, *et al.*, “Physical and Mental Health of New York City Police Officers 18 Months After the World Trade Center Attacks,” (Abstract of study funded by the Living Heart Foundation, presented at Poster/Discussion Session, Annual Meeting of International Society for Environmental Epidemiology [“ISEE”]: Addressing Urban Environmental Problems)(August 1-4, 2004).

⁵⁰ Rebecca Bascom, *et al.*, “Acute Respiratory Responses to September 11: A Survey of 446 New York Police Officers” (poster/discussion presentation at Annual Meeting of International Society for Environmental Epidemiology [“ISEE”]: Addressing Urban Environmental Problems)(August 1-4, 2004).

⁵¹ Robin Herbert, M.D. and Stephen Levin, M.D., Mount Sinai-Irving J. Selikoff Center for Occupational and Environmental Medicine, Department of Community and Preventive Medicine, Mount Sinai School of Medicine, “World Trade Center Worker and Volunteer Medical Screening Program: Report of Initial Findings to NIOSH/CDC” (Jan. 24, 2003).

⁵² The World Trade Center Worker and Volunteer Medical Screening Program, Mount Sinai Medical Center, Press Release, “Analysis Reveals Over 50% of Responders Experience Pulmonary, ENT and/or Mental Health Symptoms One Year Following NY Terrorist Attacks” (Jan. 27, 2003).

⁵³ Greg Sargent, “Zero for Heroes,” *New York Magazine* (Oct. 27, 2003).

on, the smoldering pile. With regard to workers who were on the pile itself, therefore, the researchers noted that the data may underestimate the prevalence of symptoms.⁵⁴

B. Health Impacts on Residents

The community's response to the World Trade Center attack was extraordinary. Some people even stayed in contaminated buildings to help other people who could not leave – people who were elderly or disabled. And when residents who evacuated were asked to return and to help the area get back to “life as usual,” they did their part. But they were told to clean up their own living spaces even though the dust and ashes were harmful. They were told that it was safe to walk around the neighborhood even when the fires were still burning. This was a “beloved community,” but they were betrayed.⁵⁵

Kimberly Flynn, 9/11 Environmental Action

Residents living near Ground Zero suffered exposure to outdoor air pollution and dust for several weeks, and to indoor dust for several weeks. Many continued to be exposed because of remaining dust in their buildings. Residents farther from the site suffered less lengthy exposure to outdoor fumes and dust, but continue to suffer exposure to any remaining dust in their buildings. Mount Sinai's Dr. Robin Herbert comments that many cases of WTC-related harm probably are not being identified because “[t]oo few health care providers are knowledgeable about how to recognize and treat WTC-related illness.”⁵⁶ This is especially true for the general public, who may be less aware of the extent of their own exposure than many workers. Nevertheless, while the Report of the Office of Inspector General (“*IG Report*”) correctly states that the “full extent of public exposure to indoor contaminants resulting from the WTC collapse is unknown,”⁵⁷ evidence of adverse effects for residents already exist.

A study of 205 asthmatic Chinese-American children who were patients at the Charles B. Wang Community Health Center in Lower Manhattan's Chinatown compared their medical records from the year before the attack to the year afterward. The study revealed two very important impacts:

⁵⁴ Robin Herbert, M.D. and Stephen Levin, M.D., Mount Sinai-Irving J. Selikoff Center for Occupational and Environmental Medicine, Department of Community and Preventive Medicine, Mount Sinai School of Medicine, “World Trade Center Worker and Volunteer Medical Screening Program: Report of Initial Findings to NIOSH/CDC” (Jan. 24, 2003), pp. 3 and 7 (Table 2).

⁵⁵ Statement of Kimberly Flynn, spokesperson of 9/11 Environmental Action, a residents and school parents organization, at a meeting of faith-based leaders at the Washington Square United Methodist Church, March 16, 2004.

⁵⁶ Testimony of Dr. Robin Herbert to the House Committee, p. 7.

⁵⁷ *IG Report*, p. i.

- Children who already suffered from asthma had significantly more asthma-related clinic visits, demonstrated a decrease in “peak flow rates” of respiration, and required greater use of asthma medication during the year after the attack.
- There appeared to be a significant increase in new onset asthma in Chinatown. The number of patients in the childhood asthma program rose from 306 to 510, a surprising 67 percent increase in patients, after the attack.

Overall use of asthma health care resources at the pediatric clinic rose by nearly 50% in the year after September 11, 2001. In contrast, pediatric visits at a satellite clinic about 15 miles from Ground Zero, in Flushing, Queens, experienced a drop in pediatric asthma visits during the year after the attack.⁵⁸

The study is particularly significant since the northern border of EPA’s “designated zone” for its residential cleanup program runs through, not above, Chinatown. Also, the study lends support to the results of a survey of 135 adult Manhattan residents with pre-existing asthma conducted by the New York Academy of Medicine five to nine weeks after September 11, 2001, which found that 27 percent of them reported more severe asthma symptoms than in the four weeks before the attack.⁵⁹

A jointly-sponsored federal and City survey of area residents conducted in late October 2001, but not released until January 2002, revealed that a significant level of respiratory symptoms in residents continued to persist nearly a month and a half after the attack.

- More than half of the residents reported that they were still experiencing nose and throat irritation.
- Approximately 40 percent of the residents reported continued eye irritation and/or coughing.
- More than 20% reported continued symptoms of shortness of breath.

The agencies acknowledged that the symptoms were consistent with what would be expected from human exposure to the smoke from the WTC site fires.⁶⁰

A larger survey of over 2,000 residents of lower Manhattan living within a one-mile radius of Ground Zero, launched eight months after the attack, indicates that many previously healthy persons living near Ground Zero experienced a prolonged increase in respiratory symptoms after the

⁵⁸ Anthony Szema, *et al.*, “Clinical Deterioration in Pediatric Asthmatic Patients After September 11, 2001,” *J. Allergy Clin. Immunol.* 113(3):420-426 (2004).

⁵⁹ “Self-reported Increase in Asthma Severity After the September 11 Attack on the World Trade Center – Manhattan, N.Y., 2001,” *Morbidity and Mortality Weekly Report* 51:781-84 (2002).

⁶⁰ *Community Needs Assessment Dec. 2001*, pp. 3 and 9 (Chart 2).

terrorist attack. The survey was conducted by Dr. Joan Reibman and a team from the NYU Medical Center in collaboration with the New York State Department of Health and the New York Academy of Medicine. Dr. Reibman found that many patients had developed a tendency of lungs to react more quickly to potential asthma triggers. Dr. Reibman informally described the condition as “twitchy lungs.”⁶¹ Although not yet published, results from this study were reported at a public presentation in May 2004.

- The survey found that, in comparison with an unexposed “control” group, the exposed residents had initially experienced a four-fold increase in wheezing, a three-fold increase in coughing without a cold and a three-fold increase in shortness of breath after exercise and at night. Of the 2,103 exposed residents surveyed, 1,174 experienced at least one of the “new-onset” respiratory symptoms that were the focus of the study.
- The impact was even more notable after the passage of time. Exposed residents who were still experiencing those post-9/11 respiratory symptoms at the time of the survey had a 6.5-fold increase in wheezing, a four-fold increase in coughing without a cold and shortness of breath after exercise, and a 7.6-fold increase in shortness of breath at night, and 636 were still experiencing at least one post-9/11 respiratory symptoms at the time of the survey.⁶²

Although final results from this study are still pending, this data indicates that many residents’ lives have been changed significantly as a result of exposure to the WTC pollution.

A community revitalization group in the area known as Downtown Rebounds conducted a less formal survey of approximately 800 residents from various neighborhoods in Lower Manhattan below Canal Street. In this survey, conducted in early May 2003, 30 percent of respondents reported that they or a member of their household who lived downtown before September 11th continue to suffer from respiratory problems – a year and a half after the disaster.⁶³

⁶¹ J. Reibman, *et al.*, “Respiratory Health of Residents Near the Former World Trade Center: The WTC Residents Respiratory Health Survey” (Presented at American Thoracic Society 99th International Conference, May 16-21, 2003, Seattle, WA)(2003). Abstract published in *Am. J. Respir. Crit. Care Med.* 167(7):A334. See also *Health and Environmental Consequences*, pp. 26-27; P. Landrigan, *et al.* (2004), p. 736; NIEHS, “World Trade Center Environmental Impact Community Update” (Fall 2003). The survey was launched in June 2002. “Health Officials Begin WTC Study of Downtown Residents,” *The Tribeca Trib* (June 3, 2002). Note: Dr. Reibman’s findings with regard to the type of impact on lung function in residents are supported by findings of the Living Heart Foundation in its survey of exposed police officers. See Appendix B of this Report.

