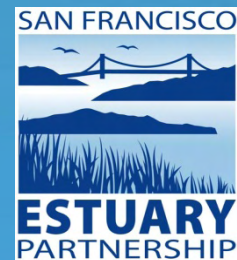


SFEP PCBs in Caulk Project

Developing a Process to Manage PCBs in Caulk
during Building Demolition/Renovation
in the San Francisco Bay Area

October 26, 2010
Second Stakeholder Meeting



Overview of Day

- PCBs in Caulk Project objectives
- Project status
- Overview of the Best Management Practice tools
- Overview of the Model Implementation Process tools
- Open discussion

Why are we doing this Project

- Caulk is a flexible material used to seal gaps to make windows, door frames, masonry and joints in buildings and other structures watertight or airtight.
 - When structures containing PCB caulk are remodeled or demolished, caulk pieces and particles are released onto the ground and can be washed off by urban runoff
- The San Francisco Bay has been identified as impaired due to elevated levels of PCBs in sports fish.
- The MRP requires Bay Area municipalities to take a series of actions to control PCBs in urban runoff.

Project objectives for today's discussion

- I. Develop Bay Area specific BMPs to prevent the release of PCBs from building materials at demolition/renovation, including window replacement
 - Focus on methods to identify, handle, contain, transport, and properly dispose of PCB-containing building materials
- II. Develop a Model Implementation Process
 - Create model tools and processes to assist municipalities prevent the release of PCBs from building materials at building demolition/renovation

Preliminary Best Management Practices to Address PCBs in Caulk

Overview



- Objective
- Steps in identifying and refining BMPs
- Approach to identifying BMPs
- BMP categories
- Sequence for implementing BMPs
- Description of BMPs

Objective

- Focus on methods to identify, handle, contain, transport, and properly dispose of PCB-containing building materials
 - Identify and describe candidate BMPs
 - Qualitatively rank BMPs
 - Recommend selected BMPs

Steps in Developing BMP Recommendations

- Step 1: Develop preliminary BMPs based on available information
- Step2: Pilot test BMPs at 5 sites (MRP provision C.12.b.ii(4))
- Step 3: Develop final recommended BMPs based on lessons learned from pilot tests

Who would implement BMPs?

- These are BMPs that would be implemented by Owner/Contractor at project site.
- BMPs and other activities that would be implemented by municipalities addressed in Model Implementation Process (MIP)

Approach to identifying BMPs

- Internet Search
 - USEPA Guidance
 - California Department of Toxic Substance Control (DTSC)
 - California Construction BMP Handbook
- Geosyntec staff experience

BMP Categories

1. Building occupant notification
2. Worker training
3. Personal protective equipment (PPE)
4. Work area containment
5. Tools and equipment
6. Demolition
7. Temporary erosion control
8. Work area housekeeping
9. Transport and disposal

1. Building Occupant Notification

- Identify, notify, and update building occupants, neighbors, or other potentially affected parties of
 - Goals, types and length of renovation activities,
 - Health and safety considerations and practices, and
 - Site access requirements and limitations.

2. Worker Training

- Required by Occupational Safety and Health Administration
- Training topics
 - Worker rights
 - Hazards
 - Safety measures to prevent injury
 - Measures to prevent exposure to hazardous materials

3. Personal Protective Equipment

- OSHA PPE standard requires employer to assess hazards and ensure that workers use appropriate PPE, including:
 - Chemical-resistant gloves
 - Tyvek® disposable coveralls and shoe covers
 - Safety glasses or protective goggles
 - Respiratory protection



4. Work Area Containment

- In order to minimize dust spreading beyond immediate work area, setup containment areas that
 - Isolate work area (e.g., with plastic sheeting)
 - Seal off vents into the work area
 - Use vacuum to create negative pressure and collect dust in vacuum
 - Create decontamination areas for workers to remove dust when exiting containment area



5. Tools and Equipment

- Select tools and equipment that generate lowest dust volume
- Avoid use of heat to assist removal
- Use HEPA vacuum attachments to tools to reduce dust generation
- Use wet sanders and mister to control dust created from sanding, drilling and cutting



6. Demolition BMPs

- Wet material prior to, during, and following demolition.
- Spray areas where excavators are razing parts of a building to limit the generation of dust and its subsequent transport by wind.
- Wetting activities should be designed to avoid runoff and unauthorized non-stormwater discharge, which otherwise would require discharge to sanitary sewer.

