

Gilsenan, Michael

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Sent: Monday, August 19, 2002 7:49 PM
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Basso.Ray@epamail.epa.gov; Rotola.Joe@epamail.epa.gov
Subject: Addendum 2 to Monitoring Contractor SOW



HVAC_CHECKLIST. Monitoring_Add2.d
doc



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Attached is Addendum 2 to the Monitoring Contractor SOW and the

HVAC
Inspection Checklist.

(See attached file: HVAC_CHECKLIST.doc) (See attached file:
Monitoring_Add2.doc)

VENTILATION SYSTEM EVALUATION FORM

Part 1.0 General Information

Date of Evaluation:	Building contact name and phone:		
Evaluation Team (list name and affiliation):			
			(Environmental Professional)
			(HVAC/Electrical Professional)
			(Sheet Metal Professional)
Building Address:	Type of Facility (check all that apply):		
	☐ Residential		
	☐ Multi-use		
	☐ Other (describe)		
	Number of residential units:	Number of floors:	
HVAC System Types (check all that apply)			
☐ Unit ventilator (single residence unit)	☐ Wall/window AC unit (single residence unit)		
☐ Fan coil unit (single residence unit)	☐ Central ventilation system		
☐ Heat pump unit (single residence unit)	☐ Passive shaft/duct		
☐ Other (describe)			
Location of outside air intake:			
Outside air intake accessible for inspection _____ Y _____ N (explain)			

Part 2.0 Checklists

2.1 Ventilators, wall air conditioning units and window air conditioning units in common spaces

Ventilation System Identification:						
Location:						
Access adequate for inspection of components:						
System Components	System Component Substrate Material (sheet metal wrapped) (sheet metal lined) (fiberglass) (flexible connector) (double walled)	Dust/Dirt / Debris			Suspect WTC-Related Dust	
		None	Light ($< 1/16$ inch depth)	Heavy ($\geq 1/16$ inch depth)	Present? (Y/N)	Estimate % of total dust loading
Outside air intake louvers, grates and/or screens						
Outside air duct						
Outside air damper(s)						
Return air grille						
Return air plenum						
Filter rack						
Filter media						
Coils (evaporator)						
Blower assembly						
Condensate drain pan						
In-line electrical resistance strip heaters (in supply ducts connected to unit ventilators)						
Fire dampers						
Turning vanes						
Supply air plenum or supply duct						
Supply air plenum or supply duct liner						
Supply air diffuser						

2.1 Ventilators, wall air conditioning units and window air conditioning units in common spaces (cont.)

Other Information:

☐ Unit cycled prior to inspection	☐ Color of dust/dirt/debris
☐ Filter loading (general impression)	☐ Water damage
☐ Filter bypass (describe)	☐ Visible suspect mold growth
☐ Abraded/delaminated acoustical lining	☐ Evidence of animal incursion (carcasses, feathers, fecal matter)

General Impression:**2.2 Fan coil/ heat pump units in common spaces****Ventilation System Identification:**

Location:

Access adequate for inspection of components:

System Components	System Component Substrate Material (sheet metal wrapped) (sheet metal lined) (fiberglass) (flexible connector) (double walled)	Dust/Dirt/Debris			Suspect WTC-Related Dust	
		None	Light (<1/16 inch depth)	Heavy (≥ 1/16 inch depth)	Present? (Y/N)	Estimate % of total dust loading
Return air grille						
Return air plenum						
Filter rack						
Filter media						
Blower assembly						
Thermal coils						
Supply air plenum						
Supply air diffuser						

Other Information:

☐ Unit cycled prior to inspection	☐ Color of Dust/Dirt/Debris
☐ Filter loading (general impression)	☐ Water damage
☐ Filter bypass (describe)	☐ Visible suspect mold growth
☐ Abraded/delaminated acoustical lining	☐ Evidence of animal incursion (carcasses, feathers, fecal matter)

General Impression:**2.3 Central ventilation systems****Ventilation System Identification:**

Location:

Area Served:

