Request for Participation: PCBs in Caulk Project

Sampling Element

INTRODUCTION

Even though most uses of polychlorinated biphenyls (PCBs) were discontinued 30 years ago, PCBs are still getting into urban runoff and San Francisco Bay. Because PCBs present health risks to people who consume fish caught in the Bay, municipalities are required to reduce the PCBs in their runoff under a Total Maximum Daily Load (TMDL) cleanup plan.[1] A significant uncontained source of PCBs that can contribute to runoff loads is PCB-containing caulk used in buildings built between 1950 and 1978.

Until the late 1970s, PCBs were added to caulk to improve flexibility, to increase resistance to erosion, and to improve adherence to other building materials. PCBs were also commonly used in other building materials such as fluorescent light ballasts. Caulk and sealants are commonly found in municipal and commercial buildings and their exterior use makes them more likely to affect urban runoff than indoor building materials. Bay Area municipalities' discharge permit for stormwater, known as the MRP,[2] requires municipalities to develop a process to control runoff pollution from PCBs in caulk during building demolition or renovation.

The PCBs in Caulk Project (Project) is a collaboration among the San Francisco Estuary Partnership, the Regional Water Quality Control Board, and BASMAA, funded by a federal stimulus grant, to assist municipalities in fulfilling their MRP requirements for managing PCBs in caulk (section C.12.b).

REQUEST FOR PARTICIPATION

The PCBs in Caulk Project contains two elements: the *Sampling Element*, described here, and an *Implementation Trials Element* described in a companion request. Municipalities may participate in either or both of the Project elements, which will be conducted independently of each other. **We request that your municipality participate in the Project's *Sampling Element*.**

The *Sampling Element* is a blind sampling program designed to gain Bay Area-specific information about PCBs levels in caulking and sealants in buildings constructed between 1950 and 1978, and to fulfill MRP requirement C.12B.ii.(2). Participation in the *Sampling Element* involves allowing Project staff to perform screenings and take physical samples of caulk at publicly-owned buildings in your municipality. The Project's blind sampling program will not retain any

[1] The San Francisco Bay PCBs TMDL was approved by U.S. EPA on March 29, 2010 and requires 90% reductions in PCBs in urban runoff.

[2] Municipal Regional Stormwater NPDES Permit (Order No. R2-2009-0074) issued by the San Francisco Regional Water Quality Control Board applies to municipalities in Alameda, Contra Costa, San Mateo, and Contra Costa Counties, as well as Vallejo and Fairfield-Suisun.

identifying information from samples, ensuring confidentiality of results. Unoccupied buildings or buildings scheduled for demolition may be good candidates for the *Sampling Element*.

Participation gives municipalities a highly cost-effective opportunity to fulfill stormwater permit requirements. The MRP requires a minimum number of participants: at least ten sites must be sampled to comply with the permit. Allowing sampling in your municipality will help ensure compliance with the MRP. Successful completion of this Project will result in all Permittees complying with MRP Provision C.12.b.ii(2).

DEADLINE

Your response is requested by February 28, 2011. Samples must be taken by May 1, 2011 to meet MRP requirements. Please respond regarding your municipality's participation to the Project contact in your county (see Contact Information, below). Information provided below will assist you in determining how your municipality can participate.

FREQUENTLY ASKED QUESTIONS

What is the PCBs in Caulk Project?

The PCBs in Caulk Project (Project) is designed to help municipalities meet their stormwater permit requirements to manage PCBs in caulk. The project will:

- Evaluate PCB levels in caulk at a minimum of ten Bay Area sites to better understand which types/ages of buildings are most likely to have caulks with PCBs and target management actions effectively. (*Sampling Element*, *based on completed Sampling and Analysis Plan)*
- Develop Best Management Practices (BMPs) to prevent the release of PCBs from caulks into urban runoff during renovation, maintenance and demolition of Bay Area buildings. The BMPs will include practices to identify, handle, contain, transport, and properly dispose of PCB-containing caulks. *(Completed)*
- Create a model implementation process so that cities can integrate requirements to use the BMPs in their municipal demolition and renovation permitting processes. Materials will include model policies/ordinances, checklists, and training materials. *(Completed)*
- Test and evaluate the effectiveness of the proposed BMPs at three to five sites in the Bay Area and document which methods work best in our region in addition to other lessons learned. *(Implementation Trials Element*)

What is my municipality responsible for with regards to PCBs in caulk under the MRP?