7. Erosion and Sediment Control

- Applicable California Construction BMP Handbook Fact Sheets
 - Wind Erosion Control (WE-1)
 - Stabilized Construction Entrance/Exit (TC-1)
 - Stockpile Management (WM-3)
 - Hazardous Waste Management (WM-6)
 - Contaminated Soil Management (WM-7)
 - Concrete Waste Management (WM-8)
 - Demolition Adjacent to Water (NS-15)
 - Paving and Grinding Operations (NS-3)

8. Work Area Housekeeping

- On a daily basis, contractors should:
- Pick up as you go. Put trash in heavy-duty plastic bags.
- Use covered and lined trash containers, and remove material from site on regular basis.
- Vacuum the work area with a HEPA vacuum cleaner frequently during the day and at the end of the day.
- Clean tools at the end of the day.
- Dispose of or clean off your personal protective equipment.

9. Transport and Disposal

- Transporter must hold a valid registration issued by the Department of Toxic Substances Control (DTSC).
- Specific requirements include
 - training,
 - registration,
 - insurance, and
 - manifesting/record keeping.

9. Transport and Disposal

- California hazardous waste, defined as bulk material with PCB concentrations greater than or equal to the TTLC of 50 ppm or the STLC of 5 ppm, must be sent to a hazardous waste facility that has been permitted by the CA DTSC.
- Permitted facilities are contained in DTSC's Envirostor database that includes commercial offsite hazardous waste facilities.
- Non-liquid cleaning materials and PPE waste from cleanup activities, also must be disposed of in these facilities

Preliminary Municipal Implementation Process

MIP Introduction

- The Model Implementation Process (MIP) is intended to provide municipal staff with tools to assist in implementing a PCB runoff prevention program
 - The MIP is focuses on water quality protection, complementing EPA and DTSC requirements
 - The MIP does not ask municipalities to oversee human health protection
 - The MIP does not ask municipalities to oversee PCB remediation of contaminated materials or lands or to set up clean-up standards

Overview of Process

1. Initial Encounter

- Explain PCB demolition or renovation project process

2. Permit Issuance

- Identify if structure may have PCBs in caulk
- Review caulk sampling results
- Receive PCB Runoff Prevention Plan

3. Project Implementation

- Inspections or Inspection documentation review

4. Project Close-out

- Remediation completion certification
- Proper waste disposal

Initial Encounter



Municipal Actions

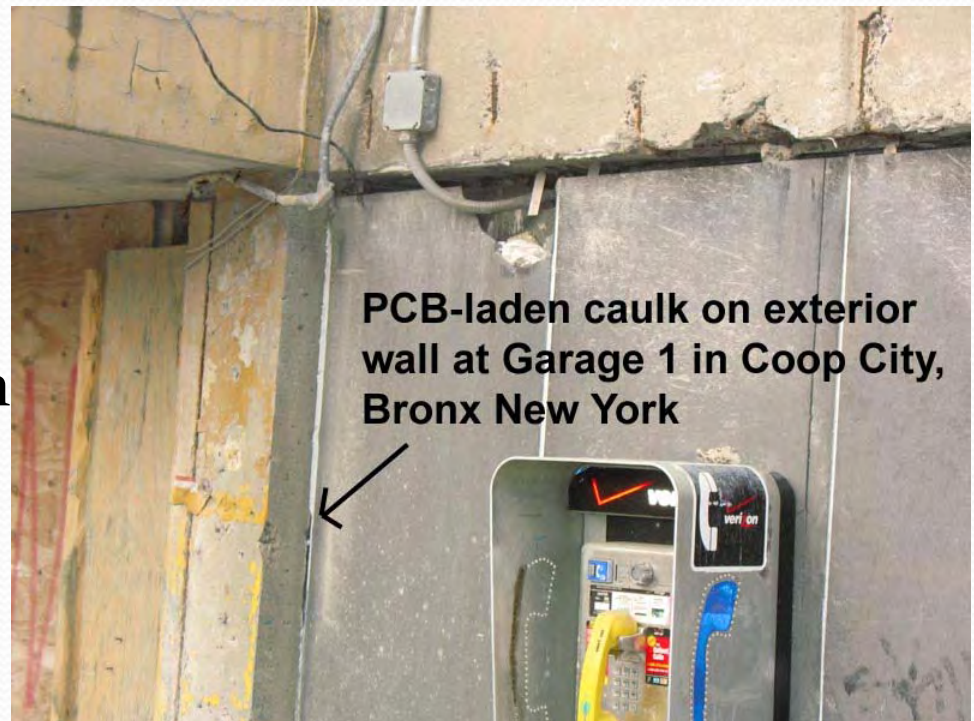
- Explain process to project proponents
- Direct project proponent to PCBs in Caulk Assessment Checklist
 - Explains which structures may contain PCBs in caulk
 - Gives background on PCB impairment of waterways
 - Walks project proponents through process and information to submit to municipality
 - Identifies when EPA needs to be contacted
 - Directs project proponents to other regulations that must be met if PCBs are above thresholds