Mechanical room: clean ___Y___N dry ___Y___N stored chemicals/refuse ___Y___N

Access adequate for inspection of components:

AHU interior surfaces are visibly accessible:

2.3 Central ventilation systems (cont.)

System Components	System Component Substrate Material	Dust/Dirt/Debris			Suspect WTC-Related Dust	
		None	Light (<1/16 inch depth)	Heavy (≥ 1/16 inch depth)	Present? (Y/N)	Estimate % of total dust loading
Outside air intake louvers, grates and/or screens						
Outside air duct						
Outside air damper(s)						
Return air grilles						
Return air plenum						
Return air plenum damper						
Return air ducts						
Turning vanes						
Mixing chambers						
Filter rack(s)						
Filter banks/media						
Pre-heat coils						
Cooling coils						
Re-heat coils						
Humidification and/or air cleaning equipment						
Fire dampers						
In-line re-heat coils						
Acoustical blower housing lining						
Duct connectors						
Blower assembly including blower wheel, blower housing, air vanes, in-line noise attenuators, acoustical treatments (e.g. baffles, duct linings)						
Condensate drain pan						
Condensate accumulator						
Supply air plenum						
Supply air plenum damper(s)						
Supply air ducts						
-High pressure - main trunk						
-Low pressure – branches						
Supply plenum or supply duct linings						
Supply air duct damper(s)						
Supply air diffusers						
Terminal boxes						
Open or ducted passive ventilation shaft(s)						
Other Information:						
☐ Unit cycled prior to inspection			☐ Color of Dust/Dirt/Debris			
☐ Filter loading (general impression)			☐ Water damage			
☐ Filter bypass (describe)			☐ Visible suspect mold growth			
☐ Abraded/delaminated acoustical lining			☐ Evidence of animal incursion (carcasses, feathers, fecal matter)			

2.4 Sampling

Sampling is required if light to heavy dust is present that is not visually identified as WTC related (maximum 5 samples).

Samples Collected: Y N
Sample Locations:
Location 1:
Location 2:
Location 3:
Location 4:
Location 5:

ADDENDUM #2**World Trade Center Dust Cleaning Program
Monitoring Contract Scope of Work****Evaluation Procedures to Determine the Presence of World Trade Center (WTC)-Related Dust and Debris in Residential Ventilation Systems in Lower Manhattan****1.0 SCOPE**

The procedures contained in this document provide guidance for determining the presence of WTC-related dust in residential ventilation systems in Lower Manhattan. This document is solely concerned with determination of the presence of WTC-related dust in residential ventilation systems. Determining the exact nature of all hazardous air contaminants and contaminants other than airborne dust that may have been released during the WTC collapse and that may have potentially impacted ventilation systems operating at the time of the collapse is beyond the scope of this document.

This document provides general guidance to address the following with respect to residential ventilation systems impacted by WTC-related dust:

- Professional, health and Safety Requirements for Individuals performing the evaluations
- Evaluation Procedures (Visual Assessment, Historical Assessment, and Sampling Procedures)
- Post-Cleaning Visual Inspection Procedures

This document is limited in scope to evaluation of environmental conditions within the ventilation systems to determine whether they have been impacted by the WTC collapse. This document is not concerned with the following:

- Mechanical operation of the systems
- Environmental conditions, contaminants, or other conditions within the systems that are not related to the WTC collapse
- Recommendations and procedures that by their nature must be contaminant-specific

2.0 PURPOSE

The purpose of this document is to provide procedures for inspecting and evaluating residential ventilation systems in Lower Manhattan to determine if such systems have been impacted by airborne dust from the WTC collapse, and to provide guidelines for the qualifications of personnel accomplishing such inspection and evaluation.

WTC-related dust is generally considered to have common, consistent, and readily observable characteristics visually and tactilely differentiating it from common dust. WTC-related dust generally contains extremely fine particles similar in consistency to talcum powder, is light-colored, contains pulverized concrete and/or gypsum wallboard, and may contain asbestos fibers.