⁶² Power-point presentation by Lung Chi Chen, Ph.D., Department of Environmental Medicine, New York University School of Medicine, “Community Exposures to Particulate Matter Air Pollution from the WTC Disaster” (presentation to EPA WTC Expert Technical Review Panel) (May 24, 2004) (<www.epa.gov/wtc/panel/pdfs/chen-20040524.pdf>). The completed survey results covered 2,103 exposed residents and 254 members of a “control” group. “Persistent” was defined as experiencing the symptom 2 days or more per week in the past four weeks. The effect was still statistically significant after adjusting for age, gender, education, smoking and race.

⁶³ Downtown Rebounds, Press Release, “Ground Zero Area Residents Committed to Staying Put, Says New Poll” (May 20, 2003)(the poll was conducted by Blum and Weprin Associates); Greg Gittrich, “Downtowners Toughing It Out,” *New York Daily News* (May 21, 2003).

Anecdotally, physicians in Brooklyn and lower Manhattan in 2003 reported that they had seen a sharp increase in adult-onset asthma diagnoses since September 11, 2001.⁶⁴ In particular, Dr. Neal Schachter, a leading pulmonologist at Mt. Sinai, said that during the first year after 9/11, he saw an estimated 15 percent more patients with post-9/11 respiratory problems, and he was still seeing an estimated 5 percent to 10 percent more patients than usual in September 2003. He also noted that “silent culprits” in the post-9/11 pollution may yet cause cancer or scarring of lungs.⁶⁵

C. Health Impacts on Privately Hired WTC Dust Cleanup Workers

As described in Part One, many thousands of low-income people were hired off the street to clean dangerous toxic dust in buildings close to the WTC. Most were never given any safety training or protective gear, and were not informed about the hazards of the dust they removed from offices and apartments.⁶⁶ Dr. Stephen Levin, of the Mount Sinai Selikoff Center for Occupational and Environmental Medicine, testified at a November 2001 New York State Assembly hearing regarding his concern that harmful health consequences could result:

The issue of the cleaning workers, who are doing the cleanup in buildings, in office buildings, in residential buildings, that’s where undocumented and other day laborers are being employed, . . . is, they are not offered training and protection when they’re disturbing dust that is likely to contain asbestos. . . . [F]or a worker who spends the next several months cleaning up in office spaces where there is asbestos contaminated debris, that’s a serious question.⁶⁷

Unfortunately, the workers already are experiencing health impacts, and future effects remain a risk.

Dr. Steven Markowitz and colleagues from Queens College examined 418 lower Manhattan building cleanup workers from January 15 through February 28, 2002 through the Mobile Medical Unit described in Part One. Most had worked in buildings adjacent to Ground Zero for six to 12 weeks and had stopped performing such work four to eight weeks before examination.

- They found that “nearly all” of these workers suffered a long-lasting syndrome of upper airways irritation, congestion and chest pain symptoms that first appeared or

⁶⁴ Laurie Garrett, “Danger in the Dust,” *supra*.

⁶⁵ Francesca Lyman, “Anger Builds Over EPA’s 9-11 Report,” *supra*.

⁶⁶ *IG Report*, pp. 42-43. Albor Ruiz, “Remedying Shame of Ground Zero,” *Daily News* (Sept. 18, 2003); Associated Press, “WTC Dust Cleaned Without Standard Safety Gear,” *CNN.com* (May 18, 2002); “Day Laborers to Be Tested for Exposure to WTC Toxins,” *WABC Eyewitness News* (Jan. 14, 2002). They were paid only \$7.50 an hour, if at all (some reportedly were denied payment after doing the work).

⁶⁷ Testimony of Dr. Stephen Levin to NYS Assembly Committees, Hearing Transcript (Nov. 26, 2001), pp. 307-08.

significantly worsened after September 11, 2001. Many also suffered systemic symptoms that included headaches, fatigue, dizziness and sleep disturbances.

- While the researchers readily attributed the respiratory symptoms to exposure to glass fibers, caustic dust and other materials, they described the cause of the systemic symptoms of headaches, fatigue, dizziness and sleep disturbances as “more obscure.”
- Most of the workers had experienced “no or little improvement of symptoms” even though they had not been exposed to WTC dust for one to two months.⁶⁸

D. Health Impacts on Area Employees and Lack of Data on Small Business Owners and Students

Six days after a terror attack leveled the World Trade Center and sent thousands running for their lives, the refugees return today to a lower Manhattan that many of them will barely recognize. . . . Hundreds of shopkeepers and small business owners cleaned up their storefronts and made preparations. . . Outside the Tandoor Palace on Fulton Street, two young workers stood outside weeping. Owner Ajit Singh was inside, surveying his dust-covered tables.⁶⁹

Indoor dust exposures were significant for many small business owners and area employees. Research on area employees indicates that many are suffering health effects from the terrorist attack. Dr. Benjamin Safirstein, a pulmonologist at the Mount Sinai Medical Center, published his findings in a peer-reviewed journal on a downtown worker who now suffers from severe scarring of the lung. Julio Roig, a project manager for an engineering consulting firm, was exposed to the WTC dust cloud on the day of the attack. His symptoms, however, did not appear until after he returned to work in lower Manhattan. Within two weeks of that date, October 3, 2001, Mr. Roig developed shortness of breath, wheezing, severe cough and constant body aches. A chest X-ray taken a year earlier as part of a regular checkup had detected no abnormalities, but a November 2001 chest X-ray and CAT scan revealed abnormal nodules in his lung. Investigative surgery revealed “large quantities of silicates” in his lung, reportedly of the kind found in WTC dust. Mr. Roig has required steroid treatments, and his breathing capacity has continued to decline.⁷⁰

⁶⁸ E. Malievskaya, N. Rosenberg and S. Markowitz, *supra*. The researchers also provided the workers with double cartridge respirators. Nearly all of the workers they examined were immigrants, mostly from Colombia and Ecuador. Day laborers who worked in indoor cleaning operations around Ground Zero for at least one week were eligible for the program. *Id.*, p. 548. See also *IG Report*, p. 42; and Albor Ruiz, “Remedying Shame,” *supra*.

⁶⁹ “Lower Manhattan Goes Back on the Job Today: Stock Exchange, Many Businesses Will Reopen,” *New York Daily News* (Sept. 17, 2001).

⁷⁰ Benjamin Safirstein, *et al.*, “Granulomatous Pneumonitis Following Exposure to the World Trade Center Collapse,” *Chest* 123:301-04 (2003); see also Juan Gonzalez, “Sick Lungs, Strong Proof: Post-9/11 Air Wasn’t Safe,” *New York Daily News* (June 22, 2004).

Dr. Stephen Levin of the Mount Sinai Selikoff Center for Occupational and Environmental Medicine testified at the November 2001 New York State Assembly hearing that while he and his colleagues knew the dusts and gases would pose a significant risk to people working at the site, they soon learned that the symptoms were appearing in area employees as well. He reported:

I have a patient that I've seen just a couple of weeks ago, who works at an office four blocks east of the Ground Zero site. . . . She has new onset asthma. Never had asthma in her life, and it's the consequence, in my view, of her exposure to the irritant materials that are drifting off of that rubble pile . . . downwind, to people who are occupying offices and residential areas in those sites off of Ground Zero.⁷¹

At the urging of NYCOSH and unions, the federal Centers for Disease Control (CDC) surveyed workers at Stuyvesant High School and the Borough of Manhattan Community College, both within blocks of the WTC site, compared with a high school and college some five miles away. At four to six months after the attack, up to 30 percent of the employees near Ground Zero still had persistent symptoms – such as eye irritation, nose and throat irritation, and cough – that were higher in intensity than at the comparison workplaces. The report stated:

These symptoms persisted in some individuals for at least nine months after the attack on the WTC and may have been due to exposure to complex environmental contaminants (e.g., smoke, respirable airborne particles, fine dust, and fire combustion products) from the collapse of the towers and ensuing fires.⁷²

Thus, the federal CDC suggested that area employees, as opposed to workers on or near the WTC site itself, may have been affected by WTC pollution.

Disturbingly, EPA had direct information that area employees were at risk from WTC pollution by early 2002, but did not disclose it publicly. The National Institute for Occupational Safety and Health (“NIOSH”) conducted a survey of EPA Region 2’s employees in its office at 290 Broadway, seven blocks from Ground Zero, in December 2001. The survey found that after September 11, 2001:

- 65 percent to 69 percent of the 191 workers surveyed suffered worsened symptoms of cough, shortness of breath, chest tightness, wheezing, and severe headaches;

⁷¹ Testimony of Dr. Stephen Levin to NYS Assembly Committees, Hearing Transcript (Nov. 26, 2001), pp. 302-03.

⁷² B.P. Bernard, *et al.*, “Impact of September 11 Attacks on Workers in the Vicinity of the World Trade Center – New York City,” *Morbidity and Mortality Weekly Report*, CDC (Sept. 11, 2002), pp. 8-10. *See also*, Testimony of Joan Greenbaum, Ph.D., Co-chair of Health and Safety for the Professional Staff Congress of City University of New York to the EPA WTC Expert Technical Review Panel (April 12, 2004), p. 1. The survey was conducted by the National Institute for Occupational Safety and Health (NIOSH), part of the CDC, in response to requests for Health Hazard Evaluations (HHE) from labor unions representing workers employed near the WTC site in January 2002. *See McElroy Briefing Memorandum*, p. 5.