Permittees must develop a sampling and analysis plan for PCBs in building materials (completed by the PCBs in Caulk Project). They must also sample a

minimum of ten sites distributed throughout the combined Permittees' jurisdiction areas[3] (the *Sampling Element*). In addition, Permittees are required to pilot test BMPs at five sites (the *Implementation Trials Element*), the results of which must be reported in March 2014. Participation in the PCBs in Caulk project can fulfill these requirements if the minimum number of participants is met.

How long do we have to meet these MRP requirements, and how can the PCBs in Caulk Project help?

The Municipal Regional Permit's provision C.12.b (see attachment) specifies several deadlines, some of which may be addressed by the PCBs in Caulk Project:

1) 2010 Annual Report: Status report on sampling and analysis completed by the BASMAA Regional Supplement for Pollutants of Concern and Monitoring, including draft Sampling and Analysis Plan as Appendix A9
2) 2011 Annual Report: PCBs in Caulk Project technical memos completed or in progress will address the evaluation of current regulations, level of implementation, and regulatory gaps as well as the final sampling and analysis report, a list of appropriate BMPs, BMP training program, and model ordinances or policies to prevent PCB discharges from building demolition and improvement activities.
3) March 15, 2014 Integrated Monitoring Report: the required submittal of the results of pilot program effectiveness may be met in part by incorporation of lessons learned during the Implementation Trials Element, for those Implementation Trials completed no later than August 2011.

How does my municipality participate in the *Sampling Element*?

Select a building for sampling, and coordinate logistics with the Project contact. Trained staff from the San Francisco Estuary Institute will perform screenings and sampling of caulk in the selected building. "Screening" is a rapid, non-invasive technique that provides a general indication of potential PCB presence. "Sampling" means analyzing a small piece of caulk in the laboratory for PCB content. Samples will be approximately one inch in size. Blind sampling procedures will ensure confidentiality of all results.

Why should my municipality participate in the *Sampling Element*?

Participating in the *Sampling Element* will help ensure compliance with the MRP. We anticipate that successful completion of this Element will result in all Permittees complying with MRP Provision C.12.b.ii(2).

Are sampling costs for PCBs in caulk covered by the Project?

Participating in the *Sampling Element* of the PCBs in Caulk Project is free to municipalities. Grant funds to cover the direct costs of sampling and analysis are available through mid-2011.

---

[3] *Provision C.12.b Conduct Pilot Projects to Evaluate and Manage PCB-Containing Materials and Wastes during Building Demolition and Renovation (e.g., Window Replacement) Activities*

What happens if we do not choose to participate?

According to Regional Water Board staff, “Failure to achieve sampling at ten sites will result in non-compliance with the MRP.” Permittees that do not participate may be subject to enforcement action from the Water Board.

Who will be able to see our sampling results? Are there any regulatory implications to our participation?

The Project has developed a blind sampling protocol with assistance from U.S. EPA to gain additional information about PCB levels in San Francisco Bay Area buildings while preserving confidentiality and avoiding triggering cleanup requirements. Under the blind sampling plan, sample locations will not be recorded. Instead, the samples will be assigned random identifying numbers. It will not be possible to connect laboratory results to any particular building. Toxic Substances Control Act (TSCA) cleanup requirements are only triggered at specific known locations where PCBs are present in caulk (at levels ≥ 50 parts per million). Under the blind sampling plan, building owners will have no way of knowing whether PCBs have been detected in their buildings, and thus will not trigger cleanup liability. Only regional aggregates and averages will be available.

As an additional measure to protect confidentiality, we will oversample (collect more samples than we analyze) if enough sites participate. In this case, the Project team would randomly select a subset of samples for PCB analysis once all sealant samples have been collected.

Further information about blind sampling is available from the PCBs in Caulk Project Manager (see Contact Information, below).

Do cleanup requirements apply to us if we participate in the *Sampling Element*?

