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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I
5 POST OFFICE SQUARE, SUITE 100
BOSTON, MASSACHUSETTS 02109-3912

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

NOV 0 9 2011

Pamela Choi Redfern, AIA
Director of Capital Projects
School of Engineering and Applied Sciences
Harvard University
Pierce Hall
29 Oxford Street
Cambridge, Massachusetts 02138

Re: PCB Risk-Based Disposal Approval under 40 CFR § 761.61(c) and § 761.79(h)
58 Oxford Street, Cambridge, Massachusetts

Dear Ms. Redfern:

This is in response to the President and Fellows of Harvard College (Harvard) Notification[1] for approval of a proposed PCB cleanup at its building known as the Engineering Sciences Laboratory located at 58 Oxford Street in Cambridge, Massachusetts (the Site). Specifically, the Site has PCB caulk that exceeds the allowable PCB levels under the federal PCB regulations at 40 CFR § 761.20 and § 761.62.

Harvard has conducted a performance-based disposal under 40 CFR § 761.61(b) and § 761.62(a) for interior PCB caulk and associated concrete masonry unit (CMU) wall sections. To address the remaining PCB containing exterior caulk identified around 4 exterior doors and at the gas cylinder storage shed, Harvard has submitted a PCB cleanup and disposal plan under 40 CFR under §§ 761.61(a) and (c). Harvard is proposing the following activities under this project:

- Remove and dispose of all exterior PCB caulk with greater than or equal to (≥) 50 parts per million (ppm);
- Remove and dispose of the gas cylinder storage building as a ≥50 ppm PCB waste;
- Encapsulate exterior caulk joints with two (2) coats of an epoxy coating;

[1] Information was prepared by Woodard & Curran on behalf of Harvard to satisfy the requirements under 40 CFR §§ 761.61(c) and 761.79(h). Information was submitted dated April 2011 (SIP); and, October 28, 2011 (via e-mail additional PCB sampling data with encapsulation provision). These submittals shall be referred to as the "Notification".

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- Encapsulate exterior structural concrete surfaces with 2 coats of an acrylic coating;
- Remove and dispose of metal door frame components in direct contact with PCB caulk as a ≥50 ppm PCB waste;
- Implement long term maintenance and monitoring of the encapsulated areas; and,
- Record a deed notice to document the PCB concentrations at the Site and the long-term maintenance and monitoring requirements.

Based on the EPA's review, the information provided in the Notification meets the requirements under 40 CFR § 761.61, § 761.62, and § 761.79(h) for cleanup and disposal of PCB wastes. EPA finds that the proposed encapsulation of PCB-contaminated *porous surfaces* with an epoxy and/or acrylic coating should effectively prevent direct exposure of these PCB surfaces to building users. As such, EPA may approve the encapsulation under § 761.61(c).

Harvard may proceed with its project in accordance with 40 CFR § 761.61(c); § 761.62; § 761.79(h); its Notification; and this Approval, subject to the conditions of Attachment 1.

Under this Approval, EPA is reserving its right to require additional mitigation measures should the results of the long-term sampling indicate that an unreasonable risk to building users remains following the abatement activities.

Questions and correspondence on this Approval should be directed to:

Kimberly N. Tisa, PCB Coordinator
United States Environmental Protection Agency
5 Post Office Square, Suite 100 (OSRR07-2)
Boston, Massachusetts 02109-3912
Telephone: (617) 918-1527
Facsimile: (617) 918-0527

EPA shall not consider this project complete until it has received all submittals required under this Approval. Please be aware that upon EPA receipt and review of the submittals, EPA may request any additional information necessary to establish that the work has been completed in accordance with 40 CFR Part 761, the Notification, and this Approval.

Sincerely,

Nancy Barmakian for

James T. Owens III, Director
Office of Site Remediation & Restoration

cc: J. Hamel, Woodard & Curran
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Attachment 1

ATTACHMENT 1:

PCB RISK-BASED DISPOSAL APPROVAL CONDITIONS
HARVARD ENGINEERING SCIENCES LABORATORY
58 OXFORD STREET ("the Site")
CAMBRIDGE, MASSACHUSETTS

GENERAL CONDITIONS

1. This Approval is granted under the authority of Section 6(e) of the Toxic Substances Control Act (TSCA), 15 U.S.C. § 2605(e), and the PCB regulations at 40 CFR Part 761, and applies solely to the *PCB bulk product waste* and the *PCB remediation waste* located at the Site and identified in the Notification[2].

