



Connecticut Bureau of Air Management, Carmine DiBattista  
Maine Bureau of Air Quality Control, James Brooks  
Massachusetts Division of Air Quality Control, Nancy Seidman  
New Hampshire Air Resources Division, Kenneth Colburn  
New Jersey Office of Air Quality Management, John Elston  
New York Division of Air Resources, Robert Warland  
Rhode Island Office of Air Resources, Stephen Majkut  
Vermont Air Pollution Control Division, Richard Valentinetti

## **World Trade Center Diesel Emission Reduction Project Proposed Project Outline**

January 14, 2002

Primary Project Participants:  
NYS Department of Environmental Conservation  
US EPA Region II  
US EPA Headquarters  
NESCAUM

### **Background**

This memo outlines a plan to control diesel emissions from vehicles and machines working at the World Trade Center (WTC) recovery/demolition and rebuilding site. The recovery effort associated with the September 11 terrorist attacks are having a profound effect on the air quality in the neighborhoods surrounding the area. The equipment and vehicles used in the recovery and cleanup effort are powered by diesel fuel. Diesel exhaust is associated with adverse health effects and has been designated a carcinogen by the U.S. EPA. As the fires and dust associated with the recovery/demolition of the WTC site subside, emissions from diesel equipment and vehicles working at the site will be the largest source of pollution in the area. Given the negative health and welfare effects associated with exposure to diesel exhaust, there is a pressing need for the mitigation of emissions from the equipment in the recovery and rebuilding effort.

### **Project Goal**

The goal of the project is to reduce emissions from diesel equipment and vehicles working at the World Trade Center site without hindering the clean up effort or performance of the engines. The proposed methods to achieve this goal are the use of ultra low sulfur diesel fuel (<30 ppm) in both highway and nonroad engines and the retrofitting of machines and vehicles with emission control devices.

### **Project Approach**

Project participants propose to reduce emissions in two phases. Phase I will begin immediately with: 1) an inventory of equipment and vehicles on site; 2) a switch from 500 ppm diesel fuel to ultra low sulfur fuel for city operated vehicles; 3) retrofitting of city operated vehicles where possible; and 4) clean fueling and retrofitting of privately operated vehicles and/or machines.<sup>12</sup>

---

<sup>1</sup> The NYC Department of Design and Construction (DDC) indicated that the recovery/demolition phase of the project is ahead of schedule and may be finished by June, informal conversations with the contractors at ground zero  
Jason S. Grumet, Executive Director  
129 Portland Street  
Boston, Massachusetts 02114  
Phone (617) 367-8540  
Fax (617) 742-9162  
[www.nescaum.org](http://www.nescaum.org)

Fuel consumption at ground zero by city run vehicles alone is approximately 3,000 gallons of diesel fuel per day. Switching to ultra low sulfur fuel is anticipated to result in a PM emission reduction of at least 30 percent. Retrofitting will result in a further 25 to 95 percent PM reduction and a 70 percent reduction in hydrocarbon and carbon monoxide emissions.

During Phase II machines and vehicles that are privately operated will be fueled with ultra low sulfur diesel and retrofitted with emission control devices.

It is anticipated that Phase I will be completed and Phase II will be initiated before the end of the recovery/demolition part of the WTC project. The recovery/demolition process at the World Trade Center site is estimated less than one year [estimates since the first proposal indicate that recovery will be complete by the end of May, possibly sooner]. This will be followed by several (up to ten) years of rebuilding (see timeline attached).

**Phase I Overview:** Given the need to proceed quickly in order to achieve emission reductions during the remainder of the recovery/demolition phase of the project, simultaneous data collection, fueling/retrofit applications, and coordination between the various agencies involved at the WTC site work must begin as soon as possible. Phase I elements include:

- Coordination with city, state, and federal agencies on project approach;
- Development of an inventory of vehicles and equipment on site;
- Data gathering on machines and vehicles will proceed as soon as access can be arranged to allow for timely retrofitting of diesel engines;\*
- Retrofit engines with emission control devices;\*
- If possible, all wet hose fuel supplied on site and all fuel supplied to city operated vehicles and machines should be switched to ultra low sulfur diesel;
- Focus on the cranes at pier 25 by logging temperature trace data and supplying low sulfur fuel (with DDC authorization);
- Collect information on existing contract obligations and arrangements.
- Outreach activities on the benefits of the project.

