

NOVEMBER 2011

PCBS IN CAULK PROJECT

Training Strategy

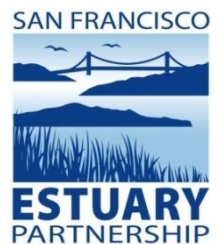
for a Municipal Program to Reduce PCBs in Runoff Associated with
Demolition and Remodeling Projects

Prepared for

SAN FRANCISCO ESTUARY PARTNERSHIP
TAKING ACTION FOR CLEAN WATER

Prepared by

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Funding for this project has been provided by a State Water Resources Control Board Proposition 50 Coastal Nonpoint Source grant known as “Taking Action for Clean Water”, and from the State Revolving Fund under the American Recovery and Reinvestment Act of 2009 (ARRA). 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

This document is one of several major products for the San Francisco Estuary Partnership’s polychlorinated biphenyls (PCBs) in Caulk Project, which was created to address potential impacts of PCBs in caulks and sealants released into stormwater runoff during demolition or remodeling projects in the San Francisco Bay Area. The project is assisting the implementation of the Total Maximum Daily Load (TMDL) for PCBs in San Francisco Bay. The PCBs TMDL includes a plan for reducing PCB loads that is implemented through permits, including the Municipal Regional National Pollutant Discharge Elimination System (NPDES) Permit for Stormwater (MRP). In the first five-year permit term, starting in 2009, stormwater Permittees are required to investigate the costs, effectiveness and technical feasibility of several categories of potential PCBs control measures. The PCBs in Caulk Project focused on one such category of potential PCBs controls: measures to minimize the release of PCBs in caulks and sealants to stormwater runoff during demolition or remodeling projects.

In the 2014-2015 timeframe, Permittees and San Francisco Bay Regional Water Quality Control Board (Regional Water Board) staff will evaluate the potential PCBs controls based on their effectiveness in reducing PCBs loads to stormwater, cost, and other relevant factors, to inform planning further efforts to address PCBs during the next permit term. To the extent that Permittees will be required in future permits to control PCBs in caulks and sealants released during building demolition or remodeling, this document is intended to assist in complying with such requirements. At the time of publication (2011), municipalities are not required to implement this process.

This Training Program refers to a companion document, the Model Implementation Process, which breaks new ground as the first known attempt to create a potential regional regulatory process to manage PCBs in caulks and sealants to protect water quality. It also leaves many issues for potential future implementers to address.

This document refers to state and federal regulations related to PCBs that are legally complex and may be subject to varying interpretations, in some cases due to variable, site-specific characteristics. The regulatory information in this document is presented as background information only and does not replace or supplant the requirements of federal or California law and regulations, including but not limited to the Toxic Substances Control Act or the PCBs regulations at 40 CFR Part 761.

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Training Strategy for a Municipal Program to Reduce PCBs in Runoff Associated with Demolition and Remodeling Projects

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1.0 CONTRACT TASK

Develop a program to train and deploy municipal staff (such as hazardous material or building inspectors) to ensure proper implementation of the Best Management Practices (BMPs) and compliance with the program.

- *Identify training objectives, and audience.*
- *Develop model training materials to provide guidance and instruction to hazardous material or building inspectors on proper implementation of the BMPs and compliance with the Model Implementation Plan.*

2.0 MUNICIPAL INSPECTOR TRAINING

2.1 Municipal Inspector Training Objective

Provide municipal inspectors with the information needed to assess Best Management Practice (BMP) implementation on PCBs in Caulk project sites. The program will provide a background and introduction to the issues associated with PCBs in Caulk, including the water quality concerns, and will address the inspector's primary program responsibilities.

2.2 Municipal Inspector Learning Objectives

Upon completion the training inspectors will have the following knowledge and skills:

- Understand background of polychlorinated biphenyls (PCBs) use in caulk
- Understand the Municipal Regional Permit (MRP) and water quality concerns related to PCBs on a demolition or remodeling project site
- Understand California and Federal regulatory requirements for managing PCBs in caulk and associated PCBs contamination.
- Understand municipal authorities regarding PCBs at demolition and remodeling projects
- Describe how PCBs can be mobilized on a project site
- Develop familiarity with the BMPs used to prevent the mobilization of PCBs during demolition and remodeling projects
- Understand how an inspection should be conducted to assess appropriateness and effectiveness of BMPs implemented at a site
- Identify discharges and work with the site operator to eliminate discharges in a timely and efficient manner
- Know how to accurately complete appropriate site inspection checklist
- Identify safety issues associated with a PCBs work area
- Know how to determine the adequacy of reporting to certify PCBs in caulk cleanup completion

2.3 Municipal Inspector Audience

It is anticipated that municipal building inspectors, hazardous material inspectors, and construction stormwater inspectors will enforce ordinances. The audience is assumed to have basic knowledge and experience in conducting inspections and reviewing documentation to assess compliance with local codes, ordinances, and permits, and familiarity

with traditional BMPs used on a construction site for erosion control, sediment control, good housekeeping, and waste management.