- 74 percent suffered worsened nose and throat irritation; and
- 81 percent suffered worsened eye irritation.

For half of the workers reporting shortness of breath or wheezing, such symptoms still were present at the time of the survey, three months after the terrorist attack.⁷³

EPA did not issue any press release on the results of this December 2001 survey, or any public warning. The study was scientifically sound, however; it was quietly published in a scientific journal in July 2002. After Ground Zero operations were completed, in a report apparently written in fall 2002, EPA staff admitted that “many people, including EPA employees at 290 Broadway, had teary eyes, scratchy throats, and other respiratory problems in the early months while the fires were raging.”⁷⁴ *Thus, NIOSH and EPA had this information, but no health advisory was issued for other employees in the Ground Zero area based on this survey, and neither agency informed the public of its existence.*

There is no medical data available, to the best of this author’s knowledge, on health effects among small business owners in the Ground Zero. It is likely, however, that their exposures and experiences were at least as great as those of area employees. It is also likely that in many instances their exposures were higher than the average exposure for area employees, because of the responsibility they may have shouldered to clean their business.

College students returned to the Borough of Manhattan Community College (“BMCC”) while Ground Zero smoldered, as did high school students. These students were exposed to the outdoor pollution that remained in the area for months, to varying degrees depending on their school’s location and the amount of time that they spent outside in the area. Parents and students at Stuyvesant High School and the BMCC also raised many concerns about localized pollution generated by the Ground Zero debris transfer operation (truck to barge) sited next to those educational institutions. A health and safety officer for workers at the BMCC expressed concern that the debris transfer station may have been a cause of lead levels in air intake portals that were 100 times the level allowable for residential floors.⁷⁵ Some students may have experienced some indoor exposures as well. No scientific medical program, apparently, exists to screen or monitor these populations for health effects.

⁷³ Douglas Trout, *et al.*, “Health Effects and Occupational Exposures Among Office Workers Near the World Trade Center Disaster Site,” *J. Occup. Environ. Med.* 44:601-605 (July 2002).

⁷⁴ Region 2 U.S.E.P.A., “A response to 9-11: Oh My God, Look at That Plane!” (Retrieved Nov. 4, 2003; apparently written in fall 2002)(www.epa.gov/wtc/stories/yearreview.htm).

⁷⁵ Testimony of Joan Greenbaum, Ph.D., Co-chair of Health and Safety for the Professional Staff Congress of City University of New York, to the EPA WTC Technical Review Panel (April 12, 2004), p. 1.

E. Health Impact on Newborn Babies

Many pregnant women worked at the World Trade Center or worked or lived in lower Manhattan at the time of the attack. Medical researchers found that pregnant women exposed to air pollution from the World Trade Center attacks were twice as likely to give birth to babies that were up to a half-pound smaller than babies born to women not exposed, according to a preliminary study released in August 2003.⁷⁶ Medical researchers reviewing this study noted that “[p]lausible causes” of this increase in small for gestational age infants include the mother’s exposure to polycyclic aromatic hydrocarbons and particulates in the WTC pollution (see Subdivision A in Background section of this Report).⁷⁷

F. Risks of Future Health Effects from Exposure to Ground Zero Pollution

It’s not going to get better now. It’s going to keep on getting worse for the foreseeable future.⁷⁸

Philip McArdle, Health & Safety Officer,
Uniformed Firefighters Association

Chemicals that cause cancer, weaken the immune system or affect the reproductive system are “stealth” invaders of the body. Many of the effects of human exposure to the WTC pollution will not manifest for many years. Lung cancer may not be detected for a period of 10 to 30 years after first exposure, and the latency period for mesothelioma – an asbestos-caused cancer – ranges from 20 to 50 years.⁷⁹ Medical researchers note, “Future risk of mesothelioma may be increased, particularly among workers and volunteers exposed occupationally to asbestos.”⁸⁰ There is, in addition, a potential risk that early exposure and sensitization to the dusts and chemicals could make a person more vulnerable to new onset occupational asthma from exposure to certain substances later in life.⁸¹ Other health effects that may manifest in years to come could include impacts on reproduction (such as birth defects or fertility problems), immune system impacts and neurological impacts such as learning disabilities. Immune system effects will be particularly difficult to measure because they may manifest only in the person becoming more susceptible to diseases that one would normally never trace back to a chemical exposure. Unfortunately, it is impossible even

⁷⁶ 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).

⁷⁷ *Health and Environmental Consequences*, p. 12.

⁷⁸ Personal interview of Philip McArdle, Health and Safety Officer, Uniformed Firefighters Association, May 26, 2004.

⁷⁹ Herbert Needleman, M.D., and Philip Landrigan, M.D., p. 87.

⁸⁰ *Health and Environmental Consequences*, pp. 12-13.

⁸¹ Telephone interview of Anthony Szema, M.D., Allergy Division, Department of Medicine, State University of New York at Stonybrook, Aug. 3, 2004.

to begin to characterize these long-term and delayed risks properly because of the disturbingly inadequate testing of the air and dust from Ground Zero.

A risk that is only beginning to be understood is the potential for genetic damage that can be passed along to offspring. As explained in the Background section of this report, Canadian researchers report that sooty air pollution can cause such genetic damage in mice and their offspring, and a Columbia University study linked prenatal PAH exposure, specifically, to procarcinogenic genetic damage in newborns. As explained in Part One of this report, PAHs were found at very high levels in independent tests of WTC dust and in window film near Ground Zero.

Also, no one knows what the consequences are of combined exposure to the myriad of chemicals that were in the air during the weeks following the terrorist attack. Impacts of pollution can be simply “additive,” or they can be “synergistic” – meaning that the total impact of mixed exposures can be greater than the sum of the likely impact of each chemical exposure.⁸² The *IG Report* notes:

[O]ne medical expert suggested there may be a synergistic effect between PAHs and asbestos, since PAHs resemble cigarette tar. Studies have shown the lung cancer risk from exposure to asbestos is increased exponentially for cigarette smokers. In addition, this expert noted that the combination of high pH and the small shards of glass found in WTC dust could have had a synergistic impact on the acute respiratory symptoms that many people experienced.⁸³

ATSDR noted with regard to WTC pollution:

The effects of the alkaline minerals are most likely additive, although it should be noted that not all of the materials are equally caustic. . . . There may also be potentially additive or synergistic effects with the irritant effects of the SVF [synthetic vitreous fibers such as fiberglass]. The ability of either caustic action or the mechanical action of the fibers or minerals to degrade the protective properties of skin and mucus membranes may make tissue more susceptible to irritant effects. Additionally, because both types of actions may trigger localized immune responses, these irritants may potentiate each other.⁸⁴

⁸² *IG Report*, App. O, p. 114. EPA recognizes the importance of additive and synergistic effects, and specifically allows for the setting of tighter cleanup requirements when “multiple contaminants or pathways” of exposure could result in a greater “cumulative risk” than the minimum acceptable cancer risk level. National Contingency Plan, 40 CFR § 300.430(3)(2)(i)(D).

⁸³ *IG Report*, p. 13.

⁸⁴ *ATSDR and City Health Department Residential Dust Study 2002*, p. 40.

Thus, while the document in which this statement appeared (buried on page 40) states with regard to each individual pollutant discussed that any impacts would be only temporary and that symptoms would “subside once exposure . . . end[s],”⁸⁵ the combined effects are far less predictable. In fact, as several health studies have already documented, many people’s upper respiratory symptoms did not subside after exposure ended. ATSDR further notes that additive or synergistic effects could occur with regard to impacts on the lungs and pulmonary system, stating:

Several of the minerals detected contribute to fibrotic lung damage and may result in several disease that reduce lung function including silicosis, asbestosis, other mineral fibroses, emphysema and other respiratory disorders. The mechanisms and pathology of these conditions are similar, and the effects of these agents may be considered at least additive. . . . No factors currently exist to combine risk estimates for these different materials.⁸⁶

The additive or synergistic effects of multiple exposures with regard to immune system defenses, reproduction and cancer are similarly unknown. Consequently, the full impact of this “chemical soup” on New York residents, area employees, rescue and recovery personnel, repair and service restoration workers, and dust and debris cleanup workers cannot yet be determined.

⁸⁵ See “Executive Summary,” *Id.*, p. 6.

⁸⁶ *ATSDR and City Health Department Residential Dust Study 2002*, p. 40.