The Toxic Substances Control Act requires cleanup of caulk when a specific location is known to have PCBs at levels greater than or equal to 50 ppm. Further information is included in the *Implementation Trials* invitation. ***Participation in the blind sampling program for this Project will not trigger these cleanup requirements.***

Is sampling our building’s caulk required?

The municipal regional stormwater permit requires sampling from ten Bay Area sites for PCBs in caulk in 2011. State and Federal requirements do not specifically mandate the testing of caulk; however, testing prior to renovation or demolition may be advisable to meet State requirements on disposal of demolition debris. U.S. EPA also recommends that deteriorating caulk in buildings constructed between 1950 and 1978 be tested for PCBs.

ABOUT PCBs IN BUILDING MATERIALS

Which buildings are likely to contain PCBs in caulk?

PCB-containing caulk was used most commonly between 1950 and 1978 in commercial, institutional, or high-density residential buildings. Buildings

constructed between 1950 and 1978 are most likely to contain PCBs in caulk. However, PCB-containing caulk can also be found in pre-1950 buildings that were remodeled or maintained during that peak use period of the 1950s-1970s.

PCBs-containing caulk has been found primarily in masonry and concrete buildings, often in structures built from prefabricated, "tilt-up" concrete sections. The PCB-containing caulk occurs in outdoor seams between concrete sections, at joins between masonry and other materials, and in elastic sealants around windows and door frames.

PCB-containing caulk has rarely been found in single-family homes.

How high are PCB levels in caulk?

When PCBs occur in caulk, they are most commonly found at concentrations of 1,000 to 150,000 parts per million (0.1% to 15%) by weight. U.S. EPA regulations apply to caulk at levels at or greater than 50 parts per million (0.005%).

ADDRESSING HEALTH CONCERNS

Do PCBs in building materials present health risks for building occupants?

PCBs are considered likely human carcinogens and have been demonstrated to cause a variety of adverse health effects. According to the U.S. EPA, "Because of the risks posed by PCBs, they were banned from production by Congress in 1977. However, we all continue to be exposed to PCBs, through eating food and from breathing indoor air and coming into skin contact with dirt and dust. The generally small amounts of PCBs to which we are exposed each day build up over time in our bodies. These small daily increments accumulate over years leading to a long term 'body burden' of PCBs. It is this accumulated body burden of PCBs that is important in understanding potential health effects, rather than individual higher or lower daily doses." For more information, see http://www.epa.gov/epawaste/hazard/tsd/pcbs/pubs/effects.htm.

For those concerned about exposure in buildings, U.S. EPA recommends testing of indoor air in buildings that may have PCB-containing caulk and provides guidance for interpreting results and for measures to protect building occupants (see http://www.epa.gov/pcbsincaulk/).

ADDITIONAL INFORMATION / RESOURCES

- PCBs in Caulk Project: http://www.sfestuary.org/Projects/detail.php?ProjectID=29
    - *Implementation Trials Element* Request for Participation
- Municipal Regional Stormwater Permit: http://www.swrcb.ca.gov/sanfranciscobay/board_decisions/adopted_orders/2009/R2-2009-0074.pdf
- San Francisco Bay PCBs Total Maximum Daily Load (TMDL): http://www.swrcb.ca.gov/sanfranciscobay/water_issues/programs/TMDLs/sfbaypcbstmdl.shtml

- EPA PCBs in Caulk page: http://www.epa.gov/pcbsincaulk

CONTACT INFORMATION

Project Stormwater Program Contacts

Alameda County: Arleen Feng, Alameda Countywide Clean Water Program
Email: arleen@acpwa.org Phone: 510-670-5575

Contra Costa County: Jamison Crosby, Contra Costa Clean Water Program
Email: jcros@pw.cccounty.us Phone: 925-313-2364

San Mateo and Santa Clara Counties: Pam Boyle Rodriguez, EOA Inc.
Email: pboyle@eoainc.com Phone: 510-832-2852 x 107

Solano County: Kevin Cullen, Fairfield-Suisun Sewer District
Email: kcullen@fssd.com Phone: 707-428-9191

PCBs in Caulk Project Manager

Athena Honore, San Francisco Estuary Partnership
Email: ahonore@waterboards.ca.gov Phone: 510-622-2325

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.