2.4 Municipal Inspector Training Outline

Section 1: Background

- I. Background on PCBs in Caulk
- II. Background on PCBs in Building Materials
- III. Water Quality Impairments due to PCBs
- IV. Municipal Regional Stormwater Permit (MRP)
- V. Municipal Ordinance
- VI. Relationship of Municipal Requirements to State and Federal Requirements Regarding PCBs

Section 2: Managing PCBs Mobilization

- I. How PCBs are Mobilized
- II. PCBs BMPs
 - i. Building Occupant Notification
 - ii. Worker Training
 - iii. Personal Protective Equipment (PPE)
 - iv. Work Area Containment
 - v. Tools and Equipment
 - vi. Demolition
 - vii. Site Erosion and Sediment Controls
 - a. Wind Erosion Control
 - b. Stabilized Construction Entrance
 - c. Stockpile Management
 - d. Hazardous Waste Management
 - e. Contaminated Soil Management
 - f. Concrete Waste Management
 - g. Demolition Adjacent to Water
 - h. Paving and Grading Operations
 - viii. Work Area Housekeeping and End of Project
 - ix. Transport and Disposal BMPs
- III. PCBs Runoff Prevention Plan
 - i. Components and Use of Plan for an Inspection

- ii. Exercise (Consider using a tabletop exercise: use site plan and have participants work through a conceptual layout of BMPs for a simple demolition or remodeling project. This provides understanding of what to expect on the project site.)

Section 3: Inspection Tools

- I. Conducting an Inspection During Construction
 - i. Planning Inspection
 - ii. Inspection Form
 - iii. Exercise (Consider development of a tabletop exercise: use site plan and photographs from pilot project.)
- II. Conducting an Inspection Project Completion
 - i. Planning Inspection
 - ii. Inspection Form

Section 4: Safety

- I. Inspector Safety
 - i. Construction Site Safety
 - ii. Hazardous Materials Remediation Site

2.5 Municipal Inspector Training Materials

The training program described above was created to provide an outline to train municipal building inspectors or other municipal staff who would oversee the implementation of PCBs in Caulk BMPs. During the trial implementation workshop in July 2011, municipal staff communicated that municipal inspectors are not involved with the inspection of BMPs during the implementation of a project. The above training strategy is preserved in the event that such a program might be needed to train municipal staff or contractors on the implementation of PCBs in caulk BMPs.

Following the trial implementation workshop, a new training strategy and PowerPoint™ presentation was developed to provide an introduction of the Model Implementation Process and BMPs for municipal staff. The revised strategy is described in Section 3; and the presentation is provided in Appendix A and as a separate PowerPoint™ file.

3.0 MUNICIPAL STAFF TRAINING

3.1 Municipal Staff Training Objective

Provide municipal staff with the information needed to understand the model implementation process for a municipal program to reduce PCBs in runoff associated with demolition and remodeling projects and to become familiar with the types of BMPs that can be implemented to reduce PCBs in runoff associated with demolition and remodeling projects.

3.2 Municipal Staff Learning Objectives

Upon completion the training municipal staff will have the following knowledge and skills:

- Understand background of polychlorinated biphenyls (PCBs) use in caulk
- Understand water quality concerns related to PCBs on a demolition or remodeling project site
- Be familiar with California and Federal regulatory requirements for managing PCBs in caulk.
- Understand municipal authorities regarding PCBs at demolition and remodeling projects.
- Understand the structure of the PCBs model implementation process.
- Understand what demolition and remodeling projects will be affected by the PCBs model implementation process.
- Describe how PCBs model implementation process forms are used by project Applicants.
- Know how to review the Applicant submitted PCBs in Caulk Initiation Form and PCBs in Caulk Termination Form.
- Develop familiarity with the BMPs used to prevent the mobilization of PCBs during demolition and remodeling projects

3.3 Municipal Staff Audience

Municipal staff including: building permit, planning, engineering, and stormwater program staff.