PART EIGHT:

THE CRUCIAL UNMET HEALTH NEEDS OF THE GROUND ZERO COMMUNITY

I've gone to so many funerals. It's always going to be in my mind. But it's time to take care of the living, and they're not doing enough of that. We'll be going to a lot more funerals if they don't.⁸⁷

Israel Miranda, Health and Safety Coordinator
Uniformed EMT's & Paramedics-FDNY

The federal administration must respond to the needs of people who are suffering illness or are in need of medical monitoring because of exposure to the WTC pollution. These people are the victims of an international terrorist attack that was aimed at America. Many of these people were, in essence, drafted into service as the front line of our nation's defense against the terrorist attack. The federal government's role under these circumstances was to provide leadership and expertise, yet the Bush administration ignored its own agency expertise, suppressed public health warnings, and failed to carry out its environmental duties and occupational health and safety laws. Mount Sinai's Dr. Herbert observes:

Much of the suffering we are seeing among WTC responders could have been prevented or been made less severe had adequate information about the potential health effects of WTC exposures been disseminated promptly and if early diagnosis and treatment of WTC-related health problems had been more readily available.⁸⁸

The federal government, under these circumstances, has a particularly compelling duty to respond to the adverse health effects of the WTC pollution. It has not, unfortunately, provided the funding needed for medical monitoring and treatment of the people who suffered or continue to suffer from respiratory problems due to exposure to the WTC pollution and for assistance that they need because of those illnesses.

⁸⁷ Personal interview of Israel Miranda, Recording Secretary and Health and Safety Coordinator, Uniformed EMT's & Paramedics-FDNY, May 1, 2004.

⁸⁸ Testimony of Dr. Robin Herbert to the House Committee, p. 8.

A. The World Trade Center Medical Screening and Monitoring Program Is Only Funded for Five Years – Even Though Cancers Can Take from 10 to 30 Years to Arise

I am very concerned that there will be more and more of a decline in confidence in government if it doesn't do something real to help these people. The federal government has become very good at repairing and restoring buildings and property. However, they do a very poor job at repairing the human cost. Why should people risk their lives to serve as rescuers if the government does not take care of their health needs? A lot of our most experienced people died that day, and a lot of the ones who made it through are sick and continuing to show signs and symptoms of exposure. We depleted our resources – we have a less experienced work force. And they're going to start asking why they should jeopardize their future to help people who take advantage of every photo opportunity but then don't fight to get them the medical care they really need.⁸⁹

Philip McArdle, Health and Safety Officer
Uniformed Firefighters Association

Medical screening and long-term monitoring is essential for any person who had significant exposure to Ground Zero pollution. This is true not only for people who suffer health effects now, but also for people who do not yet have any symptoms. While it may not be possible to prevent other health conditions from emerging, most forms of cancer, cardiovascular diseases and immune system disorders benefit from early detection and treatment. The potential for reproductive effects is another important reason for careful monitoring of exposed individuals. Also, medical screening and monitoring can help to identify trends in symptoms, which could aid individual physicians in diagnosing and treating conditions that arise in patients who were exposed to Ground Zero pollution.

This medical screening and monitoring need is not met by the so-called World Trade Center Health Registry, an absurdly expensive but poorly designed federally-funded data collection program described in Appendix D of this Report. Israel Miranda, Recording Secretary and Health and Safety Coordinator, Uniformed EMT's & Paramedics-FDNY, observes:

Being part of a statistical study doesn't help us. These workers need to know that if they get sick, someone will catch it in time, and they

⁸⁹ Personal interview of Philip McArdle, Health and Safety Officer, Uniformed Firefighters Association, June 3, 2004.

will get the care they need. You owe them that much, because this is the same rescue worker who's going to run in there again.⁹⁰

The Health registry, which has been subject to heavy criticism by both community and labor organizations, does not provide health screening or medical monitoring.

Some funding for medical screening and monitoring of workers has been established. Initially, Congress allocated \$11.8 million in June 2002 to Mount Sinai and other medical centers to provide free one-time medical screening for rescue/recovery workers, debris removal/cleanup workers, and other “essential services” workers.⁹¹ Senator Hillary Rodham Clinton with the support of Senator Charles Schumer, New York’s Congressional leaders in the House, and labor leaders secured the funding for this initial “WTC Worker and Volunteer Medical Screening Program” after heavy lobbying. Most of the screenings occur at the Mount Sinai Center for Occupational and Environmental Medicine Clinic, but screenings also are carried out through four other institutions.⁹² The initial program, unfortunately, provided only one medical screening examination and was expected to cover only 8,500 Ground Zero workers and volunteers. It certainly was not sufficient to cover multi-year monitoring for the estimated 40,000 or more Ground Zero workers others who provided essential services, and it did not cover medical treatment for the uninsured or under-insured.⁹³

Funding for medical *monitoring* of those seen in the initial medical screening program was not allocated until February 2003 – after a year of intensive lobbying by Senator Hillary Rodham Clinton, Representative Carolyn Maloney and other elected officials together with medical doctors, health experts, labor unions and NYCOSH. With further delays, the \$81 million in funds were not actually awarded until March 18, 2004 – over two and a half years after the attack. This funding, unfortunately, will cover only 5 years of monitoring of some 22,000 WTC responders, so it will not detect diseases with long latency, such as cancers (which would not likely be detected until 15 to 30 years after exposures). Also, it does not cover costs for medical treatment.⁹⁴ Of the total amount,

⁹⁰ Personal interview of Israel Miranda, Recording Secretary and Health and Safety Coordinator, Uniformed EMT’s & Paramedics-FDNY, May 1, 2004.

⁹¹ U.S. Department of Health and Human Services, Press Release, ‘HHS Awards \$11.4 Million Contract to Assess Health Status of Workers, Volunteers at World Trade Center Disaster Site’ (Aug. 5, 2002).

⁹² The other institutions carrying out the program are the Bellevue/NYU Occupational & Environmental Medicine Clinic; Center for the biology of Natural Systems at Queens College; SUNY Stony Brook/Long Island Occupational & Environmental Health Clinic; Environmental & Occupational Health Sciences Institute at UMDNJ-Robert Wood Johnson Medical School in New Jersey, and Association of Occupational and Environmental Clinics.

⁹³ *Id.*, p. 2; The World Trade Center Worker and Volunteer Medical Screening Program, Mount Sinai Medical Center, Press Release, “Analysis Reveals Over 50% of Responders Experience Pulmonary, ENT and/or Mental Health Symptoms One Year Following NY Terrorist Attacks” (Jan. 27, 2003). Testimony of Dr. Robin Herbert to the House Committee, p. 2; personal interview of Diane Stein, Outreach Coordinator, WTC Worker and Volunteer Medical Screening Program, April 5, 2004.

⁹⁴ U.S. Department of Health and Human Services, Press Release, “HHS Awards \$81 million for Five-year Health Screening of World Trade Center Rescue, Recovery Workers” (March 18, 2004). The funds were distributed among the NYC Fire Department, the Long Island Occupational and Environmental Health Center, the Mt. Sinai School of Medicine, the N.Y.U. School of Medicine, the City University of New York’s Queens College, and the University of Medicine and Dentistry of New Jersey’s Robert Wood Johnson Medical School.

\$4 million is for screening 3,000 more workers and volunteers; \$25 million is for examinations of New York City firefighters; and \$56 million is for the medical monitoring of those screened in the WTC Worker and Volunteer Medical Screening Program.⁹⁵

B. Many People Who Already Suffer Health Effects from the WTC Pollution Have No Health Insurance or Are Under-Insured, or Need Other Assistance

Many of the people now sick from the WTC pollution have no health insurance or job protection, and even those who should be eligible for workers' compensation have suffered troubling delays in obtaining their benefits. Mount Sinai's Dr. Robin Herbert further testified at the hearing that while 73 percent of a sample of workers they examined still had either ear, nose and throat symptoms or other health problems as long as 10 months to a year after the attack, "many of those who have come to our screenings . . . have received either no clinical care or inadequate clinical care at the time of their first evaluation with us."⁹⁶ More specifically:

- Mount Sinai reports that of the first 350 people seen in its WTC treatment program, 40 percent have no insurance whatsoever, one third are now unemployed, and even patients who have some insurance may not be able to obtain needed medication if they do not have prescription coverage or cannot afford the co-payments.⁹⁷
- Dr. Markowitz's study of immigrant workers who conducted clean-up of buildings near Ground Zero found that "virtually none" of the workers had health insurance or even a personal physician.⁹⁸
- Some workers who helped with rescue and recovery operations, repairs or restoration of services have been laid off from their jobs because of health impairments that they now suffer, and some of them also have lost health insurance coverage as a result.

David Rapp, a member of Construction Union Local 66, testified at the Congressional hearing held in New York City on October 28, 2003, that he used to be strong and athletic, but after laboring at Ground Zero for five months, "now I can't even take out my household garbage." He explained that when his temporary workers' compensation payments end, he would have no coverage.⁹⁹

⁹⁵ Testimony of Dr. Robin Herbert to the House Committee, pp. 4-5; *see also* Testimony of Dr. Michael Weiden to the House Committee, p. 6; Daryl Khan, "9/11 Workers Get \$81M Health Grant," *New York Newsday* (Apr. 6, 2004).