2. The President and Fellows of Harvard College (Harvard) shall conduct on-site activities in accordance with the conditions of this Approval and with the Notification.

3. In the event that the cleanup plan described in the Notification differs from the conditions specified in this Approval, the conditions of this Approval shall govern.

4. The terms and abbreviations used herein shall have the meanings as defined in 40 CFR § 761.3 unless otherwise defined within this Approval.

5. Harvard must comply with all applicable federal, state and local regulations in the storage, handling, and disposal of all PCB wastes, including PCBs, PCB Items and decontamination wastes generated under this Approval. In the event of a new spill during implementation of these cleanup activities, Harvard shall contact EPA within 24 hours for direction on PCB cleanup and sampling requirements.

6. Harvard is responsible for the actions of all officers, employees, agents, contractors, subcontractors, and others who are involved in activities conducted under this Approval. If at any time Harvard has or receives information indicating that Harvard or any other person has failed, or may have failed, to comply with any provision of this Approval, it must report the information to EPA in writing within 24 hours of having or receiving the information.

7. This Approval does not constitute a determination by EPA that the transporters or disposal facilities selected by Harvard are authorized to conduct the activities set forth in the Notification. Harvard is responsible for ensuring that its selected transporters and disposal facilities are authorized to conduct these activities in accordance with all applicable federal, state and local statutes and regulations.

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[2] Information was prepared by Woodard & Curran on behalf of Harvard to satisfy the requirements under 40 CFR §§ 761.61(c) and 761.79(h). Information was submitted dated April 2011 (SIP); and, October 28, 2011 (via e-mail additional PCB sampling data with encapsulation provisions). These submittals shall be referred to as the "Notification".

8. This Approval does not: 1) waive or compromise EPA's enforcement and regulatory authority; 2) release Harvard from compliance with any applicable requirements of federal, state or local law; or 3) release Harvard from liability for, or otherwise resolve any violations of federal, state or local law.

NOTIFICATION AND CERTIFICATION CONDITIONS

9. This Approval may be revoked if the EPA does not receive written notification from Harvard of its acceptance of the conditions of this Approval within 10 business days of receipt.

CLEANUP AND DISPOSAL CONDITIONS

10. To the maximum extent practical, engineering controls, such as barriers, and removal techniques, such as the use of HEPA ventilated tools, shall be utilized during removal processes. In addition, to the maximum extent possible, disposable equipment and materials, including PPE, will be used to reduce the amount of decontamination necessary.

11. PCB-contaminated materials shall be removed and/or decontaminated, and verification sampling and analysis shall be conducted as described below:

    a. All visible PCB caulk shall be removed.

    b. Following encapsulation of exterior PCB-contaminated surfaces, post-abatement sampling shall be conducted to determine the impact of the cleanup and disposal activities:

        i) Wipe sampling of exterior surfaces shall be performed on a surface area basis by the standard wipe test as specified in 40 CFR § 761.123 (i.e. $\mu g/100\ cm^2$) and at the frequency detailed in the Notification.

        ii) Chemical extraction for PCBs shall be conducted using Method 3500B/3540C of SW-846 and chemical analysis for PCBs shall be conducted using Method 8082 of SW-846, unless another method(s) is validated according to Subpart Q.

        ii) Harvard shall submit a monitoring and maintenance implementation plan (MMIP) to monitor the long-term effectiveness of the encapsulants and and/other barriers in reducing exposure to building users (see Condition 17).

12. PCB waste (at any concentration) generated as a result of the activities described in the Notification, excluding any decontaminated materials, shall be marked in accordance with CFR 40 CFR § 761.40; stored in a manner consistent with 40 CFR § 761.65; and, disposed of in accordance with 40 CFR § 761.61 or § 761.62, unless otherwise specified below.

    a. Decontamination wastes and residues shall be disposed of in accordance with 40 CFR § 761.79(g)(6).

    b. Moveable equipment, tools, and sampling equipment shall be decontaminated in accordance with either 40 CFR § 761.79(b)(3)(i)(A), § 761.79(b)(3)(ii)(A), or § 761.79(c)(2).

    c. PCB-contaminated water generated during decontamination shall be decontaminated in accordance with 40 CFR § 761.79(b)(1) or disposed of under § 761.60.