3.4 Municipal Staff Training Outline

Section 1: Background

- I. Water Quality and PCBs
- II. Stormwater and PCBs
- III. Background on PCBs in Caulk
- IV. PCBs in Caulk Project Objective

Section 2: Model Implementation Process

- I. Process Introduction
- II. Municipal Role in Process
- III. PCBs in Caulk Initiation Form
 - a. Owner and Project Information
 - b. PCBs Screening Assessment
 - i. Structure Use, Age, and Construction
 - ii. Caulk Sampling and Analysis
 - c. PCBs Runoff Prevention
 - d. Caulk Removal
 - e. Federal, State, and local Notifications
 - f. Certification

- IV. PCBs in Caulk Termination Form
 - a. Owner and Project Information
 - b. PCBs Runoff Prevention Plan
 - c. PCBs Removal and Clean-up
 - d. PCBs Waste Disposal
 - e. Certification

- V. Summary of Process

Section 3: Best Management Practices

- I. BMP Introduction
- II. BMP Categories
 - a. Building Occupant Notification
 - b. Worker Training
 - c. Personal Protective Equipment
 - d. Work Area Containment
 - e. Tools and Equipment
 - f. Demolition BMPs
 - g. Erosion and Sediment Control
 - h. Work Area Housekeeping and End of Project Activities
 - i. Transport and Disposal
- III. Summary of BMPs

3.5 Municipal Staff Training Materials

The PowerPoint™ presentation provided in Appendix A was developed to provide an introduction of the Model Implementation Process and BMPs for municipal staff.

APPENDIX A. MUNICIPAL STAFF TRAINING PRESENTATION

PCBs in Caulk Training

Introduction of the Model Implementation Process and Best Management Practices



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Overview of Presentation

- Water Quality and PCBs
- Stormwater and PCBs
- Background on PCBs in Caulk
- PCBs in Caulk Project
- Model Implementation Process tools
- Best Management Practices

Water Quality and PCBs

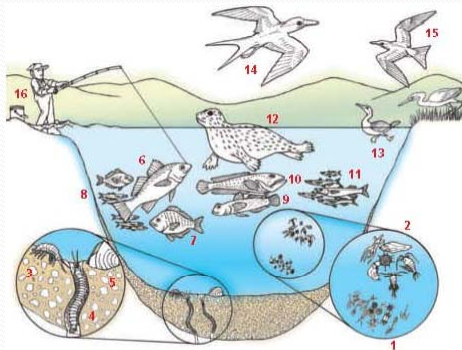


Figure from *The Pulse of the Estuary*, Davis et al. (2006).

- Sports fish in San Francisco Bay have elevated levels of PCBs
- PCBs bio-accumulate in the food chain
 - Low concentration sources contribute to the problem
- To make fish safe to eat, PCBs sources need to be managed and controlled

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Stormwater and PCBs

- Urban runoff is considered a significant pathway for PCBs into the Bay
- The Municipal Regional Permit (MRP) requires local agencies to address PCBs in urban runoff with a goal of reducing PCBs entering the Bay
 - Several pilot evaluations to explore PCBs source identification and control strategies are underway
 - Evaluations include assessment of costs of the strategy and the associated benefit in PCBs reductions
- PCBs in Caulk Project is one of the strategies under evaluation

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Background on PCBs in Caulk

- Caulk containing PCBs was used in many buildings built and renovated between 1950 and 1980
- During demolition or renovation, caulk pieces and particles can be released onto the ground and mobilized by wind or runoff
- PCBs in caulk may be a controllable discrete source of PCBs in the urban watershed



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PCBs in Caulk Project Objectives

- I. Develop Bay Area specific Best Management Practices (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 PCBs-containing building materials
- II. Develop a Model Implementation Process to assist municipalities develop control programs
 - Create model tools and processes to assist municipalities prevent the release of PCBs from building materials at building demolition/renovation
- III. Develop a training program

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Model Implementation Process

Model Implementation Process Introduction

- The process provides 'model' tools to assist municipal staff implementing a PCBs runoff prevention program during demolition or remodeling projects
 - Focus of the process is on water quality
 - Tools complement other regulatory programs administered by EPA and the State
 - The process does not establish clean-up standards
- Designed to fit into your current processes
 - Intention is for each agency to modify the tools to fit their needs

Overview of Process

1. Municipality notifies Applicants of PCBs in Caulk requirements
 - PCBs Screening Assessment
 - PCBs Runoff Prevention Plan
 - Obligation under Federal and State laws when PCBs are found in caulk
2. Applicant certifies PCBs Screening Assessment and development of PCBs Runoff Prevention Plan, if applicable
3. Applicant certifies completion of PCBs Runoff Prevention Plan, removal, clean-up, and disposal obligations

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Municipal Role in Process

- Adopt an ordinance that provides legal authority to implement the process
- Notify Applicant of requirements
- Confirm Applicant has conducted PCBs Screening Assessment by checking Applicant certifications
 - PCBs in Caulk Initiation Form
- Confirm Applicant has completed PCBs Runoff Prevention Plan, removal, clean-up, and disposal obligations by checking Applicant certifications
 - PCBs in Caulk Termination Form