⁹⁶ Testimony of Dr. Robin Herbert to the House Committee, p. 4.

⁹⁷ *Id.*, p. 6; Greg Sargent, "Zero for Heroes," *New York Magazine* (Oct. 27, 2003).

⁹⁸ E. Malievskaya, N. Rosenberg and S. Markowitz, *supra*, p. 549.

⁹⁹ Greg Sargent, "Zero for Heroes," *New York Magazine* (Oct. 27, 2003); Laurie Garrett, "Ground Zero Illnesses Linger: Rescuers Suffering from Fumes, Debris," *Newsday* (Oct. 29, 2003).

Reportedly, some 7,887 workers' compensation claims were filed for WTC-related injuries or illness, but the extent to which workers are receiving assistance through the Workers' Compensation Law has been a source of significant controversy. Mount Sinai's Dr. Stephen Levin testified at the October 28, 2003 Congressional hearing that assistance is "a critical need that's immediate because the workers' compensation system isn't doing what it should be to provide care for these people, and their private insurance often will not cover what they did down at Ground Zero . . ."¹⁰⁰ While the Workers' Compensation Board would not disclose to *New York Times* reporter Anthony DePalma how many claims had been decided in favor of the workers, he received anecdotal reports from attorneys that employers had challenged a majority of the claims.¹⁰¹

A challenge to a workers' compensation claim can mean many months of delay in receiving both health care benefits and compensation for lost wages. Workers' compensation counselor Phil Caruana of the Transport Workers Union explains:

Some workers have enough sick leave to cover at least part of this period, but a new worker who has not accrued such leave can face severe financial hardship. What is the family supposed to do during that long delay?¹⁰²

Denial of workers' compensation coverage for health impacts can be particularly devastating if a worker becomes so impaired that he or she becomes unemployed, because ordinary health coverage – unlike workers' compensation – will terminate with unemployment. Even workers who remain employed after denial of a workers' compensation claim suffer economically if their health insurance plan lacks prescription coverage or they must bear the burden of significant co-payments for doctor visits and prescriptions.

Also, even if a workers' compensation claim is granted, many diagnostic and treatment services must be "pre-authorized" by the workers' compensation insurance carrier. If the insurance carrier denies authorization, the worker may have to undergo a hearing before the diagnostic test or treatment can be provided. Some physicians reportedly will not accept workers' compensation patients because of the excessive paperwork and bureaucratic barriers that can be involved.

Some of the most significant complaints about workers' compensation have come from transport workers who served long hours in the Ground Zero rescue and recovery operations. Jimmy Willis, a rescue worker and Assistant to the President of the Transport Workers Union, testified at the Congressional hearing convened by Representatives Christopher Shays (R-CT) and Carolyn Maloney (D-NY) in New York City that many of the 4,000 workers in his union who

¹⁰⁰ Testimony of Dr. Stephen Levin, Mount Sinai World Trade Center Worker Screening Project (Oct. 28, 2003); Marjie Mohtashemi, "Congress Opens Hearings on Health Effects of WTC Attack," *New York 1 News* (Oct. 28, 2003).

¹⁰¹ Anthony DePalma, "Many Who Served on 9/11 Are Still Pressing Fight for Workers' Compensation," *supra*.

¹⁰² Personal interview of Phil Caruana, Workers' Compensation Counselor, Transport Workers Union, June 3, 2004.

worked at Ground Zero are seriously ill now. And yet, he testified, large numbers of them were being denied workers' compensation medical coverage because of aggressive challenging by the Metropolitan Transportation Authority.¹⁰³ While the Metropolitan Transportation Authority stated to the *New York Times* that it has challenged "less than a third" of the health claims linked to the World Trade Center attack,¹⁰⁴ the Transport Workers Union argues that its conduct has been arbitrary in many cases.

Willis described the case of bus driver Franklin Chandler, whose bus was next to the Towers when they were hit. He stayed in that smoke-filled environment to help the injured, using his bus to bring them to area hospitals. The MTA, however, contested his workers' compensation claim. The proceeding lasted 20 months. At the end, he was awarded about 60 percent of his regular salary for the 10 months that he was unable to work.¹⁰⁵

Many workers face an additional fear – if they come forward and admit to having a medical condition, they run the risk of being terminated altogether. Those who retire, in turn, run the risk of being rejected for disability. Patrick Bahnken, President of the Uniformed EMT's & Paramedics-FDNY, reports that EMS workers have encountered substantial difficulties in obtaining disability pensions. "This is some kind of sick and sadistic management technique – the Fire Department says you're too sick to work, but then the City Retirement Board says that you're a malingerer."¹⁰⁶

Finally, workers' compensation does not cover health impacts that do not arise in the course of employment because of the nature of the work itself. Under the State Workers' Compensation Act, workers made ill by WTC pollution in their work space or because of exposures caused during the commute to and from work are not eligible for compensation.

Based on testimony and statements of several workers and union officials, it appears that the existing healthcare systems and "safety nets" are failing too many of the people who suffer illness and impairment because of exposure to WTC pollution.

¹⁰³ Laurie Garrett, "Ground Zero Illnesses Linger: Rescuers Suffering from Fumes, Debris," *New York Newsday* (Oct. 9, 2003). Employed workers are covered by their employer's workers' compensation insurance or directly by the employer if the employer is "self-insured."

¹⁰⁴ Anthony DePalma, "Many Who Served on 9/11 Are Still Pressing Fight for Workers' Compensation," *supra*.

¹⁰⁵ Personal interview of Jimmy Willis, 9/11 rescue worker and Assistant to the President, Transport Workers Union, March 19, 2004; Anthony DePalma, "Many Who Served on 9/11 Are Still Pressing Fight for Workers' Compensation," *supra*.

¹⁰⁶ Personal interview of Patrick Bahnken, President of the Uniformed EMT's & Paramedics-FDNY, April 1, 2004.

C. Many People Who Were Exposed to the WTC Pollution Are Not Eligible for the Existing, Narrow Programs Covering Medical Monitoring or Treatment

With the exception of some research funding designed primarily to analyze health effects rather than provide medical services, and a temporary Disaster Relief Medicaid program that gave four months of overall health benefits to uninsured low-income people after the attacks (which might possibly have been used for some WTC pollution-related treatment)¹⁰⁷ no federal funding has been provided for medical screening or monitoring for:

- Residents (including children and people with respiratory or heart conditions);
- Area employees or small business owners; or
- Repair or service workers who worked at or very near Ground Zero for less than 4 hours within the first four days of the attack, 24 hours in September or 80 hours between September 11 and December 31, 2001.¹⁰⁸

Also, no federal funding has been provided for medical care for:

- Residents, area employees, or small business owners who are uninsured or under-insured;
- Building and sidewalk cleanup workers;
- Rescue/recovery workers and repair or service restoration workers who have been denied workers' compensation;¹⁰⁹
- Rescue/recovery workers who arrived at Ground Zero after the fourth day or who managed WTC debris offsite;¹¹⁰

¹⁰⁷ The Robert Wood Johnson Foundation provided a \$750,000 grant to the United Hospital Fund of New York to help it reach out to and enroll people in the program. *Ford Foundation Report*, p. 22.

¹⁰⁸ The 24-hour requirement applied to September 11-14, 2001. See eligibility requirements, WTC Worker and Volunteer Medical Screening Program, in Drs. Robin Herbert & Stephen Levin, "World Trade Center Worker and Volunteer Medical Screening Program: Report of Initial Findings to NIOSH/CDC" (Jan. 24, 2003), p. 2, updated by personal interview of Diane Stein, Outreach Coordinator, WTC Worker and Volunteer Medical Screening Program, July 28, 2004.

¹⁰⁹ Congress allocated the State of New York \$175 million to assist in payment of workers' compensation. Approximately \$20 million was dedicated to pay workers' compensation for the medical needs of volunteer rescue and recovery workers. While none of the volunteers' claims reportedly have been denied, many workers have suffered delays in treatment and compensation because employers have controverted claims. Testimony of Dr. Robin Herbert to the House Committee, p. 6.

¹¹⁰ Rescue/recovery workers who did not arrive at Ground Zero within 96 hours of the attack did not qualify for assistance from the federal September 11 Victim Compensation Fund, even though the site was hazardous and in flames for months. Workers who managed Ground Zero's contaminated debris also did not qualify for assistance from the Fund.

- Rescue/recovery workers who suffer illnesses that arise years from now, such as cancer.¹¹¹

UFA Health and Safety Officer Philip McArdle points out, “As the retirement age decreases it will cost more for long-term health care than ever before; prescription drugs is one of our biggest concerns.”¹¹² His concern is that the unions and retirees will bear the burden of healthcare costs down the road. While the federal government awarded the afore-mentioned \$81 million for medical monitoring of rescue and recovery workers, no money has been allocated for treatment or long-term care of health conditions that will continue to evolve.

