

Response to DOL Comments

Regulatory Submittal Part I (R) Remediation Work Plan Dated January 8, 2008

Specific Comments

REGULATORY SUBMITTAL PART I – WORK PLAN

• 6.1.1 CLEANING AND CLEARANCE OF STAIRWELL C

- 1) This section indicates, "After an opening is created between stairwell C and the adjacent electrical closets and the openings and components are cleaned in a given location, electricians, holding NYS DOL allied trades handler certification..." This section must be clarified to indicate that prior to access by certified electricians, certified handlers will access and clean all surfaces and components within the stairwell and electrical closets which are likely to be contacted by the electricians during their work. This approach must be revised throughout the work plan and variance petition documents.

The following revision has been made to Section 6.1.1:

"Prior to access by electricians, NYS DOL and NYC DEP certified asbestos handlers will clean all surfaces and electrical components within the Stairwell C and adjacent electrical closets by HEPA vacuuming to remove residual dust that may be present."

The following revision has been made to Section 6.1.9:

"Prior to access by electricians, NYS DOL and NYC DEP certified asbestos handlers will clean all surfaces and electrical components within the electrical closets by HEPA vacuuming to remove residual dust that may be present."

Comment [AD1]: DOL 2/27 Meeting
Comment

- 2) Regarding electrician access to electrical closets for necessary repairs, this section indicates, "Please note that at this time both the affected electrical closet and the floor will be in a contaminated condition." However, once clearance is obtained for the first floor clean zone work area, the interior of the first floor adjacent to the electrical closet will not be in a contaminated condition. This approach for access to the electrical closets must be modified consistently throughout the work plan and variance petition documents to indicate that once an interior work area adjacent to the electrical closets is cleared, any potential access to the electrical closet will be via an attached airlock and the closet will have negative air ventilation established as per ICR 56 requirements, prior to access by the certified electricians.

For clarity the end of Section 6.1 detailing post clearance activities in the Clean Zone has been given a number and title. This new section is Section 6.1.9 First Floor Clean Zone and Stairwell C Post Clearance Activities.

The following revision has been made to Section 6.1.9:

"Once clearance is achieved in the interior work area air locks will be installed at the entrances to the electrical closets so the closets can be accessed from cleared areas in the event electrical repair work is required."

• 6.1.5 ASBESTOS-CONTAINING MATERIALS

- 3) This section indicates, at the completion of the asbestos abatement work in the First Floor Clean Zone there will be no asbestos containing materials in this area". However, according to the Table of ACMs within Attachment VIII of the work plan, ACM exists at the interior of the perimeter wall from floors 1 through 15. Will this material be removed during the first floor clean zone abatement, or will it remain at the conclusion of the abatement for the first floor clean zone? Information regarding this identified ACM must be revised consistently throughout the work plan and variance petition documents.

The following revisions have been made to Section 6.1.5:

"There is also non-friable ACM tar on the perimeter kneewall in the First Floor Clean Zone."

Comment [AD2]: DOL 2/27 Meeting
Comment

"Kneewall tar will be left in place for removal during the structural deconstruction phase. The procedure for the

removal of kneewall tar is outlined in Regulatory Submittal Part I(D) – Deconstruction Work Plan. Aside from this non-friable kneewall tar there will be no other asbestos containing materials remaining in the First Floor Clean Zone after the completion of asbestos abatement in this area.”

Comment [BL3]: DOL 2/27 Meeting
Comment

The asbestos survey table has been revised to reflect to correct quantity of ACM tar on the First Floor. Please refer to Attachment VIII – Asbestos Survey Table to view this revision.

• 6.1.8 FIRST FLOOR CLEAN ZONE CLEARANCE CRITERIA

4) This section includes text regarding clearance of stairwell C as well as clearance of “blocks of a maximum of three floors”. All references to clearance air sampling requirements for work areas other than the first floor clean zone must be removed from this section.

The reference to blocks of three floors has been deleted from Section 6.1.8.