DEED RESTRICTION AND USE CONDITIONS

13. Within 60 days of completion of the activities described in the Notification and authorized by this Approval, and as required under § 761.61(a)(8)(i)(B), Harvard shall submit to EPA a certification, signed by an approving official, that the notation on the deed has been recorded as required under § 761.61(a)(8)(i)(A). A copy of the notation on the deed must also be submitted. The notation on the deed shall include: a description of the extent and levels of contamination at the Site following remediation; a description of the actions taken at the Site; a description of the use restrictions for the Site; and the long-term monitoring and maintenance requirements on the Site. The long-term monitoring and maintenance shall include: a description of the activities that will be conducted, including inspection criteria, frequency, and routine maintenance activities; sampling protocols, sampling frequency, and analytical criteria; and EPA reporting requirements (see Condition 17).

14. Harvard and any subsequent owner, lessee, or transferee seeking the benefit of this Approval, shall notify the EPA of the sale, lease or transfer of any portion of the Site, in writing, no later than thirty (30) days prior to any sale, lease or transfer. This notification shall include the name, address, and telephone number of the new owner(s), lessee(s) or transferee(s). In the event that Harvard sells, leases, or transfers any portion of the Site, Harvard shall continue to be bound by all the terms and conditions of this Approval, except as provided below. EPA may allocate some or all of this Approval's responsibilities to a new owner, lessee or transferee through the issuance of a modification of this Approval ("New Owner Modification") as follows:

a. Harvard and the new owner(s), lessee(s) or transferee(s) must request, in writing, that the EPA issue a New Owner Modification to the new owner(s), lessee(s) or transferee(s) which transfers some or all responsibilities to comply with the terms and conditions of this Approval to that entity or entities;

b. The EPA reviews the request, and determines whether to issue a New Owner Modification;

c. EPA provides a draft New Owner Modification for comment by the requesting party(ies) and, following its receipt and review of any written comments, EPA shall provide the final New Owner Modification to the party(ies); and,

d. The new owner(s), lessee or transfer entity provides written notification to the EPA of its acceptance of and intention to comply with the terms and conditions of the final New Owner Modification. The New Owner Modification may be withdrawn if the EPA does not receive written notification from the new owner(s), lessee(s) or transferee(s) of its acceptance of, and intention to comply with, the terms and conditions of the New Owner Modification within thirty (30) days of the date of the New Owner Modification. Under such circumstances, all terms and conditions of this Approval will continue to be binding on Harvard.

15. In the event that the sale, lease or transfer of the Site will involve or result in a change in the use of the Site, EPA may revoke, suspend, and/or modify this Approval or the New Owner Modification if it finds, due to the change in use, that this risk-based action will not be protective of health or the environment. The new owner shall record any amendment to the deed restriction, resulting from any approved modification(s), within sixty (60) days of such change(s). To be effective in amending the original deed restriction as it may apply to Harvard, the New Owner must secure the agreement and consent of Harvard to amend the deed restriction, and obtain any necessary subordinations of prior recorded interests that may be affected by the terms of the amended deed restriction.

16. In any sale, lease or transfer of the Site, Harvard shall retain sufficient access rights to enable it to continue to meet the obligations under this Approval for long-term maintenance and monitoring of the Site, except as provided otherwise in a re-issued approval.