Permit Issuance



Project Proponent Actions

- Submit Structure Type/Age Certification Form
- If structure may contain PCBs in caulk, submit PCB Sampling Report
- If PCBs in caulk are ≥ 50 ppm:
 - Submit a PCB Runoff Prevention Plan
 - Develop a remediation plan with the EPA



PCB-laden caulk on exterior wall at Garage 1 in Coop City, Bronx New York

PCB Runoff Prevention Plan

- Tool to describe, in a single document, the measures to protect water quality during the project
- Describes the EPA-required clean-up plan
- Describes site-specific application of BMPs
- Includes inspection schedule

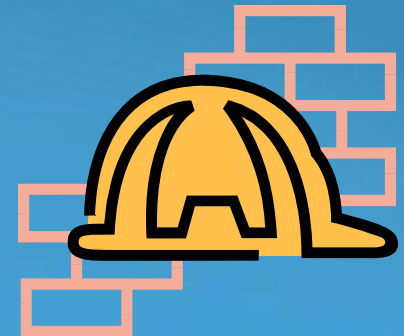


Containment (Source: EPA)

Municipal Actions

Template Structure Type/Age Certification Form PCB Demolition or Renovation Project			
Permit ID #:	Project Name:		
Job Site Address: <input style="width: 100px;" type="text"/>	City: <input style="width: 100px;" type="text"/>	Zip Code: <input style="width: 100px;" type="text"/>	
Owner's name: <input style="width: 100px;" type="text"/>	Telephone: <input style="width: 100px;" type="text"/>	Fax: <input style="width: 100px;" type="text"/>	
Owner's Address: <input style="width: 100px;" type="text"/>	City: <input style="width: 100px;" type="text"/>	Zip Code: <input style="width: 100px;" type="text"/>	
Type of structure: <input type="checkbox"/> commercial <input type="checkbox"/> institutional <input type="checkbox"/> residential high density ¹ Is the structure concrete or masonry construction? <input type="checkbox"/> yes <input type="checkbox"/> no Year structure was constructed: _____ If the structure was constructed in phases over several years, list each phase in the space below with the year the phase was completed Phase: _____ Year Completed: _____ Phase: _____ Year Completed: _____ Phase: _____ Year Completed: _____			
If major window renovations have occurred, enter the year(s) of the renovation(s): _____, _____, _____			
I certify that the above information is, to the best of my knowledge and belief, true, accurate, and complete. Signature: _____ Date: _____ Name: _____ Title: _____			
¹ High density residential buildings are those with 100 or more units			

Project Implementation



Inspections During Project

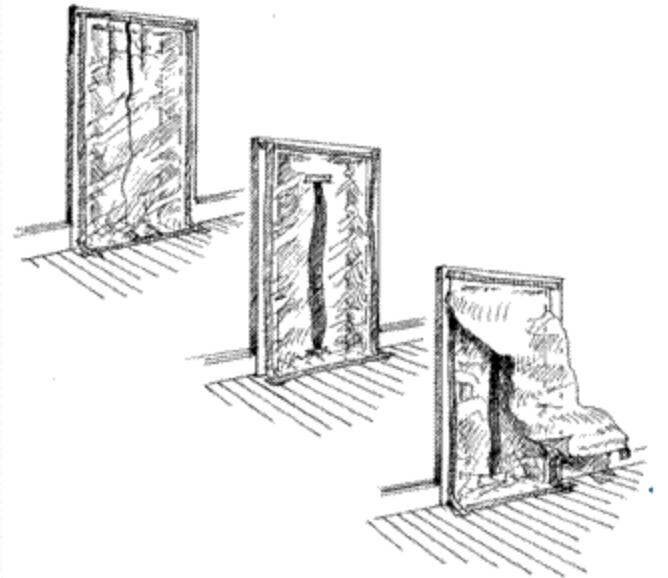


Outreach BMP: Signs designate work area
(Source: EPA)