The following revision has been made to Section 6.1.8:

“Clearance sampling will be conducted in the First Floor Clean Zone and Stairwell C work areas as follows:”

• 6.4 ESTABLISHMENT OF INTERIOR CONTAINMENT (SECOND FLOOR THROUGH FIFTEENTH FLOOR)

5) This section indicates that the basement negative air machine exhaust tubes will be routed through two shafts to the first floor where the exhaust tubes will be run to the to the building exterior, and “the basement and first floor area, including these shafts, are part of the one modified containment of the entire building interior.” However, this does not appear to be correct based upon the plan drawings within Attachment V and IX, as the shafts appear to be located within the first floor clean zone. This information must be revised consistently throughout the work plan and variance petition documents to accurately reflect the site conditions that will exist. Also, where the exhaust hose passes through uncontaminated portions of the building prior to discharging to the building exterior, an additional daily abatement barrier air sample must be collected as per the requirements of ICR 56. This requirement must be added throughout the work plan and variance petition documents as appropriate.

It is necessary to install manifolds in the shafts between the Basement and the First Floor during the establishment of the First Floor Clean Zone in order to prevent contamination of the Clean Zone after clearance. As such, the details of the manifold installation in the shafts where negative pressure exhaust hoses will be run has been moved to Section 6.1.4.

The following revision has been made to Section 6.1.4:

“Shaft walls between the First Floor and Basement will be opened at this time by manual and mechanical means. Manifolds constructed of plywood with two layers of 6mil poly attached to each side will be installed horizontally in the shafts between the First Floor and Basement where negative air machine exhaust hoses will be run from the Basement to the building exterior. The manifold will have ports for the hoses to be run through. Refer to Section 6.4 for details regarding the installation of engineering controls in the Basement.”

The following revisions have been made to Section 6.4:

“The basement is part of the modified full containment of the entire building interior and the shafts where exhaust hoses will be run are in the First Floor Clean Zone. The manifolds installed in the shafts will function as environmental barriers to prevent any contamination from migrating from the work area to the First Floor Clean Zone.”

“In locations where exhaust hoses pass through cleared areas daily abatement barrier air sampling will be collected by the Owner’s Environmental Consultant NYS DOL certified air sampling technician.”

6) This section also references damper assemblies to be utilized for additional make-up air sources. However, as per the plan drawing in Attachment X, no damper assembly is apparent. In addition, the HEPA filter air flow direction on the drawing appears to be opposite the normal configuration in a negative air machine. The manufacturer must be contacted to confirm that the unit will operate properly if configured as indicated, and that

air flow through the machine will not be impeded by the reversed HEPA filter.

Reference to the damper has been removed. Refer to Section 6.4 to view this deletion.

The supplier of negative air machines for this project has confirmed that reversing the HEPA filter for the purposes outlined in Section 6.4 on forced make up air units will not restrict the air flow through the filter. The purpose of the reverse filter is to filter any air that would migrate from the interior containment in the event of negative pressure system shut down.

• 6.5 SHREDDER INSTALLATION

7) This section references “Attachment IX – Work Area Engineering Controls Diagrams, Diagram ECD-02. However, it appears that the correct reference is Diagram ECD-03. This inaccurate reference must be appropriately revised.

The following revision has been made to Section 6.5:

“For details of the shredder area and shredder machine location please refer to the drawing titled Configuration of the Clean Zone in Attachment V – Remediation Operations Logistics Plans and Attachment IX – Work Area Engineering Controls Diagrams, Diagram ECD-03.”

• 6.7.1 SHREDDABLE MATERIALS

8) This section indicates that shreddable materials will be manually loaded into wheeled carts for transfer to the shredder area. However, all references within the work plan and variance petition documents to the use of carts for transfer of waste materials must be consistently revised to “covered wheeled carts consistent with the requirements of ICR 56-8.9(f).”

The following revision has been made to Section 6.7.1:

“All carts used for transport of ACM or potentially contaminated materials will be water tight and have doors or tops that will be closed and secured during transport.”