Private gifts, as noted in Part One above, have fallen far short of the need, and yet they remain the only source of funding for treatment of the uninsured or under-insured rescue, recovery and cleanup workers who suffer health effects from WTC pollution exposure. No private funding from any source has yet been made available at all for medical monitoring or treatment of residents or area employees affected by the WTC pollution. Dr. Robin Herbert of Mount Sinai testified in October 2003 that, “The dearth of resources for treatment is particularly troubling because the people we are seeing are sick and in great need.”¹¹³ As noted in Part One, an opportunity for an early partnership of the federal government with private funding sources was lost. The consequence is that many people are going without proper medical monitoring and healthcare. The current shortfall in medical screening, monitoring and care is summarized in the following table.

¹¹¹ Rescue/recovery workers who qualified for the September 11 Victim Compensation Fund were eligible to receive compensation for current and likely future medical care related to physical conditions that have already been identified, and some compensation for their pain and discomfort. The deadline for this program, which was primarily designed to assist bereaved families of those killed in the attacks, was December 22, 2003. The fund’s special master, Kenneth Feinberg, reported that he found little or no attempted fraud among applicants, and that most rejected claimants were simply unsure of their eligibility and had filed to preserve any rights. Associated Press, “1 in 3 WTC Injury Claims Rejected,” *New York Newsday* (Apr. 30, 2004).

¹¹² Testimony of Philip H. McArdle, Uniformed Firefighters Association, to the House Committee, pp. 2-3.

¹¹³ Dr. Herbert further stated that new patients had a two to three month waiting period for a first examination, and that Testimony of Dr. Robin Herbert to the House Committee, p. 6.

Table II: Federal Help for People Made Ill by or at Risk from Exposure to WTC Pollution

Person Needing Services	Medical Screening Examination to Detect Health Effects	Medical Monitoring Examination to Detect New or Worsened Effects	Medical Care for the Uninsured or Under-insured
Resident	None	None	None
Area Employee or Small Business Owner	None	None	None
Resident/Worker with Asthma or special sensitivity	None (except small scientific survey)	None	None
Downtown Cleanup Workers	Many qualified for WTC medical screening program (also some were screened by the nonprofit Mobile Medical Unit)	5 years only of medical monitoring	None
Transportation Services Worker	Provided to many – those who qualified for WTC medical screening program	5 years only of medical monitoring for those in WTC program	None; most workers' compensation claims delayed or denied. Some may have qualified for 9/11 Victim Comp. Fund
Communications Systems Worker	Provided to many – those who qualified for WTC medical screening prog.	5 years only of medical monitoring for those in WTC program	None; many workers' comp. claims delayed or denied
Emergency Services Workers	Provided to many – those who qualified for WTC medical screening program	5 years only of medical monitoring for those in WTC program	None; many workers' comp. claims delayed or denied; some may have qualified for 9/11 Victim Comp. Fund
Volunteer Rescue & Recovery Worker	Provided through WTC medical screening program	5 years only of medical monitoring	Funding for workers' comp. provided; may have had trouble qualifying for 9/11 Victim Comp. Fund
Firefighter and Police as Rescue & Recovery Workers	Provided through WTC medical screening program	5 years only of medical monitoring	9/11 Victim Comp. Fund for known harm; none for future illnesses that may arise

RECOMMENDATIONS:

THE BUSH ADMINISTRATION MUST RESTORE TRUST IN ITS AGENCIES CHARGED WITH PROTECTING HEALTH AND SAFETY

It has been nearly three years since the September 11, 2001 attack on the World Trade Center, and the federal government still has not:

- Conducted a proper cleanup of homes affected by the WTC dust and ensured a proper cleanup of non-residential buildings affected by the World Trade Center dust;
- Provided long-term medical monitoring for people exposed to the WTC pollution, and medical care and other assistance to those harmed by the pollution who need it;
- Disclosed who altered the warnings that agency experts had intended to give about precautions to prevent or reduce exposure to the World Trade Center pollution;
- Provided meaningful or credible assurance that health and safety warnings will not be suppressed in a future terrorist attack or disaster.

This is unacceptable. As Congressional Representative Jerrold Nadler states, “It has been over two years since the terrorist attacks and the EPA has yet to adequately respond to protect public health. The victims of the terrorist attack deserve action, not delay.”¹¹⁴

I. The Federal Government Must Act Now to Prevent More Harm from Its Failure to Ensure Proper Cleanup of the WTC Contamination

There is nothing surprising or difficult about remediating Lower Manhattan. It is much easier technically than most of the other hazardous material sites we deal with. It’s only going to take money. But the first step to do it is for the government and EPA to do what they do everywhere else in the country except for Lower Manhattan, which is do the testing inside the homes, comply with the laws of the United States, and come up with remediation plans and safe levels for cleanup. We do it in Missouri; we do it in California; we do it in Montana; we do it in Texas; we do it in Pennsylvania. I can go through all 50 states. There is only one

¹¹⁴ Office of Congressman Jerrold Nadler, 8th Cong. Dist., Press Release, “Rep. Nadler Comments on EPA-led Panel on Downtown Air Quality” (Mar. 1, 2004).

place in the United States we don't do it; that's Lower Manhattan, that happened to be the only place in the United States where civilians were attacked by a foreign entity.¹¹⁵

Hugh Kaufman, EPA Ombudsman Chief Investigator

The federal EPA must take action to clean up the remaining harmful dust in:

- Residences and buildings in previously targeted areas;
- Residence and buildings outside the previously targeted “perimeter”; and
- Firehouses and emergency and municipal vehicles used in the area

A. Residential and non-residential buildings

As explained in Part Three of this Report, EPA's 2002 residential cleanup program only cleaned up a small fraction of the apartments in the limited “cleanup zone” and ignored residential buildings outside that zone and all affected non-residential buildings entirely. This means that thousands of residences and other buildings have not been professionally cleaned. While EPA Acting Administrator Marianne Horinko stated in an interview, “We stand by the job we managed in testing and cleaning up people's apartments,”¹¹⁶ the *IG Report* strongly urged EPA to begin a new cleanup, “to ensure the indoor cleanup effectively reduced health risks from all pollutants of concern, and implement a verification program to determine whether previously cleaned residences have been re-contaminated.”¹¹⁷

The *IG Report* said EPA should test buildings north of Canal and Pike Streets and in Brooklyn that were blanketed by the toxic plume from the Ground Zero fires. When EPA objected, claiming that such an expanded cleanup program “would be a monumental undertaking which EPA studies and data indicate is not necessary,”¹¹⁸ the Inspector General responded:

We would agree that this would require a significant effort. However, the former EPA administrator [Whitman] stated in September 2001 that the President made it clear to spare no

¹¹⁵ Statement of EPA Ombudsman Chief Investigator Hugh Kaufman, *EPA Ombudsman Hearing Transcript Feb. 21, 2002*, pp. 218-219.

¹¹⁶ Francesca Lyman, “Anger Builds Over EPA's 9-11 Report,” *supra*.

¹¹⁷ *IG Report*, p. iii.

¹¹⁸ *EPA Response Memorandum*, App., p. 8, in *IG Report*, p. 127.

expense...to make sure the people of New York City were safe as far as the environment was concerned.”¹¹⁹

Following the release of the *IG Report*, Congressional Representative Nadler called for a new, expanded cleanup in a press conference held on August 23, 2003, as did Senator Hillary Rodham Clinton and Joseph Lieberman in a letter dated August 26, 2003 to President Bush.¹²⁰ The EPA WTC Expert Technical Advisory Panel is deliberating on the scope of a renewed testing and cleanup program. Nevertheless, to date, the Bush administration has not made a solid commitment to corrected the deficiencies of the post-9/11 residential cleanup. It should do so immediately.

B. Firehouses, Emergency Vehicles and Other Equipment Used at Ground Zero, and Other Spaces

As explained in Part Three of this Report, the federal EPA refused to provide professional cleaning for firehouses near Ground Zero, and it is unclear to what extent emergency vehicles and other vehicles and equipment used at Ground Zero have been properly cleaned. The EPA should inspect the firehouses and emergency vehicles and other vehicles and equipment that are likely to have been contaminated by the WTC dust, and carry out proper abatements of contamination as needed. In addition, concerns remain about the spread of WTC dust in the subway system. Frank Goldsmith, Dr.P.H., Director of Occupational Health for the Transport Workers Union, notes, “The spread of the contamination via the air flows, wind tunnels, created by the speed of our trains, must be taken into consideration.”¹²¹ The potential for human exposure to WTC dust through this route should be evaluated.

C. How These Environmental Cleanups Should Be Conducted

It is impossible to over-emphasize how important it is that the federal administration gain the trust of the residents, business owners, and workers that make up the Ground Zero community. The federal government absolutely must go about its work this time in a way that builds strong credibility with the public. The success of a proper program to clean up the pollution from the terrorist attack depends on gaining that trust. In particular, EPA will need the cooperation of the community in order to accomplish any sampling project. To put it bluntly, Lower Manhattan residents should not be asked to open their homes again for sloppy, pseudo-scientific testing.

