

**INFORMATION SHEET #7**  
**MIT W85 – WESTGATE**  
**MARCH 6, 2008**

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This information sheet provides an update on the polychlorinated biphenyls (PCBs) abatement activities at the Westgate housing complex. As previously announced, PCBs have been detected in exterior building materials (i.e., caulking and adjacent concrete/brick) and some soil samples near the Westgate Complex. While an evaluation performed by MIT showed that leaving these materials in place without disturbing them does not present an imminent health risk, the PCBs could be transported to other locations or media (e.g., groundwater, surface water, or food sources). In addition, some of the PCB levels measured are above US Environmental Protection Agency (EPA) environmental thresholds for abatement/remediation. To be proactive, MIT is arranging to contain or remove these materials to achieve the EPA's stringent high occupancy or residential cleanup levels.

A full-scale pilot program of EPA-approved PCB remediation activities was undertaken from November 21 through December 29, 2007. The purpose of the pilot program was to evaluate the effectiveness of the proposed remediation methods prior to implementing the work at all of the Westgate buildings. The results of these activities were documented in a report that was submitted to EPA on February 27, 2008. This report also included a revised remediation plan to continue the activities at all of the Westgate buildings.

The major findings of the pilot test and the resultant changes in the remediation approach that have been proposed include:

- The caulking and brick removal using power tools generated an excessive amount of noise and disruption to the occupants. Based on discussions with the residents, accommodation measures were put in place; however, these were unsuccessful in effectively reducing the level of disruption and generated worker inefficiencies that led to a prolonged work schedule.
  - Revised Plan - The revised plan includes removing only the caulking. No brick or concrete removal is proposed. Instead, the bricks/concrete adjacent to the caulking will remain in place and be covered with a barrier. In addition, the work will be performed using only hand tools (no power tools). These measures will significantly reduce the level of noise and disruption experienced by residents.
- During the pilot test, a containment system sealed all the windows on both sides of the apartments. The inability to open the windows to control the temperature resulted in high temperatures within the units, which was a major concern for the affected residents.
  - Revised Plan – Abatement work will be done on only one side of the building at a time, so that windows on the other side of the units can be opened during the work.
- As a result of the building being under containment and applying the chemical washing following removal of the caulking, there was a nuisance odor at the exit point of the blowers and to a lesser extent within some units. Based on discussions with the residents, corrective measures were implemented during the work to help reduce these issues.
  - Revised Plan - The chemical washing will be conducted only on the horizontal surfaces (balconies) and only after the caulking has been replaced (to seal the joints). This will minimize both the amount of product that will be used and reduce the time of application. Because the caulking will have been removed and replaced,

the full containment of the work area will not be necessary. These revised measures should reduce the potential for nuisance odors.

As part of the remediation work, surface wipe samples were collected from several of the apartment units before and after the pilot project as part of the monitoring plan. A Q&A Fact Sheet discussing these samples and the results is attached to this Information Sheet.

In summary, the revised remediation approach proposed by MIT includes an expanded containment approach (covering in place) and less removal, thereby continuing to meet the remedial objectives while minimizing the level of disruption. This plan will ensure that there is little exposure to the residual levels of PCBs in the concrete or brick, which limits any risk to health or the environment. Because of this approach, the exterior of the building will have additional coatings (e.g., epoxy paints or metal plates) on select areas.

The remediation activities will not begin until after EPA approves our revised plan. Prior to starting up the full-scale work, another meeting will be held to share with you our final plans and schedules prior to starting the work. At this time, we anticipate conducting the remediation activities at the four low-rise buildings in 2008.

The MIT EHS Office, Housing Office, and the environmental medicine specialist at the Medical Department are available to answer questions. We will continue to communicate information as activities progress. Please direct any questions that you may have to Dennis Collins, Director of Housing [colins@mit.edu].

Additional information regarding PCBs is available on the web at:

<http://www.atsdr.cdc.gov/tfacts17.pdf>.

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This Question and Answer (Q & A) Fact Sheet provides further information regarding the samples collected from inside several of the apartment units during the pilot test activities performed at W85 ABC in November and December 2007. Please also refer to the November 6, 2007 Q & A Fact Sheet for additional information.