Ventilation systems are reservoirs for environmental dust and dirt. Therefore, in some cases, it may not be possible to visually differentiate between WTC-related dust and environmental dust

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that was present in the ventilation system prior to or after the WTC collapse. In these cases, bulk dust sampling will be performed.

3.0 APPLICABLE DOCUMENTS

This section provides full bibliography for references made within this document. Evaluations should be conducted in a manner that is fully compliant with the guidance provided in the following documents, to the extent applicable.

ACR 2002, *Assessment, Cleaning and Restoration of HVAC Systems*, National Air Duct Cleaning Association, Washington, D.C. (2002).

Section 3 of ACR 2002 includes procedures for performing a visual assessment of HVAC systems required in item 6.5.2.1 of this document.

NADCA Standard 97-05, *Requirements for the Installation of Service Openings in HVAC Systems*, National Air Duct Cleaning Association, Washington, D.C. (1997).

NADCA 97-05 includes procedures for installing service openings in HVAC systems and construction and material specifications for replacement panels, plates or access doors to cover such openings as required under item 6.5.1.2 of this document.

SMACNA *HVAC Duct Construction Standards – Metal and Flexible*, Sheet Metal and Air Conditioning Contractors' National Association, Inc., 2nd Edition (1995).

The SMACNA standard includes construction and material specifications for access doors for covering service openings as required under item 6.5.1.2 of this document.

SMACNA *Fibrous Glass Duct Construction Standards*, Sheet Metal and Air Conditioning Contractors' National Association, Inc., 6th Edition (1992).

The SMACNA standard includes construction and material specifications for access doors for covering service openings as required under item 6.5.1.2 of this document.

NFPA Standards 90A, *Standard for the Installation of Air-Conditioning and Ventilating Systems*, and 90B, *Standard for the Installation of Warm Air Heating and Air-Conditioning Systems*, National Fire Protection Association (1999 Edition).

The NFPA standards include construction and material specifications for replacement coverings on service openings as required under item 6.5.1.2 of this document.

OSHA Regulations 29 CFR 1910, Occupational Health and Safety Standards

The OSHA regulations specify health and safety requirements for protecting employees during the inspection procedures.

ADDENDUM #2**World Trade Center Dust Cleaning Program
Monitoring Contract Scope of Work****4.0 PROFESSIONAL, HEALTH AND SAFETY REQUIREMENTS FOR
INDIVIDUALS PERFORMING THE EVALUATIONS.**

Many older ventilation system components contain both friable and nonfriable asbestos and may contain various contaminants such as mercury, PCBs, lead and microbial contamination. Aside from these contaminants, asbestos-containing pipe insulation, plaster and other asbestos-containing building materials may be disturbed during evaluation of ventilation equipment. Safety hazards such as fall hazards, electrical hazards, and mechanical hazards also may be encountered during evaluation of ventilation equipment. Due to the potential presence of these health and safety hazards, this section specifies minimum professional requirements for individuals performing the evaluations, as well as health and safety requirements pertinent to conducting the evaluations. It is not the intention of this document to provide all applicable health and safety requirements. It is expected that the entities performing work are knowledgeable in all federal, state and local health and safety requirements and standards pertinent to conducting the evaluations. This document references several key OSHA standards that are relevant to this work.

5.1 Evaluation Team

All evaluations shall be performed in teams consisting of a qualified HVAC/Electrical Professional and a qualified Environmental Professional. For large central air systems, it may be helpful to supplement the team with a Sheet Metal Professional.

5.2 HVAC/Electrical Professional - Requirements.

1. The HVAC/Electrical Professional shall be an employee of a professional, licensed mechanical ventilation contracting or engineering firm.
2. The HVAC/Electrical Professional shall be able to demonstrate competency and document experience in the following areas: air handling equipment identification and access, identification of system components, and installation of service openings in sheet metal and fibrous glass ducts in accordance with NFPA, NADCA and SMACNA guidelines and NYC building codes.
3. The HVAC/Electrical Professional shall have received training from their employer for reasonably anticipated hazards during HVAC work including training required under OSHA standards, including but not limited to lockout/tagout, fall protection, and personal protective equipment standards.