¹¹⁹ *IG Report*, App. R, p. 136. See Juan Gonzalez, “Time to Come Clean on Mess Downtown,” *supra*.

¹²⁰ John Herzfeld, “Lawmakers Pressing Administration on EPA World Trade Center Response,” *Daily Environment Reporter* 9Aug. 27, 2003).

¹²¹ Testimony of Frank Goldsmith, Dr.P.H., Director of Occupational Health, Transport Workers Union, Local 100, to the EPA WTC Expert Technical Review Panel (May 24, 2004), p. 3.

Public process for planning and implementation. Step one in regaining public trust is establishing a transparent public process for planning and implementation of testing and cleanup measures. This means that for any expert team established to design or implement the testing and cleanup program, the community must have the opportunity to nominate experts, and there must be full disclosure of panelists' respective interests and copies of their curriculum vitae should be posted on the EPA website. The community should be represented by community liaisons, with funding to cover the costs of independent technical analysis of protocols, actions and results. Also, all meetings should be public and transcribed.

Objective testing rather than mere visual inspections or “surrogate” sampling. EPA should determine which sites require cleanup based on objective testing rather than mere visual inspections (since many of the most hazardous types of dust, such as lead, are too small to be visible to the naked eye). EPA also should not use a single substance or small range of pollutants as “surrogates” for determining the need for cleanup.¹²²

Sampling of areas more likely to store WTC dust. EPA should sample locations in apartments that are more likely to be storing WTC dust, such as carpets, upholstered furniture, and books on bookshelves. EPA should conduct representative sampling at varying distances from the WTC site, not only below Canal and Pike Streets but also in areas above those streets and in Brooklyn where evidence indicates that the dust or fumes from the towers may have traveled.

Strict cleanup standards to protect the public. EPA should follow the cleanup standards of the Federal National Contingency Plan (under the Superfund law) – which sets the goal at removal of toxic substances to prevent greater than a one in one million risk for cancer, with an adequate margin of safety for cumulative exposures to many pollutants.¹²³ (OSHA standards are not designed to protect children, the elderly, and people with illnesses; they are designed to protect healthy adults against 8-hour day exposures.)

Strict cleanup work protocols to protect the workers and the public. NYCOSH Industrial Hygienist David Newman and experts consulted by NYCOSH further recommend:

- The cleanup should remove not only asbestos but also fibrous glass, lead, mercury, dioxins, and – if present – mold. EPA should conduct representative sampling to determine whether it should to address additional toxic substances.

¹²² The EPA Expert Technical Review Panel is reviewing the *World Trade Center Residential Confirmation Cleaning Study*, which had concluded that asbestos was “an appropriate surrogate” in determining risk for other contaminants. The panel members plan to provide comments soon for EPA’s consideration. See EPA WTC Expert Technical Review Panel “Purpose” factsheet included with press release, “World Trade Center Expert Technical Review Panel Formed by EPA: Panel to Begin Assessments in March” (Mar. 1, 2004).

¹²³ 40 CFR § 300.

- All indoor spaces, such as ventilation systems, ducts, plenums, elevator shafts, boiler rooms, hallways, basements and spaces above dropped ceilings should be cleaned.
- Cleanup should be conducted on entire buildings, rather than apartment-by-apartment or office-by-office, to limit recontamination of already cleaned spaces.¹²⁴
- Cleanup should proceed from the building’s exterior (façades, rooftops and ledges), to the inside (ventilation systems, then common areas, then apartments/workplaces).
- Cleanup must address areas where toxic substances may accumulate and may later be released, such as carpets, upholstered furniture, ceiling tiles, drapes, and porous surfaces such as cement blocks and unfinished concrete and bricks.¹²⁵

During such cleanup activity, EPA must ensure compliance with all applicable health and safety laws and regulations for the protection of workers and the community.

Public disclosure of results. All data and reports produced as a result of pre-cleaning or post-cleaning tests and investigations should be made immediately accessible to the public.

II. The Federal Government Must Provide Long-term Medical Monitoring and Treatment As Needed for Those Who Were Exposed to WTC Pollution – Especially Given Its Failure to Warn About the Hazards

The federal administration must help the people who have been exposed to Ground Zero pollution. Providing funding for only five years of medical monitoring is not adequate. Most forms of cancer, as noted in this report, have a latency period of approximately 10 to 30 years or more. Early detection can be critical in the treatment of degenerative diseases such as cancer. The federal administration should establish a meaningful long-term monitoring program to identify any patterns in health problems and to help identify and treat any malignancies as promptly as possible.¹²⁶

¹²⁴ EPA has the authority to gain access to enter any building or onto property to remove hazardous substances. 40 CFR § 300.400(d).

¹²⁵ *The Gold Standard*, a report developed by a committee of experts and researchers, including Paul Woods Bartlett, M.A., A.B.D., Research Associate, Center for the Biology of Natural Systems, Queens College; Marjorie J. Clarke, Ph.D., Q.E.P., Scientist-in-Residence, Lehman College; David Kotelchuck, Ph.D., C.I.H., Hunter College and Professional Staff Congress; David Newman, M.S., Industrial Hygienist, NYCOSH; Monona Rossel, M.S., Industrial Hygienist, Arts, Crafts and Theater Safety, Incl.; Mike Vozick, M.S., Co-Coordinator of Professional Staff Congress Chapter Health & Safety Committee (affiliations listed for identification purposes only).

¹²⁶ Congressional Representatives Carolyn Maloney (D-NY) and Christopher Shays (R-CT) have called for funding for 20 years of medical monitoring. Greg Sargent, “Zero for Heroes,” *New York Magazine* (Oct. 27, 2003).

The Administration must also address the problem of healthcare. Precedent already exists for taking such action. As one possible approach, it may be reasonable to revive and expand the scope of the original September 11th Victim Compensation Fund, an open-ended claims fund that expired in December 2003,¹²⁷ to cover healthcare and other assistance for people who demonstrate that their symptoms are related to the 9/11 attack. This Fund provided compensation to bereaved families and to rescue/recovery workers with health symptoms who met certain requirements. That Fund was not the first time that American civilians have been compensated for illness resulting from national security activity. Congress established the Energy Employees Occupational Illness Compensation Program, for example, to help compensate thousands of workers made ill by exposure to hazardous materials at nuclear weapons production facilities. The fund provided coverage for future medical expenses related to the illness and a one-time payment of up to \$150,000 for current medical costs.¹²⁸

Finally, the federal government should analyze and address the potential impact of increased health care costs on health insurance, workers' compensation and subsequent worker benefits. The burden on worker health care programs has increased with the illnesses brought on by the WTC pollution, and may well increase further if cancer or other illnesses develop. Workers are concerned that the impact of WTC-related illnesses may increase health insurance rates and thus place pressure on them to make "concessions" on health insurance coverage or else face a loss of income.¹²⁹ In other words, such workers will ultimately be forced to bear the economic burden of the health impacts from the WTC pollution. This would certainly not be an appropriate "thank you" to the people who served as the first line of defense against the terrorist assault.

The federal administration should:

- Extend the long-term medical monitoring program for a full 20 years or longer and expand it to cover all those exposed to the WTC pollution;

¹²⁷ The deadline for applying to the Fund was December 22, 2003; it completed processing claims by June 15, 2004. At the time when Congress established the Fund, estimates suggested that up to 6,000 people had died as a result of the attacks. After multiple reports of missing persons were resolved, it was found that the number of people who died was approximately half of what had previously been believed. See Kenneth Feinberg, Special Master, "Policy Statement on Program Shutdown Schedule" (available on website of U.S. Department of Justice).

¹²⁸ See Energy Employees Occupational Illness Compensation Program Act of 2000, enacted as part of the Floyd D. Spence National Defense Authorization Act (F.Y. 2001). Under Subtitle B, a person with specific types of cancer is deemed to have contracted it from weapons facility work if it was as likely as not related to working at the facility. Other workers must apply for workers' compensation under subtitle D. The Subtitle D program was the subject of a General Accounting Office report; the GAO recommended that Subtitle B be expanded to include more of the cases that currently fall under Subtitle D. GAO, *Energy Employees Compensation: Even with Needed Improvements in Case Processing, Program Structure May Result in Inconsistent Benefit Outcomes* (GAO-04-516)(May 2004). See also President's Executive Order 13179 (Dec. 7, 2000); and Christopher Lee, "Program for Ill Workers Faulted: Senators Aim to Shift Payment Plan from DOE to Labor," *Washington Post* (Oct. 21, 2003).

¹²⁹ Personal interview of Jimmy Willis, 9/11 rescue worker and Assistant to the President, Transport Workers Union, March 19, 2004.

- Ensure that those who have current symptoms or develop future illnesses related to WTC pollution exposure are able to receive diagnostic testing and treatment;
- Ensure that workers are not penalized by having been forced to access their health insurance or compensation benefits.

