UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

April 25, 2014

Ms. Jennifer deNicola, President
Malibu Unites
22747 Pacific Coast Highway, Suite 401
Malibu, California 90265

Dear Ms. deNicola:

Thank you for your March 10, 2014 email asking that I address several concerns regarding EPA's strategy to address PCBs at the Malibu High School/Middle School.

I want to provide some background on EPA's approach to PCBs in schools and how this is implemented at Malibu High School/Middle School. PCBs were widely used in caulking materials, as well as in paints and other building materials, in structures constructed from the 1950s until the late 1970s. It is common to find PCBs in buildings such as schools constructed or renovated during this time frame. Given the widespread use of PCBs and the variation of PCB concentrations in building materials, EPA's general strategy to address PCBs in building materials is one of avoiding harmful human exposures.

EPA has developed and posted a number of fact sheets to help school administrators and building owners address the impacts associated with potential exposures from PCBs in building materials. The fact sheets recommend risk-management strategies to reduce unacceptable exposures from primary PCB sources (i.e., products manufactured with PCBs like caulk and light ballasts) and secondary PCB sources (i.e., materials that may become contaminated by primary sources).

The EPA fact sheet, "Preventing Exposure to PCBs in Caulking Material" (available at http://www.epa.gov/epawaste/hazard/tsd/pcbs/pubs/caulk/pdf/caulkexposure.pdf) provides a good summary of key recommendations such as:

- Steps that concerned school administrators can take to minimize the potential for PCBs in the indoor air;
- Cleaning and proper maintenance of ventilation systems; thorough and frequent cleaning of surface areas to minimize exposures; and
- "If school administrators and building owners are concerned about exposures to PCBs and wish to supplement these steps, EPA recommends testing to determine if PCB levels in air exceed EPA's suggested public health levels. If testing reveals PCB levels above these levels, schools should attempt to identify any potential sources of PCBs that may be present in the building, including testing samples of caulk and other building materials."

Generally, when testing of caulk or other building materials in structures show PCBs are present at or above 50 ppm, the PCB regulations in 40 CFR 761 implementing the Toxics Substances Control Act (TSCA) require that the PCB-containing material be removed.

When spills or releases of liquid PCBs at or above 50 ppm contaminate non-porous surfaces (e.g., metal), those surfaces must be cleaned to the regulatory standard of less than or equal to 10 ug/100 cm^2 PCBs. Porous surfaces (e.g., concrete, brick) and non-porous surfaces can also become contaminated by PCBs contained in dust. For these situations, a site specific, protective risk-based PCB standard for surfaces will be developed as part of the cleanup plan.

In the case of Malibu High School/Middle School, EPA was notified in November 2013 that the District had collected surface wipe, caulk, and air samples and had these samples analyzed for PCBs. All of the air samples had PCB levels within EPA's acceptable risk range for a residential exposure scenario and below the applicable EPA "Public Health Levels for PCBs in Indoor School Air" ("http://www.epa.gov/pcbsincaulk/pdf/maxconcentrations.pdf"). However, four surface wipe samples showed PCB levels above 10 ug/100 cm^2; and four caulk samples showed PCB concentrations above 50 ppm. Because the caulk and wipe samples were above the TSCA regulatory levels, I notified the District that they would need to submit a cleanup plan to EPA and recommended that they implement PCB Best Management Practices to control dust.

During the school's winter break, the District conducted cleaning of the five rooms with the elevated PCBs in caulk and/or wipe samples, as well as, conducted post-cleaning air and wipe sampling. Comparison of the pre- and post-cleaning air and wipe samples show that all post-cleaning samples were below our guidelines and show a reduction in PCB air concentrations of approximately 50 percent and a reduction of PCBs on surfaces of approximately 90 percent. We are aware that certain additional rooms cleaned and sampled independently by the District, without EPA oversight, show lower reductions in air concentrations.

On April 25, 2014, we expect to receive a cleanup plan from the District that will include, at a minimum, a plan to remove all caulk currently tested that contains PCBs above 50 ppm, remove any deteriorated caulk from the school, and sample air inside all pre-1979 structures. In addition, we recommended that the District consider annual thorough cleaning of the school to maintain air quality. We are not requiring additional caulk testing or removal beyond what the cleanup plan may require unless air sample results are above our suggested public health guidelines.