The following revision has been made to Section 6.9:

“All carts used for transport of ACM or potentially contaminated materials will be water tight and have doors or tops that will be closed and secured during transport.”

The following revision has been made to Section 6.12.2:

“All carts used for transport of ACM or potentially contaminated materials will be water tight and have doors or tops that will be closed and secured during transport.”

The following revision has been made to Section 7.0:

“All carts used for transport of ACM or potentially contaminated materials will be water tight and have doors or tops that will be closed and secured during transport.”

• 6.12 GASH AREA ABATEMENT PROCEDURE

9) This section indicates a three option approach to cleaning and abatement within the gash area. However, nothing is mentioned within the work plan and variance petition document regarding the necessary assessment completed by a certified project designer and inspector to determine the extent of contamination and resulting intended abatement approach. A summary of the assessment process and the results of the assessment must be added to the work plan and variance petition documents in the appropriate sections.

The following revision has been made to Section 6.12:

“The following list of surfaces, items, components and materials have been documented by the Owner’s

Environmental Consultant NYS DOL certified project designer as existing in various locations throughout the Gash Area on the south façade of the Building and requiring environmental remediation:

- Fiberglass Pipe Insulation
- Fiberglass Duct Insulation
- Non-ACM Spray/Trowel Applied Fireproofing Material
- VAT
- Brick
- Windows
- Concrete Floor Slab/Deck
- Concrete/Masonry Block Columns
- Plaster
- Metal Hangers/Attachment Mechanisms
- Wooden Barriers
- Steel Spandrel
- Non-Friable Asbestos Mastic (Applied to Spandrel Web)

Please note that the Gash Area was subject to two previous cleaning efforts performed by others. Any friable and/or porous items, components or materials listed above (as determined by a detailed inspection conducted by the OEC) are assumed to be contaminated by WTC dust and will be subject to environmentally controlled removal as outlined in this Section.

The Contractor and OEC NYS DOL certified project designers have determined the procedures to be used to remediate the Gash Area based on the concentration of surfaces, items, components and materials in relation to the size and layout of the areas where they are present. Given that the conditions in the Gash Area vary from level to level, the below set of procedures will be implemented as deemed necessary by the Contractor and OEC NYS DOL certified project designers to address the removal of impacted surfaces, items, components and materials that are not capable of being cleaned. For instance areas where there is a large concentration of the above listed surfaces, items, components and materials that are not capable of being cleaned in close proximity to each other the interior containment will be extended. In areas where the above listed surfaces, items, components and materials that are not capable of being cleaned are spread sporadically making the extension of the interior containment inefficient, the remediation will be performed by tent procedures. In areas where there are only surfaces, items, components and materials that are non-porous and capable of being cleaned, the focused cleaning procedure will be performed.”

• 6.12.2 TENT PROCEDURES

10) This section indicates that access openings will be installed at each floor of the gash area based upon field conditions. If these intended access locations are already identified, they must be added to the appropriate gash area plan drawings. If the actual locations are unknown, provisions must be included for updating plan drawings once the information is obtained.

Attachment XIV – Gash Area Containment Diagrams have been revised to depict the Gash Area access locations.

The following reference has been added to Section 6.12.2:

“Please refer to Attachment XIV – Gash Area Containment Diagrams to view diagrams depicting the Gash Area access locations.”

11) This section indicates that remote personal decontamination facilities will be utilized for the tent enclosure work and nothing is included regarding use of a washroom connected to the tent enclosure as per the requirements of ICR 56-7.5(f) Tent procedures must be revised throughout the work plan and variance petition documents to be consistent with intended procedures. If relief from the washroom requirements is necessary and use of remote personal decontamination facilities is necessary for the intended tent enclosure operations, the work plan and variance petition documents must be consistently revised to accurately reflect the intended tent enclosure procedures.

The following revision has been made to the “Remediation of the Gash Area – Tent Procedures” section of the

remediation variance petition:

“Variance approval is requested to not construct wash rooms at each tent airlock. The Primary Waste Decontamination Facility will be utilized to decontaminate waste generated during the tent procedure.”