**“Why were samples collected from inside apartments?”**

As part of the monitoring activities during the pilot test, pre-remediation and post-remediation surface wipe samples were collected from representative surfaces inside apartment units and analyzed for PCBs. Samples were collected to establish a “baseline” from which to assess the potential for transport of exterior dust/particulates during the work. Surface “wipe” samples were collected using the EPA sampling method for surfaces, in which a special wipe material is rubbed over an area and the wipe is analyzed by a laboratory for PCBs.

**“Where were samples collected and how was this determined?”**

Samples were collected in four apartments as well as in the southern stairwell of W85A. The sample locations included three units in the portion of the building subject to the pilot test (W85A) and one unit where no remedial activities were occurring (W85C). Within the W85A portion of the building, one unit was selected from each floor of the building.

**“Where inside the apartment were samples collected and what do the data show?”**

At each apartment, three separate rooms (bedroom, living room, and kitchen) were sampled and samples were collected from three surfaces in these rooms (window sills, lower portion of the walls, and floor), for a total of nine samples per apartment. Analytical results for wipe samples are reported in micrograms ( $\mu\text{g}$ ) of PCBs per sample surface area ( $100\text{ cm}^2$ ). EPA sets a cleanup level of  $10\ \mu\text{g}/100\text{ cm}^2$  for this type of sampling in “high occupancy” locations, such as residential areas.

No PCBs were detected in the vast majority of the samples from the wall and floor locations in any of the apartments. Each of these surfaces had only one sample out of 12 with any detectable PCBs, and these detections were extremely low. For the wall location, the one detection was  $0.5\ \mu\text{g}/100\text{ cm}^2$  and for the floor location,  $0.3\ \mu\text{g}/100\text{ cm}^2$ . PCBs were detected in the floor samples from the southern stairwell at  $3\ \mu\text{g}/100\text{ cm}^2$ .

PCBs were detected most frequently on the window sills (13 out of 15 samples), including a previous round of samples. Ten of the thirteen samples that detected PCBs were below the EPA standard of  $10\ \mu\text{g}/100\text{ cm}^2$  described above. The three samples that exceeded the standard were collected from the same apartment unit and upon re-collection only one sample exceeded EPA’s clean-up level.

Following the pilot test activities, the windows and sills in the W85A apartments were cleaned by MIT Housing personnel (assuming access and request) with a commercial cleaning product. Following this typical “housekeeping” cleaning, the cleaned sills were re-tested in the unit that had the sample over the cleanup standard. Results indicated that PCB concentrations in this apartment were below EPA’s cleanup level after the cleaning.

**“Is there a health risk from exposure to PCBs on interior surfaces?”**

A focused risk assessment was performed to evaluate potential health risks for apartment occupants based on the sample data collected. To be conservative, the surfaces expected to collect the greatest amount of dust and/or have the highest exposure potential for a young child were selected for sampling and evaluation. Also, to be conservative, a child/toddler was selected as the most sensitive potential receptor.

Health risks were estimated for exposures ranging from 1 year of residency (i.e., a 1-2 year old) to an upper bound residency time of 7 years (children spanning ages 1-8 years) as this population comprises the most sensitive population. This population has the greatest dose due to higher hand-to-mouth activity and a lower body weight (dose is calculated as milligrams of PCB per kilogram of body weight per day). Exposure was calculated based on contact with sills, walls, and floors.

The results of the assessment indicated that the detected concentrations do not pose a significant health risk for the occupancy periods evaluated, which assumed that the same children/families would be living in the same apartment for up to seven years. That is a far longer period of time than the 2 year occupancy period that is common for these apartments. The very low potential health risks estimated for PCBs on interior surfaces, using conservative exposure assumptions and toxicological values, are consistent with or even lower than the health impacts associated with “background” exposures such as consumption of PCBs in fish or other dietary exposures.

**“What is being planned to minimize exposure to PCBs?”**

As described previously, remediation of all of the W85 low-rise buildings is scheduled to be conducted in 2008. As part of these activities, a general cleaning of the window sills in the apartment units will be incorporated in the proposed remediation scope of work.