III. The Bush Administration Must Issue a Retraction of Its Safety Assurances, Disclose Who Suppressed the 9/11 Health Warnings and Take Strong Measures to Ensure that This Does Not Occur in Any Future National Emergencies

By the end of December of that year I learned that I had pushed luck too far. Choosing to rely on the honesty and integrity of the EPA . . . had deafened me to a true friend’s warning that there were serious problems caused by the environmental aftermath of the collapse of the World Trade Center. . . . I now find myself at the receiving end of mail to the organization I helped found, 9/11 Environmental Action. As the nation begins to scrutinize the circumstances surrounding the attack on 9/11, increasing numbers of people . . . write to us about their suffering, frustration and despair as the consequence of toxic exposures after September 11th emerge. I am continually stunned by the devastation caused by EPA’s negligence, dictated, as we now know, by the White House, in complete disregard of national regulatory law.¹³⁰

Rachel Lidov, Parent
A co-founder of 9/11 Environmental Action

The federal administration must take firm action to ensure that health warnings are not suppressed in any future national emergency. The EPA unions declared, “The President’s political appointees’ interference with the professional work of the EPA Civil Service has seriously harmed EPA’s credibility. Before there is another national emergency, that credibility must be restored.” Even EPA’s Acting Administrator at the time, Marianne Horinko (recently resigned), while defending the agency against charges of suppressing health warnings, seemed to have more fear of, than faith in, the Federal government’s ability to do better next time. She stated in an exclusive interview to MSNBC:

¹³⁰ Statement of Rachel Lidov, parent, and a co-founder of 9/11 Environmental Action, to the EPA WTC Expert Technical Review Panel (Mar. 31, 2004).

I pray to God that, as a country, in the event of another terrorist attack, God forbid, we as an agency would be equipped to get the data analyzed and posted to the public. All that was a huge challenge to us on 9/11 – coordinating communication among agencies, following incident command. God forbid there is a dirty bomb. I hope everyone knows their battle stations.¹³¹

To regain public trust in the federal government, three tasks must be carried out.

- First, the Bush administration must reveal who altered the EPA statements and on whose orders – and those responsible should be sanctioned or censured.
- Second, the administration must publicly acknowledge which agencies are in charge of safety in national emergencies.
- Finally, the involved federal agencies must work with representatives from Ground Zero-affected communities as well environmental health and labor organizations to establish a new set of policies for disaster safety management that promotes truthfulness in the communication of hazards and proper response actions.

A. The Bush Administration Must Reveal the Top Official Involved in Altering the EPA Statements – and that Official Should Be Censured to Send a Clear Message that Failing to Warn the Public Truthfully About Health Hazards Is Unacceptable

The highest Federal official responsible for intentionally weakening or eliminating EPA health warnings should be identified and censured. This is critical to send a strong and clear message that failing to warn the public truthfully about health hazards is not acceptable governmental behavior. Despite repeated requests from Senator Hillary Rodham Clinton, Congressional Representative Jerrold Nadler and other elected officials for a full accounting of how EPA’s health warnings were altered and by whom, the answer has not been provided. Certainly the White House Council on Environmental Quality knows the answer to the question and the President should instruct that entity to provide this information expeditiously. Furthermore, the highest-ranking official responsible should be censured to send a strong and clear message that failing to warn the public truthfully about health hazards is unacceptable.

¹³¹ Francesca Lyman, “Anger Builds Over EPA’s 9-11 Report,” *supra*.

B. The Administration Must Work with Ground Zero-affected Communities and Labor and Environmental Health Groups to Develop Effective National Policies and Practices that Promote Truthfulness in the Communication of Hazards from Terrorist Attacks and Disasters.

Americans must be able to trust their government to tell them the truth about safety. The *IG Report* noted that EPA is developing a “Plan for Incident Communication” to address risk communication procedures for emergency situations. It nevertheless emphasized that EPA must make efforts “to ensure that public pronouncements regarding health risks and environmental quality are adequately supported with available data and analysis and are appropriately qualified.”¹³²

In particular, the *IG Report* urged EPA to coordinate with other federal, state and local agencies to develop protocols for determining how indoor environmental concerns will be handled in large-scale disasters,” including “oversight criteria” and “State and local agency reporting requirements” for indoor air contamination.¹³³

As a matter of common sense, pollution should be considered guilty until proven innocent – that is, harmful until proven safe. Any message of assurance about safety must be well-documented and qualified regarding scope. (The absence of one toxic chemical, such as asbestos, for example, does not mean that all other harmful substances are also absent). The Bush administration should have followed the “Precautionary Principle,” which the United States endorsed when it signed the Rio Declaration on Environment and Development. It holds that a public health decisions must often be made in the absence of perfect information because cause and effect relationships can be hard to prove when effects do not appear for many years and also may be affected by complex variables. It argues that when threats of serious or irreversible damage are present, lack of full scientific certainty must not be used as a reason to postpone cost-effective measures to prevent environmental degradation.¹³⁴ Using the precautionary principle could have prevented much of the toxic exposure that people experienced in the aftermath of the September 11 terrorist attack.

IV. The Bush Administration Must Abandon Plans to Eliminate Health and Safety Enforcement Protection for Those Who Respond to Terrorist Attacks and Other National Emergencies

The Bush Administration must immediately revise its Federal Response Plan to limit, strictly, the phase of disaster response in which OSHA’s role is only advisory. As soon as the immediate rescue phase of operations is over, OSHA’s Hazardous Waste Operations and

¹³² *IG Report*, pp. ii and 19.

¹³³ *IG Report*, p. ii.

¹³⁴ See *American Journal of Public Health* 91(3):20-21 (Mar. 2001).

Emergency Response Standards should take effect for the recovery and cleanup operations. A report by the National Institute of Environmental Health Sciences strongly recommended that response to any future terrorist attack or emergency “should be conducted in full compliance with the Hazardous Waste Operations and Emergency Response standard at 29 CFR 1910.120 and 40 CFR 311,” and that “[t]ransition should be timely from search and rescue to recovery, demolition, cleanup and removal.”¹³⁵ The American Public Health Association, in its November 13, 2002 resolution on the issue, went further. It recommended that OSHA be made responsible for effective enforcement of health and safety standards within 24 hours of the onset of the operations phase of a disaster response.¹³⁶ The Bush administration also should restore the ability of agency experts to communicate risk hazards to the public without political interference, and it should abandon any plans to weaken Superfund cleanup standards in national emergencies.

CONCLUSION

Some people, in October 2001, may have felt that the headline placed on *New York Daily News* columnist Juan Gonzalez’s article revealing test data from Ground Zero, “A Toxic Nightmare at Disaster Site,” was extreme. In fact, as evidence mounts of illnesses from Ground Zero pollution, and as we worry about potential future health impacts, it has become sadly clear that the headline was not an exaggeration. Rather, it was an accurate description of the true conditions at Ground Zero. This is probably the one time in his journalistic history that the columnist wishes that he had not been right, that the site was not a toxic nightmare, and that people would not get sick. But it was a toxic nightmare, and many children and adults did get sick from exposure to this contamination.

Today, workers and residents who make up the Ground Zero community are still urging the federal government to provide a proper response. EPA Administrator Whitman asserted three days after the attack that there was no cap on the agency’s mandate for environmental response, stating, “The President has said, ‘Spare no expense, do everything you need to do to make sure the people of this city and down in Washington are safe as far as the environment is concerned.’”¹³⁷ She further asserted that this presidential mandate included EPA action to ensure safety in buildings:

We’re getting in there and testing to make sure things are safe . . .
Everything will be vacuumed that needs to be, air filters will be
cleaned, we’re not going to let anybody into a building that isn’t
safe. And these buildings will be safe. The president has made it

¹³⁵ NIEHS, *Learning from Disasters*, pp. 6 and 39-40.

¹³⁶ American Public Health Association Resolution, p. 2.

¹³⁷ Susan Ferraro, “EPA Chief Says Water, Air Are Safe,” *Daily News* (Sept. 14, 2004).

clear that we are to spare no expense on this one, and get this job done.¹³⁸

Fully two years later, the needs remain unmet. How much longer must the Ground Zero community wait for proper testing and cleanup of the toxic dust? How much longer will the administration allow the people who were made ill by Ground Zero pollution to languish without proper healthcare and assistance? And when will the public ever be told the truth about what happened?

To assume that this is the last time that the United States will suffer a terrorist attack or some other major environmental disaster would be unwise. As long as the federal government does not face its shortcomings at Ground Zero, there is no guarantee of a better performance next time. The Bush administration must complete the cleanup of contamination, help the people who were exposed, disclose the truth about suppression of 9/11 health warnings and take strong action to make sure that such conduct does not occur in any future national emergency. It must restore trust.

Until the Administration carries out these tasks, the job is not finished at Ground Zero.

¹³⁸ David France and Erika Check, "Asbestos Alert: How Much of the Chemical Does the World Trade Center Wreckage Contain?" *Newsweek* and *MSNBC* (Sept. 14, 2001).