The ICR 56 subsection table included with the remediation variance petition has been revised to include the applicable sections of the code rule.

12) In addition, this section indicates “personnel and waste shall not pass through the air locks at the same time”, but the remainder of the text in this section relating to waste and personnel transfer does not agree with this statement. The text within the work plan and variance petition documents must be consistently revised to indicate personnel and waste container transfer procedures for the tent enclosures compliant with ICR 56 requirements for the intended tent enclosure operations.

The following revision has been made to Section 6.12.2:

“Personnel and waste will not pass through the air locks at the same time. Once all bags of waste are sealed and decontaminated, the NYS DOL and NYC DEP certified asbestos handlers will pass the bags to NYS DOL and NYC DEP certified asbestos handlers outside of the air lock on the Gash Area. Only after all bags of waste have been passed out of a tent enclosure air lock, the NYS DOL and NYC DEP certified asbestos handlers inside the tent enclosure air lock will clean their PPE and remove one suit and then exit onto the Gash Area. NYS DOL and NYC DEP certified asbestos handlers receiving the bags of waste from the tent enclosure air lock will transport them to the entrance to the interior of the Building on that level and place them inside the air lock connected to the entrance. These NYS DOL and NYC DEP certified asbestos handlers will then enter the air lock at the entrance and remove one (1) layer of disposable coverall suit and place it in an asbestos bag located within the air lock at the entrance to the Building. After one (1) layer of disposable coverall suit has been removed, the NYS DOL and NYC DEP certified asbestos handlers will utilize HEPA vacuums to clean the surface of the one (1) layer of disposable coverall suit that they are still wearing. Once full, bags of suits will be sealed with duct tape. Once all bags of waste are sealed, NYS DOL and NYC DEP certified asbestos handlers inside of the air lock at the entrance to the Building will pass the bags of waste to NYS DOL and NYC DEP certified asbestos handlers on the inside of the Building. Only after all bags of waste have been passed out of the air lock at the entrance to the building will the NYS DOL and NYC DEP certified asbestos handlers don a second layer of disposable coverall suit and exit the air lock into the interior of the Building. Once in the Building, waste will be transported in wheeled carts and/or on pallet jacks. All carts used for transport of ACM or potentially contaminated materials will be water tight and have doors or tops that will be closed and secured during transport. NYS DOL and NYC DEP certified asbestos handlers will utilize the elevators to transport the waste to the First Floor east side lobby. Bags of waste generated during the tent procedures and suit removal will be processed through either the Primary Waste Decontamination Facility or the waste decontamination facility at the east side lobby for disposal as asbestos waste or in accordance with any waste characterization results.”

• 6.12.3 GASH FOCUSED CLEANING PROCEDURE

13) This section indicates that the focused cleaning will include manual wet cleaning, but nothing is apparent regarding the use of HEPA vacuums with the cleaning procedures. The work plan and variance petition documents must be consistently revised to indicate that the required cleaning will be accomplished utilizing both manual wet methods and HEPA vacuuming.

The following revision has been made to Section 6.12.3:

“Cleaning will be performed manually by HEPA vacuuming and wet wiping utilizing a combination of rags, mops and/or sponges.”

14) This section indicates that aggressive clearance air sampling will be performed by the certified air sampling technician, and the clearance criteria identified within section 6.19 of the work plan will be followed, but nothing is included regarding number of clearance air samples to be collected for these non-contained open-air regulated abatement work areas. Also, the variance petition indicate that no clearance air samples will be collected, instead the most recent daily air samples will be used for comparison to clearance criteria along with a satisfactory project monitor visual inspection. This information must be consistently revised within the work plan and variance petition documents to accurately reflect the intended clearance procedures for these regulated abatement work areas.

The following revision has been made to Section 6.12.3:

“Once the work area has passed regulatory visual inspection and the most recent daily abatement air sample results meet ICR 56-4.11 clearance criteria, the work area shall be dismantled to allow access by other trades.”