**Phase II Overview:** Once Phase I is underway, Phase II should begin. Phase II elements include:

- Coordination with city, state and federal agencies and private companies operating on the site;
- Present project plan, approach, and logistics to construction company owners and staff;
- Develop a detailed inventory of private equipment operating on the site and develop an estimate of the numbers and types of equipment to be operating during reconstruction;
- Coordinate with fuel suppliers to arrange for ultra low sulfur fuel use in private machines and vehicles;

---

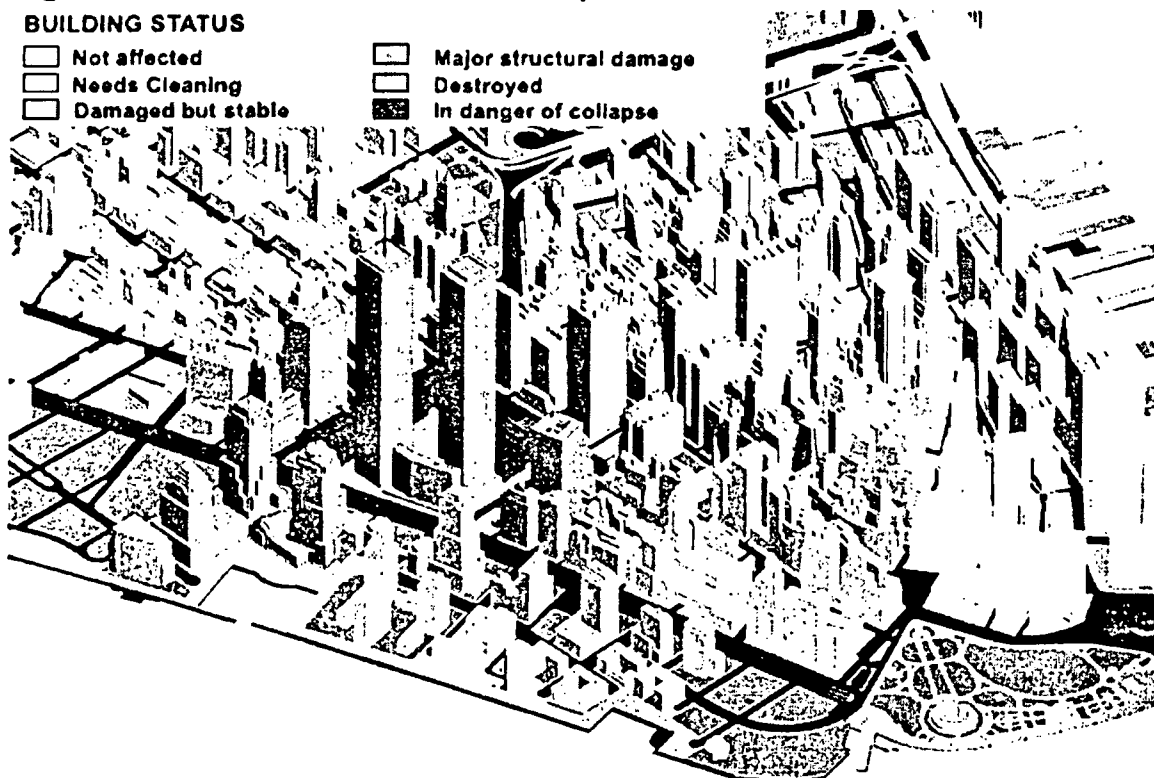
indicate that recovery may be even sooner than this. If this is the case, retrofitting of vehicles/machines may be impractical, unless the same vehicles will participate in the reconstruction phase. These vehicles should be identified for early retrofit.

<sup>2</sup> For example, there are two cranes located at Pier 25, near a school which could be cleaned up ahead of Phase II.

\* As mentioned on the last page, vehicles or machines working on the recovery/demolition may not be on site long enough to be retrofitted.

- Develop logistical plan for supplying low sulfur fuel for those vehicles that sometimes fuel offsite and that will be retrofitted with particulate filters (which require the use of ultra low sulfur fuel);
- Coordinate with emission control equipment suppliers to data log privately operated vehicles and machines for exhaust information and on the retrofitting of engines;

**Figure 1: World Trade Center site map**



## **Project Structure**

A large number of city, state, and federal agencies are involved in oversight and management of the WTC site cleanup and rebuilding. Given this fact and the variety of technical and operational issues that will need to be addressed as part of the WTC Emission Reduction project, project participants suggest a tiered management team be developed to oversee various aspects of the project. The project must be well organized and efficient in order to accomplish the project goals within the timeframe specified. Below, a structure for the project management team is proposed. It is comprised of six workgroups which will be tasked with specific duties. These workgroups and their responsibilities are described below.

### **A. Management Committee:**

The project advisory committee will consist of decision makers from the major organizations involved in the project, including EPA, NYSDEC, New York City offices and agencies, primary WTC site contractors and NESCAUM.

Management Committee responsibilities:

- Authority on project decisions.
- Political outreach, at the City, State and Federal level.
- Fiscal management and oversight.
- Future planning.

Management Committee Members:

|                                          |                                 |
|------------------------------------------|---------------------------------|
| NYS DEC:                                 | Carl Johnson, David Shaw        |
| US EPA Region II:                        | Kathy Callahan, Bill Baker      |
| NESCAUM:                                 | Jason Grumet                    |
| NYC Mayors Office:                       | [DEC will call for participant] |
| DDC:                                     | Robert Adams                    |
| Bovis (site contractor):                 | Ray Master                      |
| City agencies involved in Reconstruction | TBA                             |

### **B. Project Coordination:**

The project coordination team will directly manage the project with direction from the advisory committee.