NOTE: If necessary, a licensed electrician shall be subcontracted to de-energize electrically operated equipment in accordance with OSHA's lockout/tagout requirements.

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4. The minimum personal protective equipment required for use by the HVAC/Electrical Professional includes:
 - a. a supply of disposable protective coveralls
 - b. a supply of disposable protective gloves
 - c. safety glasses
 - d. respiratory protection as specified in item 4 below
5. The HVAC/Electrical Professional shall be capable of wearing and shall be provided with a P100 air purifying respirator with appropriate medical determination, fit testing and training as required under OSHA's personal protective equipment standard.
6. The HVAC/Electrical Professional shall have received 2-hour asbestos awareness training.
7. The HVAC/Electrical Professional shall be responsible for:
 - a. the lockout/tagout of electrical or mechanical hazards required to safely perform the evaluations;
 - b. the HVAC/Electrical Professional's firm shall provide sound equipment as needed to meet OSHA's fall protection requirements that may be applicable to parts of the evaluations and the HVAC/Electrical Professional shall be responsible for implementing the use of such equipment;
 - c. locating and identifying ventilation system components to be included in the evaluation;
 - d. any disassembly of any ventilation equipment and components required to complete the evaluation, and proper re-assembly following the evaluation; and
 - e. assist the Environmental Professional in making determinations required in Item 6.4.

5.3 Sheet Metal Professional – Requirements

Requirements for the Sheet Metal Professional, if part of the evaluation team, are identical to those listed in item 5.1 for the HVAC/Electrical Professional.

5.4 Environmental Professional - Requirements

The Environmental Professional shall hold a current EPA accreditation as an AHERA Building Inspector. The primary purpose of the asbestos certification requirement is to be able to identify asbestos-containing materials and asbestos-related hazards in order to avoid the disturbance of asbestos-containing materials during the evaluations.

1. The Environmental Professional shall have current EPA accreditation as an AHERA Building Inspector in any U.S. state.

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2. The minimum personal protective equipment required for use by the Environmental Professional includes:
 - a. a supply of disposable protective coveralls
 - b. a supply of disposable protective gloves
 - c. safety glasses
 - d. respiratory protection as specified in item 3 below
3. The Environmental Professional shall be capable of wearing and shall be provided with a P100 air purifying respirator with appropriate medical determination, fit testing and training as required under OSHA's personal protective equipment standard.
4. The Environmental Professional is responsible for:
 - a. ensuring that no asbestos-containing materials are disturbed during the evaluations;
 - b. determining which personal protective equipment will be used by the HVAC/Electrical Professional, the Sheet Metal Professional and by the Environmental Professional during the evaluation; and
 - c. collecting any bulk, wipe, microvac or tape-lift samples that are necessary to complete the evaluation;
 - d. making determinations required in Item 6.3; and
 - e. cleaning up any debris that may be disturbed as a result of the evaluation using a HEPA vacuum.

6.0 EVALUATION PROCEDURES

6.1 General

Ventilation systems are likely to vary widely in type, configuration and complexity. This evaluation procedure applies considers three general categories of ventilation systems that may be encountered in residential buildings in lower Manhattan:

1. Ventilators, wall air conditioning units and window air conditioning units **in common spaces**;
2. Fan coil or heat pump units **in common spaces**; and
3. Central systems with heating and/or cooling capabilities.

Wall air conditioning units and window air conditioning units which serve an individual residence are not included in this evaluation procedure. These units will be cleaned during the cleaning of residential spaces.

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Note that exhaust systems such as bathroom and kitchen exhaust fans that directly remove room air to the outdoors are not included in this evaluation procedure. Components of direct exhaust systems typically include exhaust grilles, exhaust duct, exhaust fan, and rooftop or wall exhaust outlet devices. If information suggests that contamination of direct exhaust systems may be present, an evaluation may be performed using the same principles outlined for items 1, 2, and 3 above. Similarly, any ventilation equipment encountered that does not fall into any of these categories can be inspected using principles outlined in this section.