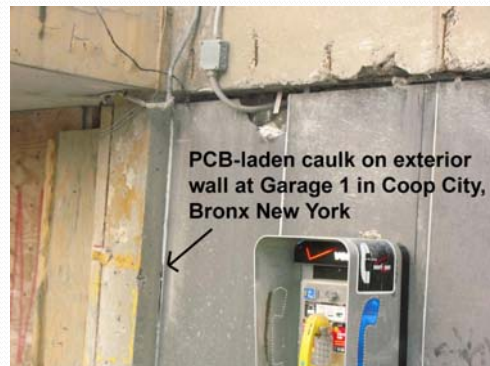
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PCBs in Caulk Initiation Form



PCBs in Caulk Initiation Form

- Includes:
 - Part 1: Owner and Project Information
 - Part 2: PCBs Screening Assessment
 - Part 3: PCBs Runoff Prevention
 - Part 4: PCBs in Caulk Removal
 - Part 5: Notifications
 - Part 6: Certification



MODEL FORM 1

For Municipality Use Only	
Date Received	
File #	

Form 1. PCBs in Caulk Initiation Form
PCBs Screening Assessment and Runoff Prevention

All Applicants complete Part 1.

Part 1. Owner and Project Information		
Owner Information		
Name		
Address		
City	State	Zip
Contact (Agent)		
Phone		
Project Location		
Address		
City	State CA	Zip

All Applicants complete Part 2, Question 1.

Part 2. PCBs Screening Assessment		
Question 1. Structure Type, Use, and Age Screening		
1a	Is the structure concrete or masonry construction?	<input type="checkbox"/> Yes <input type="checkbox"/> No
1b	Is the structure's use institutional, industrial, commercial, or a residential building with four or more stories above ground level that is not a single-family home?	<input type="checkbox"/> Yes <input type="checkbox"/> No
1c	Was the structure was built or renovated between 1950 and 1980?	<input type="checkbox"/> Yes <input type="checkbox"/> No
➤ If the answer to all of the above questions is Yes, continue to Question 2.		
➤ If the answer to any of the above questions is No, the PCBs Screening Assessment is complete, skip to Part 6.		

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Part 1

Part 1: Owner and Project Information

Part 1. Owner and Project Information		
Owner Information		
Name		
Address		
City	State	Zip
Contact (Agent)		
Phone		
Project Location		
Address		
City	State CA	Zip

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Part 2

Part 2: PCBs Screening Assessment

Part 2. PCBs Screening Assessment		
Question 1. Structure Type, Use, and Age Screening		
1a	Is the structure concrete or masonry construction?	<input type="checkbox"/> Yes <input type="checkbox"/> No
1b	Is the structure's use institutional, industrial, commercial, or a residential building with four or more stories above ground level that is not a single-family home?	<input type="checkbox"/> Yes <input type="checkbox"/> No
1c	Was the structure was built or renovated between 1950 and 1980?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>➤ If the answer to all of the above questions is <u>Yes</u>, continue to Question 2.</p> <p>➤ If the answer to any of the above questions is <u>No</u>, the PCBs Screening Assessment is complete, skip to Part 6.</p>		

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Part 2

Structure Type, Use, Age Outcomes

- If the answer to any part of Question 1 is No:
 - The structure is unlikely to contain PCBs in caulk
 - The Applicant proceeds to Part 6 of the form, which is the certification
- If the answers to all parts of Question 1 are Yes:
 - The Applicant must screen (test) the caulk for PCBs (Question 2)
 - Caulk screening involves representative sampling and analysis for PCBs
 - If available the Applicant can use existing information

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Part 2

PCBs in Caulk Screening (Testing)

Part 2. PCBs Screening Assessment (Continued)	
Question 2. PCBs in Caulk Screening	
Prior Knowledge of Caulk Formulation (Option 1)	
<i>Option for Applicants who possess specific information on the formulation of the caulk used in the structure.</i>	
2a	<div>Do you have documentation of the all the caulk formulations used in the building that confirms the caulk contains PCBs?</div> <div style="text-align: right;"> <input type="checkbox"/> Yes <input type="checkbox"/> No </div> <div style="margin-top: 5px;"> ➤ If Yes, continue to Question 2b. ➤ If No, use Option 2. </div>
2b	<div>Do you know the concentration of PCBs in the caulk formulations?</div> <div style="text-align: right;"> <input type="checkbox"/> Yes <input type="checkbox"/> No </div> <div style="margin-top: 5px;"> ➤ If Yes, enter concentrations in Question 2c ➤ If No, you must sample the caulk, use Option 2. </div>

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Part 2

PCBs in Caulk Screening (Testing)