Project coordination team responsibilities:

- Develop a firm understanding of the workings of the WTC recovery effort including the site hierarchy.
- Report project status and the need for key decisions directly to the advisory committee.
- Coordinate the efforts of all of all other teams involved in the project.
- Facilitate information sharing among all the teams.
- Communicate to all groups working in the recovery area, including contractors, subcontractors, etc, the goals of the project and recruit support [including facilitating communication between Big Dig managers and unions with WTC managers & unions].
- Maintain the project budget.

Team Members:

|         |             |
|---------|-------------|
| NYSDEC: | Steve Flint |
|---------|-------------|

|                      |                                             |
|----------------------|---------------------------------------------|
| US EPA Region II:    | William Baker                               |
| US EPA Headquarters: | Jim Blubaugh                                |
| NESCAUM:             | David Park, Glenn Goldstein, Coralie Cooper |
| DDC:                 | Robert Adams                                |
| Bovis:               | Ray Master                                  |

### **C. Vehicle Inventory and Activity**

The vehicle inventory and activity team will arrange for the collection and dissemination of vehicle inventory/activity data at the worksite. This information is critical to the early implementation of the project. There is a need for immediate, general inventory information and fueling characteristics of the recovery effort. As the project moves forward, there will be a need for this information to be further refined.

Vehicle inventory & activity team responsibilities:

- General inventory of parties operating at the site (government, contractors, subcontractors, sub-subcontractors, etc.)
- General inventory of vehicles operating at the worksite, including activity.
- Determine the life of vehicles and classes of vehicles.
- Determine where the vehicles originate.
- Determine equipment ownership vs. operator issues (leased vs. owned).
- Determine the fueling infrastructure, consumption and logistics of fueling at the site.
- Develop initial relationships with the people working directly at the site & begin communicating the need for the project (workers health/community health issues).

Team Members:

|                      |                   |
|----------------------|-------------------|
| NYSDEC:              | Steve Flint       |
| US EPA Region II :   | Kenneth Champagne |
| US EPA Headquarters: | Jim Blubaugh      |
| NESCAUM:             | Glenn Goldstein   |
| Bovis:               | Ray Master        |
| NYC DOT:             | TBA               |
| NYC DOS:             | TBA               |

### **D. Air Quality Monitoring & Public Health**

The ambient air monitoring team will track the progress and results of ambient air monitoring and personal exposure monitoring carried out by DEC and EPA at the work zones in New York.

Ambient air monitoring & public health team responsibilities:

- Determine the sources of information that are available.
- Determination of the species of air pollutants of highest concentration in the work zone.
- Determine the exposure levels to the workers and community at the work zone.
- Recommend the pollutants which must be most immediately controlled.
- Determine methods to track progress.

Team Members:

|         |                          |
|---------|--------------------------|
| NYSDEC: | Dirk Felton, Tom Gentile |
|---------|--------------------------|

|                   |                                                          |
|-------------------|----------------------------------------------------------|
| US EPA Region II: | John Filippelli, Ameesha Mehta-Sampath                   |
| NESCAUM:          | Glenn Goldstein, George Allen, Lee Alter, Margaret Round |
| NYCDEP:           | [NYS DEC will call DEP]                                  |
| NYCDOH            | TBA                                                      |
| OSHA              | TBA                                                      |

#### **E. Technology & Logistics:**

The technology & logistics team will determine the most efficient way of achieving the project goals.

Technology & logistics team responsibilities:

- Communicate to the vehicle inventory and activity team the fleet information necessary for technology decisions.
- Determine the logistics of supplying ULSD fuel to the work site & address misfueling issues.
- Analyze the vehicle inventory and activity data and determine the most appropriate technology for emission reduction.
- Determine the order of technology implementation.
- Maintain close contact with the suppliers of technology.
- Conduct field measurements of exhaust temperature.
- Maintain close contact with OEM equipment suppliers & recruit assistance where necessary.
- Determine & overcome warranty issues associated with various technology.
- Determine methods to track progress, including remote sensing and in use testing methods.

Team Members:

|                      |                             |
|----------------------|-----------------------------|
| NESCAUM:             | David Park & Coralie Cooper |
| NYS DEC:             | Thomas Lanni                |
| US EPA Region II:    | Michael Moltzen             |
| US EPA Headquarters: | Jim Blubaugh                |
| MECA:                | Dale McKinnon               |
| DDC:                 |                             |
| Bovis                | Ray Master                  |
| NYC DOT:             |                             |
| NYC DOS:             |                             |
| Sprague Energy       | Steven Levy                 |

#### **F. Communications Team**

The communications team will be responsible for public relations, outreach and community relations.

Responsibilities: the team will develop and implement an outreach and public relations plan.

- Public relations: development of educational materials and tools to communicate the benefits of the project to a variety of stakeholders such as environmental groups, community groups, and others.
- External communications – website development, press kit material development, and media relations

Team Members:

|          |       |
|----------|-------|
| NYS DEC: | [TBA] |
|----------|-------|