INSPECTION, MONITORING, MODIFICATION AND REVOCATION CONDITIONS

17. Within 120 days of completion of the work authorized under this Approval, Harvard shall submit for EPA's review and approval, a detailed MMIP for the surface encapsulants and barriers, as applicable. Harvard shall incorporate any changes to the MMIP required by EPA.

a. The MMIP shall include: a description of the activities that will be conducted, including inspection criteria, frequency, and routine maintenance activities; sampling protocols, sampling frequency, and analytical criteria; and reporting requirements.

b. The MMIP shall include a communications component which details how the maintenance and monitoring results will be communicated to the Site users, including building users, other on-site workers, and interested stakeholders.

c. The MMIP also shall include a worker training component for maintenance workers or for any person that will be conducting work that could impact the building coatings/barriers.

d. Harvard shall submit the results of these long-term monitoring and maintenance activities to EPA. Based on its review of the results, EPA may determine that modification to the MMIP is necessary in order to monitor and/or evaluate the long-term effectiveness of the coatings and/or barriers.

e. Activities required under the MMIP shall be conducted until such time that EPA determines, in writing, that such activities are no longer necessary.

18. Any modification(s) in the plan, specifications, or information submitted by Harvard, contained in the Notification, and forming the basis upon which this Approval has been issued, must receive prior written approval from the EPA. Harvard shall inform the EPA of any modification, in writing, at least ten (10) days prior to such change. No action may be taken to implement any such modification unless the EPA has approved of the modification, in writing. The EPA may request additional information in order to determine whether to approve the modification.

If such modification involves a change in the use of the Site which results in exposures not considered in the Notification, the EPA may revoke, suspend, and/or modify this Approval upon finding that this cleanup and disposal action may pose an unreasonable risk of injury to health or the environment due to the change in use. EPA may take similar action if the EPA does not receive requested information needed from Harvard to make a determination regarding potential risk.

19. Any departure from the conditions of this Approval without prior, written authorization from the EPA may result in the revocation, suspension and/or modification of the Approval, in addition to any other legal or equitable relief or remedy the EPA may choose to pursue.

20. Any misrepresentation or omission of any material fact in the Notification or in any records or reports may result in the EPA's revocation, suspension and/or modification of the Approval, in addition to any other legal or equitable relief or remedy the EPA may choose to pursue.

21. Approval for these activities may be revoked, modified or otherwise altered: if EPA finds a violation of the conditions of this Approval or of 40 CFR Part 761, including EPA's PCB Spill Cleanup Policy, or other applicable rules and regulations; if EPA finds that these activities present an unreasonable risk to public health or the environment; or if EPA finds that there is migration of PCBs from the Site. Harvard may apply for appropriate modifications in the event new rules, standards, or guidance comes into effect.

22. Harvard shall allow any authorized representative of the Administrator of the EPA to inspect the Site and to inspect records and take samples as may be necessary to determine compliance with the PCB regulations and this Approval. Any refusal by Harvard to allow such an inspection (as authorized by Section 11 of TSCA) shall be grounds for revocation of this Approval.

RECORDKEEPING AND REPORTING CONDITIONS

23. Harvard shall prepare and maintain all records and documents required by 40 CFR Part 761, including but not limited to the records required under Subparts J and K. A written record of the decontamination and the analytical sampling shall be established and maintained by Harvard in one centralized location, until such time as EPA approves in writing a request for an alternative disposition of such records. All records shall be made available for inspection to authorized representatives of EPA.

24. As required under Condition 17 of this Approval, Harvard shall submit the results of the long-term monitoring and maintenance activities to EPA as specified in the final MMIP to be approved by EPA.

25. Harvard shall submit a Final Completion Report (Report) to the EPA within 120 days of completion of the activities described under this Approval. At a minimum, this Report shall include: a discussion of the project activities, including any modifications that were made to the cleanup plan; characterization and post-abatement sampling analytical results; copies of the accompanying analytical chains of custody; field and laboratory quality control/quality assurance checks; an estimate of the quantity of PCBs removed and disposed off-site; copies of manifests and/or bills of lading; and, copies of certificates of disposal or similar certifications issued by the disposer, if applicable.

26. Required submittals shall be mailed to:

Kimberly N. Tisa, PCB Coordinator
United States Environmental Protection Agency
5 Post Office Square, Suite 100 (OSRR07-2)
Boston, Massachusetts 02109-3912
Telephone: (617) 918-1527
Facsimile: (617) 918-0527

27. No record, report or communication required under this Approval shall qualify as a self-audit or voluntary disclosure under EPA audit, self-disclosure or penalty policies.

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END OF ATTACHMENT 1