Part 2. PCBs Screening Assessment (Continued)													
Caulk Sampling and Analysis (Option 2)													
<i>Option for Applicants who conducted representative sampling and analysis as part of the PCBs Screening Assessment.</i>													
2f Enter the application type ¹ and concentrations of PCBs.													
	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;">Application Type</th> <th style="text-align: left; border-bottom: 1px solid black;">Concentration</th> </tr> </thead> <tbody> <tr><td>1. _____</td><td>_____</td></tr> <tr><td>2. _____</td><td>_____</td></tr> <tr><td>3. _____</td><td>_____</td></tr> <tr><td>4. _____</td><td>_____</td></tr> <tr><td>5. _____</td><td>_____</td></tr> </tbody> </table>	Application Type	Concentration	1. _____	_____	2. _____	_____	3. _____	_____	4. _____	_____	5. _____	_____
Application Type	Concentration												
1. _____	_____												
2. _____	_____												
3. _____	_____												
4. _____	_____												
5. _____	_____												
2g	<div>Were any of the concentrations 1 mg/kg or greater?</div> <div style="text-align: right;"> <input type="checkbox"/> Yes <input type="checkbox"/> No </div> <div style="margin-top: 5px;"> ➤ If Yes, complete Parts 3 through 6. ➤ If No, the PCBs Screening Assessment is complete, skip to Part 6. </div>												

¹ Application types include caulk around windows and doors; caulk at structure/walkway interfaces; and caulk in expansion joints.

What caulk applications need to be screened?

- Screening is limited to those caulk applications likely to contain PCBs:
 - In outdoor expansion joints;
 - At structure/walkway interfaces; and
 - Around windows and doorframes.




What is representative sampling

- Caulk samples must be representative of the types and extent of caulk in the structure.
- At minimum, at least one sample of caulk for each sealant application likely to contain PCBs must be taken.
- Caulk samples must be analyzed by a qualified laboratory according to methods approved by EPA.

Part 2

PCBs in Caulk Screening Outcomes

- Screening determines that the concentration of PCBs in caulk is less than 1 mg/kg
 - Applicant proceeds to Part 6 of the form, which is the certification
- Screening determines that the concentration PCBs in caulk is ≥ 1 mg/kg
 - Applicant continues to Part 3 of the form



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Part 3

Part 3: PCBs Runoff Pollution Prevention

Part 3. PCBs Runoff Prevention		
Question 1. Exposure Screening		
1a	Are all PCBs contaminated materials inside the structure?	<input type="checkbox"/> Yes <input type="checkbox"/> No
1b	Will all equipment and tools that contacts the PCBs contaminated materials be stored inside the structure?	<input type="checkbox"/> Yes <input type="checkbox"/> No
1c	Will all wastes be stored inside the structure (including debris, wastewater from decontamination, trash containers, and waste management containers) and will all wastes be fully sealed in containers prior to moving outdoors when shipped for off-site disposal?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>➤ If the answer to all of the above questions is Yes, the project is exempt from the requirement to develop a PCBs Runoff Prevention Plan.</p> <p>➤ If the answer to any of the above questions is No, a PCBs Runoff Prevention Plan is required.</p>		
Question 2. PCBs Runoff Prevention Plan		
1	Has a PCBs Runoff Prevention Plan been developed ?	<input type="checkbox"/> Yes <input type="checkbox"/> No

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Part 3

Runoff Prevention Plan Outcomes

- A written PCBs Runoff Prevention Plan is required unless all PCBs contaminated materials (caulk, waste, demolition debris, equipment) will be indoors
 - Materials are not exposed to wind, rain, runoff



Containment (Source: EPA)

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Part 3

PCBs Runoff Prevention Plan

- Written plan to protect water quality during the project
 - Describes project
 - Describes PCBs caulk removal and clean-up, if required
 - Describes site-specific application of BMPs
 - Includes inspection schedule
 - Includes site maps and schematics
- Applicant certifies the development of the plan
- Plan is not submitted to the Municipality

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Part 4

Part 4: PCBs in Caulk Removal

Part 4. PCBs in Caulk Removal		
1a	Is removal of the caulk containing PCBs required by Federal regulations? <small>(See 40 CFR Part 761 or consult with an Environmental Professional)</small>	<input type="checkbox"/> Yes <input type="checkbox"/> No

- Applicant documents whether removal of the PCBs-containing caulk must be removed per EPA regulations
 - EPA requires removal of caulk if the PCBs concentrations are ≥ 50 mg/kg

