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MEMORANDUM

TO: Brian Fitzpatrick, University of Massachusetts
FROM: Max Chang, Environmental Health & Engineering
DATE: May 15, 2007
RE: Project Synopsis (EH&E 15066)

In July 2006, contractors working for the University of Massachusetts Amherst (UMass) collected samples from exterior concrete panel joint components in preparation for a planned structural rehabilitation and renovation project of the three towers and low-rise building of the Lederle Graduate Research Center (LGRC). Sample results indicated the presence of polychlorinated biphenyls (PCBs) of exterior caulking materials associated with Tower A and the low-rise building above the allowable concentrations (50 parts per million [ppm]) specified by the U.S. Environmental Protection Agency (EPA) in the Toxic Substances Control Act (TSCA) regulations.

The caulking found on the outside of Tower A and the low-rise building ranged from 57,000 to 74,000 ppm in samples collected by Environmental Health & Engineering, Inc. (EH&E). Under TSCA, the caulking associated with the two buildings is PCB bulk product waste, and the surfaces in contact with the caulking are classified as PCB remediation waste. In contrast, caulking associated with the exterior of Towers B and C, which were built after Tower A and the low-rise, ranged from (0.2 to 3.3 ppm). As a result, the planned renovation work on those two towers could proceed as scheduled.

INDOOR EXPOSURES

In order to address occupant concerns over the discovery of PCBs in caulking, EH&E conducted indoor air and wipe samples of all three towers and the low-rise building. Indoor air from Towers A, B, and C were well below published regulatory guidelines (National Institute for Occupational Safety and Health [NIOSH], one microgram per cubic meter [$\mu\text{g}/\text{m}^3$]) for indoor air

concentrations. Initial indoor air concentrations in the engineering library slightly exceeded the NIOSH guideline. Immediate ventilation adjustments and the subsequent installation of temporary backer rods to fill the joints in the building envelope were successful in reducing air concentrations in the library well below the NIOSH guideline. Subsequent sampling rounds confirmed the success of these temporary measures.

Wipe samples collected from exposed surfaces inside Tower A and the low-rise were generally well below the EPA's acceptance criterion of 10 micrograms per 100 square centimeters ($\mu\text{g}/100\text{ cm}^2$). One sample taken from a window ledge in the library of the low-rise tested at $34\ \mu\text{g}/100\text{ cm}^2$. This area may have been impacted by pressure washing activities conducted on the outside of the building. Subsequent cleaning of library surfaces resulted in levels of PCBs that were well below $10\ \mu\text{g}/100\text{ cm}^2$.

SOILS

The Massachusetts Department of Environmental Protection (MADEP), under the authority of the Massachusetts Contingency Plan (MCP) have been notified that the caulking came into contact with the soils surrounding the complex. The affected areas were secured with a fence shortly after the soil contamination was discovered. Ongoing assessments of soil and sediment conditions have been conducted in compliance with both MCP and TSCA requirements. Ultimately, the soils surrounding LGRC will be abated upon completion of the building abatement.

WORK PLAN

In February 2007, EH&E prepared and submitted an abatement work plan for EPA approval to address the presence of the approximate 48,500 linear feet of unauthorized PCB caulking.

Decontamination procedures and acceptance criteria are documented in detail in the work plan. The plan is consistent with regulatory requirements and EH&E's experience with similar projects. These procedures have been designed to remove specified PCB-containing caulking from the buildings. As part of the abatement process, workers will remove concrete in contact with the caulking and will clean metal window frames that contact the caulking. All of the work

will be conducted in a manner that is protective to building occupants, workers, and the environment.

This work plan has been received, reviewed, and is consistent with other abatement projects approved by the EPA Region One PCB Coordinator.

ACCEPTANCE CRITERIA

The work plan documents post-abatement visual inspections and applicable confirmatory bulk, wipe, and air sampling to verify completeness of the abatement project. EH&E will use the following EPA approved acceptance criteria.

- The concentration of PCBs in remaining concrete surfaces on the first floor will be at or below one ppm.
- The concentration of PCBs in remaining concrete surfaces above the first floor will be at or below 25 ppm.
- The concentration of PCBs remaining on non-porous window frames on the first floor will be at or below 10 $\mu\text{g}/100\text{ cm}^2$.
- The concentration of PCBs remaining on non-porous window frames above the first floor will be at or below 100 $\mu\text{g}/100\text{ cm}^2$.
- Air concentration in the two buildings will be at or below 0.29 $\mu\text{g}/\text{m}^3$.

CURRENT STATUS

The EPA has provisionally approved the work plan, contingent on the outcome of an occupant meeting scheduled for May 23, 2007. This meeting, which the EPA will attend, has been scheduled to accommodate inquiries from occupant groups over the work plan.

DOCUMENTATION

To date, the following documents have been provided to EPA and MADEP to satisfy applicable regulatory reporting requirements.

- Implementation of Immediate Response Actions, Lederle Graduate Research Center, 710 and 740 North Pleasant Street, University of Massachusetts, Amherst, Massachusetts—MADEP RTN 1-16269, dated September 13, 2006
- Findings of Polychlorinated Biphenyls (PCBs) in Caulking from Towers B and C, Lederle Graduate Research Center, University of Massachusetts, Amherst, Massachusetts, dated September 19, 2006
- *Preliminary Report of Building-Related Polychlorinated Biphenyls Assessment Lederle Graduate Research Complex University of Massachusetts, Amherst, Massachusetts*, dated October, 12, 2006
- Immediate Response Action Status Report Lederle Graduate Research Center University of Massachusetts Amherst, Massachusetts RTN: 1-16269, dated November 15, 2006
- Lederle Graduate Research Complex Tower A and Low-rise University of Massachusetts Amherst, Massachusetts Plan for the Removal And Abatement of Building-Related Polychlorinated Biphenyls (PCBs), dated February 21, 2007
- Additional Indoor Sample Results Lederle Graduate Research Complex University of Massachusetts Amherst, Massachusetts, dated February 21, 2007
- Addendum to Comments for the Alternative Abatement Application Under 40 CFR §761.79(h) for Tower A and the Low-rise Building of the Lederle Graduate Research Center, Amherst, Massachusetts, dated March 22, 2007