The locations within the ventilation system equipment expected to have the greatest impact from WTC-related dust include air intakes and intake ducts, intake air dampers, intake air filters and various system components located downstream of the intake air filters, depending on the system's filtration efficiency. Dust may collect at potential impingement points such as duct terminations, transitions and elbows, and interior system components such as control devices, dampers, thermal coils, turning vanes, fans, etc.

One factor that may be considered in performing the evaluation is whether or not the ventilation equipment operated during the WTC collapse and in the weeks immediately following the collapse. Equipment that was not operating due to power loss, or due to concerns about entrained dust may not have been impacted as heavily as equipment that operated throughout the collapse and immediate clean-up response.

Item 6.3 includes a listed of recommended equipment for performing the evaluation.

Item 6.4 includes a list of system components for each equipment category.

Item 6.5 includes the evaluation procedures that may be applied to each system component.

6.2 Documentation of Existing Mechanical Conditions

Prior to the start of the evaluation, the HVAC/Electrical Professional shall ensure that the ventilation system is cycled and that there are no obvious existing deficiencies affecting proper mechanical operation of the system for which the evaluation team may later be held responsible.

6.3 Recommended Supplies and Equipment

- Personal protective equipment (see 5.0)
- Sampling supplies (see 6.4.3)
- Disposal bags (see 6.4.3)
- Spray bottle containing soapy water
- Cleaning cloths
- Ladders (as needed)
- Lifts or scaffolding (as needed)
- Extension cords
- Hand tools (screw driver, pliers, etc.)

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- Rotary metal cutting saw
- For covering service openings, sheet metal plates, panels or access doors meeting NADCA 9705, NFPA 90A/90B and SMACNA specifications
- Telescoping inspection mirrors and flashlights
- Boroscope
- HEPA vacuum

6.4 Typical system components for each equipment category

The ventilation systems may contain, but may not necessarily be limited to combinations of the listed components in each category.

6.4.1 Ventilators, wall air conditioning units and window air conditioning units in common spaces

- Outside air intake louvers, grates and screens
- Outside air duct
- Outside air dampers
- Return air grille
- Return air plenum
- Filter rack
- Filter media
- Coils (evaporator)
- Blower assembly
- Condensate drain pan
- In-line electrical resistance strip heaters (in supply ducts connected to unit ventilators)
- Fire dampers
- Turning vanes
- Supply plenum or supply duct liner
- Supply air diffuser

6.4.2 Fan coil/heat pump units in common spaces

- Return grille
- Return air plenum
- Filter rack
- Filter media
- Blower assembly
- Thermal coils
- Supply plenum
- Supply diffusers

6.4.3 Central air system

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- Outside air intake louvers, grates and screens
- Outside air duct
- Outside air dampers
- Return air grilles
- Return air plenum
- Return air plenum damper
- Return air ducts
- Turning vanes
- Mixing chambers
- Filter rack
- Filter banks/media
- Pre-heat coils
- Cooling coils
- Re-heat coils
- Humidification and/or air cleaning equipment
- Fire dampers
- In-line re-heat coils
- Interior insulation
- Duct connectors
- Blower assembly including blower wheel, blower housing, air vanes, in-line noise attenuators, acoustical treatments (e.g., baffles, duct linings)
- Condensate drain pan
- Condensate accumulator
- Supply air plenum
- Supply air plenum damper
- Supply plenum or supply duct linings
- Supply air ducts (high and low pressure)
- Supply air diffusers
- Terminal boxes
- Open or ducted passive ventilation shafts

6.5 Evaluation Procedures

6.5.1 Accessibility

6.5.1.1 Locate System Components Accessible for Visual Inspection

The HVAC/Electrical Professional shall make an assessment of the accessibility of the various components of the system. For example, components may be enclosed within permanent sheet metal panels, or may be located above or behind solid plaster ceilings and walls.