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Part 5

Part 5: Notifications

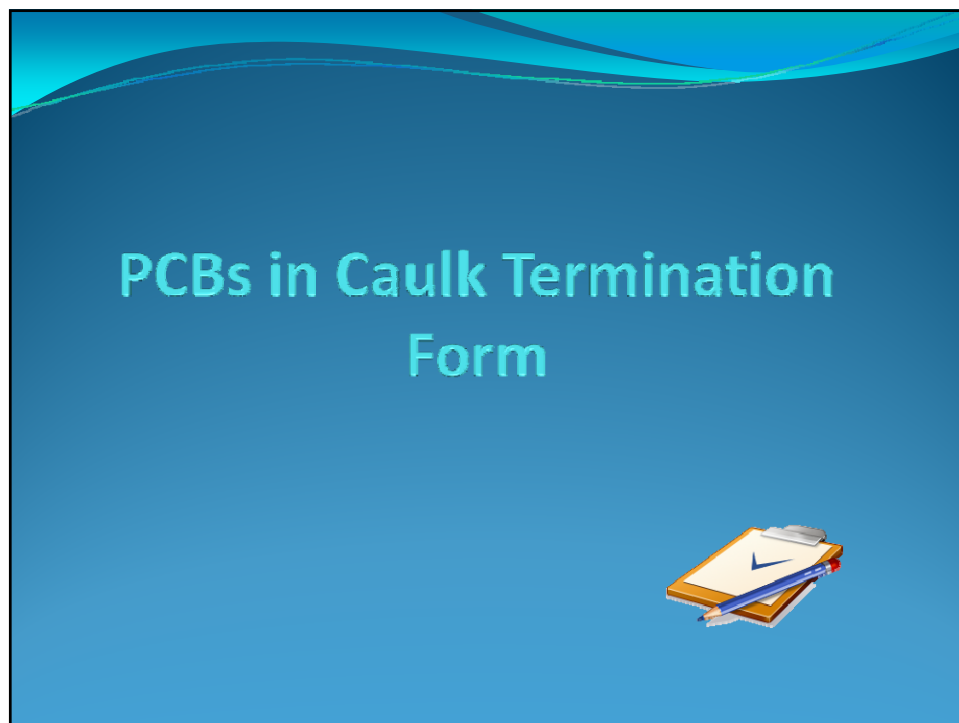
Part 5. Notifications		
<i>When PCBs are detected in caulk at concentrations of 1 mg/kg or greater notification to Federal, State, and local agencies is required. Notification includes submission of a copy of the completed PCBs in Caulk Initiation Form to the agencies listed below.</i>		
Question 1b. Have the following agencies been notified?		
➤ Environmental Protection Agency, Region 9 PCBs Coordinator	<input type="checkbox"/> Yes	<input type="checkbox"/> No
➤ California Department of Toxic Substances Control	<input type="checkbox"/> Yes	<input type="checkbox"/> No
➤ San Francisco Bay Regional Water Board	<input type="checkbox"/> Yes	<input type="checkbox"/> No
➤ Local California Unified Program Agency	<input type="checkbox"/> Yes	<input type="checkbox"/> No

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Part 6: Certification

Part 6. Certification	
<p>I certify that the information provided in this form is, to the best of my knowledge and belief, true, accurate, and complete. I further certify that I will notify the [municipality] and submit revised information if any of the information or conditions documented in this form change. I understand there are significant penalties for submitting false information [insert appropriate section of municipal code]. I will retain a copy of this form and the supporting documentation for at least 5 years.</p>	
Signature:	_____
Name:	_____
Title:	_____
Date:	_____

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PCBs in Caulk Termination Form

- Includes:
 - Part 1: Owner and Project Information
 - Part 2: Information on PCBs Runoff Prevention Plan implementation
 - Part 3: Information on PCBs caulk removal and clean-up, if applicable
 - Part 4: Information about disposal of PCBs waste
 - Part 5: Certification



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

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MODEL FORM 2			For Municipality Use Only Date Received _____ File # _____		
Form 2. PCBs in Caulk Termination Form					
Part 1. Owner and Project Information					
Owner Information					
Name _____					
Address _____					
City _____		State _____		Zip _____	
Contact (Agent) _____					
Phone _____					
Project Location					
Address _____					
City _____		State CA		Zip _____	
Part 2. PCBs Runoff Prevention Plan					
Question 1 Did this project have a PCBs Runoff Prevention Plan?				<input type="checkbox"/> Yes <input type="checkbox"/> No	
➤ If No, skip to Part 3.					
Question 2 Was the PCBs Runoff Prevention Plan implemented?				<input type="checkbox"/> Yes <input type="checkbox"/> No	

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Part 1: Owner and Project Location

Part 1. Owner and Project Information		
Owner Information		
Name		
Address		
City	State	Zip
Contact (Agent)		
Phone		
Project Location		
Address		
City	State CA	Zip

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Part 2: PCBs Runoff Prevention Plan

Part 2. PCBs Runoff Prevention Plan		
Question 1 Did this project have a PCBs Runoff Prevention Plan?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
➤ If No, skip to Part 3.		
Question 2 Was the PCBs Runoff Prevention Plan implemented?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

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Part 3: PCBs Removal and Clean-up