• 6.12.4 MAIN ROOF

15) This section indicates no air sampling requirements for backgrounds, work area preparation, abatement, cleaning or clearance. The work plan and variance petition documents must be consistently revised to indicate a minimum requirement of large project daily abatement air sampling, using the last set of daily abatement air sample results for comparison to the clearance criteria in combination with a satisfactory project monitor visual inspection.

There is no ACM in the main roof. The main roof abatement is the window caulk. The following has been added to this section:

“ACM air sampling in support of this operation will be in full compliance with the air sampling requirements of the NYC DEP EC (Exterior Caulk) Method. One “During Abatement” sample will be collected both inside and outside the window being abated, along with the daily decon and barrier samples being run on a daily basis at the site.”

• 6.14 ELEVATOR SHAFTS

16) This section indicates that kick-out panels will be installed to provide access to an exterior readiness hoist. However, no drawing detail of these kick-out panels was apparent. A detailed drawing must be provided within the work plan documents.

A diagram of the kick out panel has been provided. Please refer to Attachment XVI – Emergency & Readiness Hoist Kick Out Panel Diagram to view this diagram.

• 6.20 CLEANING AND CLEARANCE OF THE ELECTRICAL CLOSETS

17) This section indicates that the number of clearance air samples collected will be based upon the quantity of abatement performed within the closets. However, if no asbestos-containing materials are removed from the closets and only cleaning activities occur within these closets, how many air samples will be collected? A minimum of minor size work area clearance air sampling must be completed for each closet. Thus information must be consistently revised within the work plan and variance petition documents

The following language has been added to Section 6.20:

“Air clearance of electrical closets will be conducted according to the amount of material (ACM or WTC Dust-contaminated) that is removed from the work area, as determined by the OEC Project Monitor. If a minor (<10sf/<25lf) quantity of material is removed, sampling will be performed as follows: 1 inside the work area (IWA) TEM asbestos air sample and 1 outside the work area (OWA) TEM asbestos air sample per electrical closet work area. An electrical closet work area will be considered cleared once TEM results are less than seventy (70) structures per millimeter squared (mm²). An equal number of metals samples will be collected IWA. No OWA metals samples will be collected. If a small (<160sf/<260lf) quantity of material is abated from the closet, small project sampling (3 IWA ACM/3OWA ACM plus 3 IWA metals) will be performed. It is not anticipated that large project quantities will be removed from electrical closets.”

• 7.0 ANTICIPATED WASTE GENERATION

18) This section indicates that if no asbestos waste trailer is available for waste loading, no additional asbestos waste containers will be decontaminated from the work areas. However, nothing is apparent regarding temporary storage of waste containers within the waste decontamination facility. Temporary waster container storage within the waste decontamination facility and/or work area is not allowed to impede egress. The work plan and variance petition documents must be revised accordingly.

The following revision has been made to Section 6.0:

“Remediation work processes will be controlled by the Contractor so that directly after Gaylord boxes are full and

sealed they will be moved from the work area, decontaminated and loaded into asbestos waste trailers. All full boxes will be moved out of the work area by the end of every day.

In the event of an emergency where waste trailers are unavailable and boxes of debris will remain in the work area the Contractor will immediately cease generation of further waste. Remaining boxes of debris will be organized in a manner that does not impede egress. The Contractor will notify the FDNY immediately and inform the FDNY's designated representatives of the situation and the location and quantity of all boxes of debris in the building. The Contractor will work diligently to resolve the emergency in an expeditious manner so that waste flow can resume."

This revision has also been made to Section 7.0:

"Remediation work processes will be controlled by the Contractor so that directly after Gaylord boxes are full and sealed they will be moved from the work area, decontaminated and loaded into asbestos waste trailers. All full boxes will be moved out of the work area by the end of every day.

In the event of an emergency where waste trailers are unavailable and boxes of debris will remain in the work area the Contractor will immediately cease generation of further waste. Remaining boxes of debris will be organized in a manner that does not impede egress. The Contractor will notify the FDNY immediately and inform the FDNY's designated representatives of the situation and the location and quantity of all boxes of debris in the building. The Contractor will work diligently to resolve the emergency in an expeditious manner so that waste flow can resume."