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Determine the components that are accessible. At minimum, representative surfaces of the following system components should be inspected:

- air intake (outdoor or return)
- air intake dampers
- return air grilles
- return air plenum
 - horizontal surfaces
 - impingement points (e.g. turning vanes, elbows, transitions)
- filter racks and filter media
- blower
- thermal coils
- interior surfaces of the supply air ducts
 - horizontal surfaces
 - impingement points (e.g. turning vanes, elbows, transitions)
- volume dampers
- terminal boxes
- supply diffusers

Note that depending on the size and complexity of the HVAC system, access may require the use of ladders, lifts or scaffolds using appropriate methods of fall protection.

6.5.1.2 Methods of Access

The following list summarizes methods of accessing HVAC system components for inspection:

- through existing service openings (i.e., access doors and panels)
- by disassembly of housing
- by installation of service openings (may range from 1" diameter holes to access doors)

The HVAC/Electrical Professional shall assess the accessibility of each HVAC system component to be inspected. If an HVAC system component is not accessible, the Environmental Professional shall be consulted to determine whether installation of a service opening will likely disturb asbestos-containing materials. After such consultation, if approved by the Environmental Professional, the HVAC/Electrical Professional shall install service openings as needed to inspect the HVAC components listed in 6.5.1.1.

NOTE: Disassembly of housing and installation of service openings may only be performed by the HVAC/Electrical Professional and replacement plates, panels or access doors shall be installed in accordance with NFPA, NADCA and SMACNA standards and NYC building codes.

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The Environmental Professional shall repair or seal any interior/exterior duct insulation disturbed by the installation of service openings.

6.5.2 Methods of Evaluation

6.5.2.1 Visual Inspection Procedure

Visual inspection of the interior system components is required. Inspection of all of the system components, or as many components as possible is recommended. The HVAC/Electrical Professional and the Environmental Professional should jointly perform the visual inspection. At minimum, the components listed in 6.5.1.1 shall be inspected.

The visual inspection shall be accomplished using one or more of the following methods:

- direct examination
- telescoping inspection mirrors and flashlights inserted through service openings
- boroscopes inserted through supply air diffusers or other existing openings
- remotely operated video camera

6.5.2.2 Assessment of Conditions

Visual Assessment

All required interior surfaces in contact with the air stream shall be inspected for visible accumulations of dust and/or debris. Inspect all surfaces in contact with the air stream. Information indicates that some of the defining characteristics of WTC-related dust are that it contains extremely fine particles similar to talcum powder in consistency, is light-colored, contains pulverized concrete and/or gypsum wallboard, and may contain asbestos fibers. The visual inspection shall document:

- A general description of the appearance of interior surfaces of the various system components. The description for each component will include, but may not be limited to:
 - interior duct/fan housing surfaces are porous/non-porous
 - interior duct and fan housing surfaces are lined with insulation
 - interior duct and fan housing surfaces are double-walled (i.e. interior insulation with perforated metal cover)
 - filter loading, condition of filters and filter rack
 - interior surfaces are free/not free of visible dust and debris or suspect WTC-related dust and debris
 - description of dust color, level of dust loading that may include:
 - the depth of dust observed on each component (e.g., less than 1/16 inch, greater than or equal to 1/16 inch.).

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- the depth and location of dust on ducts and fan housing (i.e., on interior bottom, top and sides of ducts)
- visually estimated percentage of surface area with suspect WTC-related dust
- whether or not there are materials that are likely not associated with WTC-related dust such as building-related asbestos-containing materials, animal carcasses, delaminating lining material, visible mold growth, water damage, fecal matter, feathers or other evidence of animals, etc.

Historical Assessment

The evaluation team shall attempt to describe any other available information from site occupants or building managers, such as the known status of system operating conditions at the time of the WTC collapse, ventilation system maintenance (i.e., cleanings, filter changes, or replacement since the WTC collapse).