Part 3. PCBs Removal and Clean-up		
Question 1	Was this project required to remove PCBs-containing caulk per the requirements of 40 CFR 761?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Question 2	Did this project have a PCBs clean-up plan required by EPA or a State or local agency?	<input type="checkbox"/> Yes <input type="checkbox"/> No
➤ If No, continue to Part 4.		
Question 2a	Were the EPA or other applicable clean-up levels met?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>Based on the clean-up verification samples, list the maximum concentrations of PCBs detected following clean-up for any materials or soil not disposed of (i.e., the decontaminated material will remain on the site).</p>		
		<u>Concentration</u>
	1. Soil	_____
	2. Wood	_____
	3. Asphalt	_____
	4. Concrete	_____
	5. Other (specify) _____	_____

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Part 3: PCBs Removal and Clean-up

Question 3	Did EPA or another agency impose any conditions on future land use?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Identify type of restriction:		
	Cap	<input type="checkbox"/> Yes <input type="checkbox"/> No
	Fencing	<input type="checkbox"/> Yes <input type="checkbox"/> No
	Signage	<input type="checkbox"/> Yes <input type="checkbox"/> No
	Low Occupancy Restriction	<input type="checkbox"/> Yes <input type="checkbox"/> No
	Other (specify) _____	<input type="checkbox"/> Yes <input type="checkbox"/> No
Question 3a	Has the property owner recorded the above noted restriction(s) on the deed or instrument that is normally examined during a title search and property transfer so that in perpetuity a potential purchaser is informed of the restrictions?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable

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Part 4: PCBs Waste Disposal

Part 4. PCBs Waste Disposal	
Question 1 Were all wastes disposed of properly per Federal, State, and local requirements?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Question 2 Did the project generate PCBs hazardous waste?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Estimate of the <u>weight</u> (in tons, pounds, or kilograms) of PCBs hazardous waste disposed of:	_____ tons / pounds / kilograms (Circle unit used)
Name of facility where PCBs hazardous waste was disposed of: _____	
Question 3 Did the project generate PCBs non-hazardous waste?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Estimate of the <u>weight</u> (in tons, pounds, or kilograms) of PCBs non-hazardous waste disposed of:	_____ tons / pounds / kilograms (Circle unit used)
Name of facility where PCBs non-hazardous waste was disposed of: _____	
Question 4 Did the project generate wastewater containing PCBs?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Estimate of the <u>volume</u> (in gallons) of wastewater disposed of:	_____ gallons
What was the concentration of PCBs in the wastewater disposed of? (Include Units)	_____
Name of facility where wastewater was discharged to or disposed of: _____	

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Part 5: Certification

Part 5. Certification	
I certify that the information provided in this form is to the best of my knowledge and belief, true, accurate, and complete. I understand there are significant penalties for submitting false information [insert appropriate section of municipal code]. I will retain a copy of this form and the supporting documentation for at least 5 years.	
Signature: _____	Date: _____
Name: _____	
Title: _____	

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Summary of the Process

- Municipality informs Applicant of requirements
- Applicant completes and submits the PCBs in Caulk Initiation Form
 1. Owner and Project Location information
 2. PCBs Screening Assessment
 - Determines if the building is likely to contain PCBs in Caulk
 - Screens (Tests) caulk for PCBs
 3. PCBs Runoff Prevention - determines whether a written PCBs Runoff Prevention Plan is required
 4. Caulk Removal - determines if Federal regulations require removal of the caulk
 5. Notifications – inform Federal, State, and local agencies about finding PCBs in the caulk

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Summary of the Process

- Applicant completes and submits the PCBs in Caulk Termination Form
 1. Owner and Project Location information
 2. PCBs Runoff Prevention – identifies whether PCBs Runoff Prevention Plan was implemented
 3. PCBs Removal and clean-up – identified whether - Federal, State, and local agencies required removal of the caulk or clean-up of the project site
 4. PCBs waste Disposal – identifies where and how much PCBs wastes was disposed of

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Best Management Practices to Address PCBs in Caulk

Best Management Practice Introduction

- Best Management Practices (BMPs) are schedules of activities, prohibitions of practices, maintenance procedures, and other management practices that prevent, eliminate, or reduce pollution of waterways
- PCBs in Caulk BMP consist of practices that help to limit the spread of contaminated materials from the demolition or remodeling project site



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BMP Recommendations

- EPA recommends implement BMPs that capture PCBs-containing dust that may be mobilized when caulk is removed during building remodeling or demolition
- While these practices focus on human health, they also protect water quality because they limit the spread of contaminated dust and particles

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Nine Recommended 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

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1. Building Occupant Notification

- Identify, notify, and update building occupants, neighbors, or other potentially affected parties of
 - Goals, types and length of demolition/renovation activities
 - Health and safety considerations and practices
 - Site access requirements and limitations
- Helps to limit unauthorized access to the work zones and limits unintentional tracking of contaminated dust from the

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2. Worker Training

- Promotes proper handling and disposal of PCBs-contaminated materials and limits the potential for these materials to get into surface waters
- Site-specific training topics may include:
 - Presence of PCBs in caulk, and human health and ecological consequences of exposure
 - Identify personnel responsible for site safety and health
 - Identify site safety and health hazards
 - Measures to prevent exposure to hazardous materials