- Project proponent inspections as identified in PCB Runoff Prevention Plan
- Municipal inspections (optional)
- Goal is to ensure water quality BMPs are in place and being maintained

Inspection Form – During Project

- Project Information
- Water quality visual inspection
- BMP inspections
- Deficiencies / Corrective actions
- Self certification



Containment BMP. (Source: EPA)

Inspections – Project Completion

- Project information
- Housekeeping BMP inspections
- Deficiencies / Corrective actions
- Self certification



Housekeeping BMP: Vacuum area with HEPA vacuum cleaner (Source: EPA)

Project Close-out



Project Proponent Actions



- PCB Clean-up Completion Summary Report
 - EPA PCB Clean-up Plan completed
 - Waste characterization
 - EPA PCB Clean-up Plan clean-up standard required
 - PCB concentrations in remaining exposed surfaces (e.g., soil, concrete, wood)

Municipal Actions

- Building Staff can add the checklist below to standard close-out checklist
- Municipality can also require the project proponent to submit a copy of a close-out report

Template Building Staff Permit Termination Checklist

- | | | |
|--|------------------------------|-----------------------------|
| <input type="checkbox"/> PCB Clean-up Completion Summary Report Received | | |
| EPA Cleanup Plan completed | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| PCB Runoff Prevention Plan completed | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| All wastes disposed of properly | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

MIP Summary

- Project proponent:
 - Identifies structure type/age
 - Samples caulk
 - Develops PCB Runoff Prevention Plan
 - Works with EPA to develop remediation plan
 - Inspects project, as required by municipality
 - Characterizes and certifies proper disposal of wastes
- Municipality is responsible for:
 - Checks documents - structure type/age and reviews sampling results and plans prior to permit issuance
 - Inspects sites (optional) or reviews inspection documentation
 - Reviews close-out form certifying completion of all plans and proper waste disposal

Questions



Funding for this project has been provided in full or in part through an agreement with the State Water Resources Control Board. The contents of this document do not necessarily reflect the views and policies of the State Water Resources Control Board, nor does mention of trade names or commercial products constitute endorsement or recommendation for use. (Gov. Code, § 7550, 40 CFR § 31.20.)

Disclaimer

Information in this report is intended solely for guidance. It does not replace or supplant the requirements of the Toxic Substances Control Act or the PCB regulations at 40 C.F.R. part 761, and it is not binding on the U.S. Environmental Protection Agency, state agencies or local agencies. Please refer to the regulations at 40 C.F.R. part 761 for specific requirements relating to PCBs and PCB-containing materials.



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References

- California Department of Toxics Substances Control, 2007a, Registered Hazardous Waste Transporter Database.

<http://www.dtsc.ca.gov/database/Transporters/Trans000.cfm>

- California Department of Toxics Substances Control, 2007b, Fact Sheet, Hazardous Waste Transporter Requirements.

<http://www.dtsc.ca.gov/HazardousWaste/Transporters/upload/Hazardous-Waste-Transporter-Requirements.pdf>

References

- California Stormwater Quality Association, 2009. California Best Management Practice Handbook Portal: Construction, November 2009.
<http://www.casqa.org>.
- USEPA Asbestos Demolition 2009a.
<http://www.epa.gov/region4/air/asbestos/demolish.htm>

References

- USEPA, 2009b. Current Best Practices for PCBs in Caulk Fact Sheet – Disposal Options for PCBs in Caulk and PCB-Contaminated Soil and Building Materials. Prepared by EPA Office of Pollution Prevention and Toxics. EPA-747-F-09-005. September 2009.
- USEPA, 2009c. PCBs in Caulk Q and A. Prepared by EPA Office of Pollution Prevention and Toxics. EPA-747-F-09-005. July 2010.
- USEPA, 2009d. Preventing Exposure to PCBs in Caulking Material. Prepared by EPA Office of Pollution Prevention and Toxics. EPA-747-F-09-005. September 2009.