Based on these assessments, to the best of his/her ability the Environmental Professional will state a general impression of the overall cleanliness of each component, and whether or not it appears to be impacted by WTC-related dust.

6.5.2.3 Environmental Sampling Procedure

If the evaluation team determines that the ventilation equipment appears to have been impacted by WTC-related dust, cleaning will be recommended and environmental sampling will not be required. This information shall be included in the HVAC system evaluation report. The HVAC system evaluation report must be sent to EPA electronically in PDF format.

In the absence of environmental sampling that indicates otherwise, WTC-related dust shall be assumed to be an asbestos-containing material and cleaning procedures shall be performed in accordance with procedures for asbestos decontamination (see section 5.0).

If dust or debris is present and it is not apparent that it is related to the collapse of the WTC, a maximum of 5 bulk samples will be collected and analyzed for pH, fibrous glass and crystalline silica. These samples and copies of necessary documentation shall be shipped daily by courier for next day delivery to EMSL Analytical Inc., 107 Haddon Avenue, Westmont, NJ 08108 (Tel: 856-858-4800). This data will be used to determine if the sampled dust is from the collapse of the WTC. Dust will be considered WTC-related if: pH is 9 or above; fibrous glass content is between 30 and 40 % and crystalline silica content is 5% or greater. Laboratory data will be reported back to the Monitoring Contractor and shall be included in the HVAC system evaluation report. The HVAC system evaluation report must be sent to EPA electronically in PDF format.

Sampling Procedures

1. Sampling of interior dust may only be performed by the Environmental Professional.

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2. Minimum personal protective equipment used by the Environmental Professional shall include a disposable protective coveralls, a P100 respirator, safety glasses, and disposable gloves.
3. A HEPA vacuum shall be on-site for clean-up, if needed.
4. Dust may be collected from any visible deposit. Frequently, dust will be more likely to accumulate on horizontal surfaces, although this may not always be the case.
5. Sample collection and analysis

Bulk samples. Bulk dust samples may be scooped or scraped into a sealable container using an appropriate sampling device. A minimum of 20 grams of sample will be collected. Wipe the device with a clean, wet cloth between samples to prevent cross-contamination. Wipe the exterior of the sample container to remove excess dust. Label the container with the sample identification. At minimum, for each sample the date, building name, and specific location of the sample, including whether or not the sample is located upstream or downstream of the air filters, shall be recorded.

6. Completion of sampling

The Environmental Professional shall repair or seal any interior/exterior duct insulation disturbed as a result of sample collection.

At the completion of sampling, the Environmental Professional shall wipe the outside of his/her respirator with a clean, wet, disposable cloth and shall place the respirator into a clean, sealed plastic bag. Clean any suspect debris or contamination resulting from the sampling activities using a HEPA vacuum or wet wiping methods. All wiping cloths, disposable protective suits and gloves, and drop cloths shall be placed into a sealed polyethylene bag for proper disposal.

7.0 Post-cleaning Visual Inspection

Cleanliness verification shall be performed by the evaluation team consisting of a HVAC/Electrical Professional and an Environmental Professional as described in section 5.0 of this document after cleaning of one or more ventilation system components has been completed.

Following cleaning, the Environmental Professional shall ensure that all interior ventilation system components that were subject to the cleaning procedures are visibly clean. An interior surface will be considered visibly clean when it is free from non-adhered substances and debris.

To determine whether a surface is visibly clean, a thorough and comprehensive visual inspection and assessment of all cleaned components shall be performed in accordance with visual procedures established in items 6.5.2.1 and 6.5.2.2 of this document. In order to observe

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locations that are difficult to clean, additional access openings shall be installed as needed to conduct a comprehensive post-cleaning visual inspection.

Gilsenan, Michael

From: Patmcedar@aol.com
Sent: Monday, August 19, 2002 9:36 PM
To: Gilsenan, Michael
Subject: DOH mold report

Hi Mike,

I'm just checking that you received the mold report yesterday from Chris at the DOH. If not please let me know and I will forward to you. Pat