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3. Personal Protective Equipment

- PPE protects worker health and limits the spread of contaminated materials
- PPE may include:
 - Chemical-resistant gloves
 - Tyvek® disposable coveralls and shoe covers
 - Safety glasses or protective goggles
 - Respiratory protection



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4. Work Area Containment

- Work area containment minimizes the spread of dust beyond immediate work area
 - Isolate work area (e.g., with plastic sheeting)
 - Seal 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



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5. Tools and Equipment

- Tools that minimize the potential for dust generation help to limit the spread of contaminated materials
 - 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



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6. Demolition BMPs

- Demolition activities should only occur after hazardous materials such as PCBs have been removed from the building
- BMPs help to limit the spread of contaminated materials from the work site
 - 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
 - Wastewater must be collected and managed for proper disposal

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7. Erosion and Sediment Control

- Erosion and sediment control BMPs limit the transport of potentially contaminated soil and construction materials from the project site
 - 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)

BMP Factsheets from: CASQA Stormwater Best Management Practice Handbook Portal: Construction (November 2009)

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8. Work Area Housekeeping and End of Project Activities

- Regular housekeeping limits the spread of potentially contaminated materials
 - 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

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8. Work Area Housekeeping and End of Project Activities

- At the end of the project:
 - Dispose of all trash and debris per BMP Category 9
 - Vacuum the exposed surfaces with a HEPA vacuum cleaner
 - Remove plastic sheeting carefully to minimize the spread of contaminated dust
 - Re-vacuum surfaces
 - Visually inspect all surfaces for dust and debris
 - Re-clean work area if needed

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9. Transport and Disposal

- Transport and disposal of PCBs-containing waste is regulated by EPA and DTSC
- Transporter must hold a valid registration issued by DTSC
 - A current list of registered hazardous waste transporters is available in the Registered Hazardous Waste Transporter Database at:
http://www.dtsc.ca.gov/database/Transporters/Transoo_o.cfm

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9. Transport and Disposal

- The generator of waste is responsible for and required to dispose of all PCBs wastes in accordance with Federal and State waste disposal regulations
 - 40 CFR 761
 - CCR Title 22
- Permitted hazardous waste facilities are contained in DTSC's Envirostor database at:
http://www.envirostor.dtsc.ca.gov/public/commercial_offsite.asp

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9. Transport and Disposal

- Wastes generated during the project may include:
 - PCBs Containing Caulk and Other Materials in Contact with Caulk
 - Solid Waste Generated as Part of Clean Up Process
 - Liquid Waste Generated as Part of Clean Up Process

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DISCLAIMER

- *This document is one of several major products for the San Francisco Estuary Partnership's polychlorinated biphenyls (PCBs) in Caulk Project, which was created to address potential impacts of PCBs in caulks and sealants released into stormwater runoff during demolition or remodeling projects in the San Francisco Bay Area. The project is assisting the implementation of the Total Maximum Daily Load (TMDL) for PCBs in San Francisco Bay. The PCBs TMDL includes a plan for reducing PCB loads that is implemented through permits, including the Municipal Regional National Pollutant Discharge Elimination System (NPDES) Permit for Stormwater (MRP). In the first five-year permit term, starting in 2009, stormwater Permittees are required to investigate the costs, effectiveness and technical feasibility of several categories of potential PCBs control measures. The PCBs in Caulk Project focused on one such category of potential PCBs controls: measures to minimize the release of PCBs in caulks and sealants to stormwater runoff during demolition or remodeling projects.*

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DISCLAIMER

- *In the 2014-2015 timeframe, Permittees and San Francisco Bay Regional Water Quality Control Board (Regional Water Board) staff will evaluate the potential PCBs controls based on their effectiveness in reducing PCBs loads to stormwater, cost, and other relevant factors, to inform planning further efforts to address PCBs during the next permit term. To the extent that Permittees will be required in future permits to control PCBs in caulks and sealants released during building demolition or remodeling, this document is intended to assist in complying with such requirements. At the time of publication (2011), municipalities are not required to implement this process.*
- *This Training Program refers to a companion document, the Model Implementation Process, which breaks new ground as the first known attempt to create a potential regional regulatory process to manage PCBs in caulks and sealants to protect water quality. It also leaves many issues for potential future implementers to address.*

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DISCLAIMER

- *This document refers to state and federal regulations related to PCBs that are legally complex and may be subject to varying interpretations, in some cases due to variable, site-specific characteristics. The regulatory information in this document is presented as background information only and does not replace or supplant the requirements of federal or California law and regulations, including but not limited to the Toxic Substances Control Act or the PCBs regulations at 40 CFR Part 761.*
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