This revision has also been made to Section 9.0:

"Remediation work processes will be controlled by the Contractor so that directly after Gaylord boxes are full and sealed, they will be moved from the work area, decontaminated and loaded into asbestos waste trailers. All full boxes will be moved out of the work area by the end of every day. In the event of an emergency where waste trailers are unavailable and boxes of debris will remain in the work area the Contractor will immediately cease generation of further waste. Remaining boxes of debris will be organized in a manner that does not impede egress. The Contractor will notify the FDNY immediately and inform the FDNY's designated representatives of the situation and the location and quantity of all boxes of debris in the building. The Contractor will work diligently to resolve the emergency in an expeditious manner so that waste flow can resume."

• 9.0 FIRE PROTECTION

19) This section indicates that fire-retardant sheetrock will be installed on the outer side of the decontamination facility enclosure. However, will any of the installed sheetrock be located on surfaces within the regulated abatement work area? If so, appropriate precautions must be included to protect the installed sheetrock from water damage within the work area. The work plan and variance petition documents must be appropriately revised.

The only part of the decons where the sheetrock enclosure will be exposed to the work area is on the doors of the Primary Waste Decontamination Facility.

The following revision has been made to Section 9.0:

"If any damage occurs to the sheetrock decontamination facility enclosures during remediation the damaged sheetrock will be repaired or replaced."

• ATTACHMENT XII - DECONTAMINATION FACILITY DIAGRAMS

20) Plan drawings DE03 and DE04 are provided in 8½"x11" format and a portion of the print is illegible. All plan drawings must be provided in a legible format.

Diagrams DE03 & DE04 have been provided in 11" x 17" format. Please refer to Attachment XII – Configuration of Decontamination Facility Chambers to view the enlarged diagrams. In addition, the text in these diagrams has been increased in size for legibility.

• NYS DOL ICR 56 VARIANCE PETITION

21) The chart provided for the answer to question 25 of the variance petition appears to be inaccurate. The listing of ICR 56 sections where relief is requested must be revised accordingly to reflect intended abatement procedures. Additional sections must be added (e.g. remote personal decons) and some sections deleted as necessary (e.g. 9.1(b, c, f)). A thorough analysis of necessary relief must be completed by the project designer and the variance petition revised appropriately.

The chart has been revised adding some subsections and deleting others as necessary. Please refer to the latest version of the variance petition chart to view these revisions.

Additional Comments from 3/3/08 Phone Call (Comments to Variance and Work Plan as Applicable):

1. Add reference to negative air installation prior to selective demolition where necessary (i.e., Var. Pg. 3 & WP).
Reference added.
2. Add reference to air clearance test results being received prior to encapsulation of the work area (i.e., Var. Pg. 7 & WP).
Reference added.
3. Remove reference to "...and Stair C." from Pg. 12 description of Clean Zone Clearance.
Reference removed.
4. Ditto comment #2 – Reference Var. Pg. 13 & WP.
Reference added.
5. Add reference that HEPA vacuum will be installed in Electrical closets for negative air if any access is required for repairs, etc. – Ref. Var. Pg. 13 & WP.
Reference added.
6. Ditto comment #1 – Reference Var. Pg. 15 & WP.
Reference added.
7. Where "Flexible Hose is referenced for negative air make-up systems, add "non-collapsible" as these hoses will be under negative pressure and thus, subject to collapse. Reference Var. Pg.16 & WP
Reference added.
8. Remove references to "Damper Assemblies" per earlier comment. Reference VAR. Pg. 17 & WP.
Reference removed.
9. Confer with FDNY on Signage or other safety requirements for first/second floor gash area staircase.
Per FDNY on 3/3/08, as this stair will be sealed with critical barriers, and will be neither marked as nor framed as an exit, no signage or other measures are necessary.
10. Replace reference to "Electrical Closet" with "Tent" in tent clearance testing section of Var. Pg. 30 and WP Section 6.12.2.
Replacement made.