Enclosed are responses to your questions and concerns. If you have any questions regarding my response, please contact me by phone at 415-972-3352 or email at Armann.Steve@epa.gov.

Sincerely,

Steve Armann, Manager,
Corrective Action Section, Land Division

Enclosure

cc: Thomas Cota, DTSC

EPA's Responses to Ms. deNicola's Questions and Items Submitted to EPA on March 10, 2014

Because the topic of many of the questions in the March 10th email overlap, the responses below are grouped according to common topics.

A. General Clarification

a. Scope of the TSCA PCB Program

EPA's formal involvement with the Malibu High School is under the PCB regulations in Title 40 of the Code of Federal Regulations (CFR) Part 761 implementing the Toxic Substances Control Act (TSCA). The TSCA PCB regulations apply only to PCBs. Consequently, EPA's role is limited to providing regulatory oversight and technical assistance in connection to PCBs. Through implementation of its TSCA PCB program, EPA does not oversee investigation or make decisions related to other contaminants.

b. PCB Use Authorization

In 1979, TSCA banned the manufacturing, processing, distribution in commerce, and use of PCBs. EPA's implementing regulations prohibit the use of materials (or products) manufactured with PCBs, such as caulk, sealants, and paints, at levels equal to or above 50 ppm. EPA has authorized certain specified uses of PCBs at these levels, however, but such uses must not result in unreasonable risks to human health and the environment. The PCBs must also be used in a "totally enclosed manner" (no direct access to or direct exposure to PCBs) and the physical integrity of the equipment containing the PCBs may not be compromised in any manner (no leaks or malfunction that may result in releases or exposure to PCBs). An example of an authorized use is PCB containing ballasts in pre-1979 florescent light fixtures.

In determining whether PCBs are being improperly used, the current regulations do not require testing of materials to determine if they contain PCBs at TSCA regulated levels. However, once materials are known to contain PCBs at or above 50 ppm, the use prohibition applies and, unless otherwise authorized for use by the regulations, those materials must be removed and disposed of consistent with the regulations. In addition, contamination caused by movement of PCBs from those products into other building materials, substrates (e.g., concrete), and/or into the environment must also be cleaned up to an appropriate level. The District's cleanup plan will need to address the substrate (e.g., concrete, window metal frame) in contact with caulk equal to or above 50 ppm.

c. Encapsulation of PCB Materials.

Encapsulation may be used to minimize PCB concentrations in air and may only be a temporary solution. The effectiveness of encapsulation depends on several factors such as the PCB concentration in the building material to be encapsulated, type of encapsulate, and thickness of the applied encapsulate layer.

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B. EPA's Use of Risk-Based Guidelines for PCBs in Schools

a. EPA Risk Range

EPA's acceptable cancer risk range spans from 10^{-4} (one excess cancer in a population of 10,000 exposed individuals) to 10^{-6} (one excess cancer in a population of 1 million exposed individuals). This risk range is codified in 40 CFR Part 300, "National Contingency Plan" regulations for implementing the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly referred to as Superfund. EPA uses this risk range nationally in making health or risk-based decisions across its various environmental programs under different statues such as the Safe Drinking Water Act, Resource Conservation and Recovery Act, and TSCA. The referenced risk range supports the overall TSCA standard of preventing unreasonable risks of injury to health and the environment.

b. Evaluating PCB Risks

To assist EPA in evaluating sites to determine if contaminant levels represent an exposure hazard, we often refer to the health-based, media specific concentrations found in EPA's guidance document "Screening Levels for Chemical Contaminants at Superfund Sites" – or more commonly known as the Regional Screening Levels (RSLs). These risk-based screening levels are available at http://www.epa.gov/region9/superfund/prg/. The RSLs are a screening tool with levels based on a 10-6 cancer risk or the low end of EPA's acceptable risk range. The RSL for PCBs in air under a residential exposure scenario is 0.0043 ug/m^3 (0.0003 ppb). Therefore, in a residential exposure setting EPAs acceptable concentration level would range from 0.0043 ug/m^3 (0.0003 ppb) to 0.43 ug/m^3 (0.032 ppb).

EPA's national PCB program has established and published "Public Health Levels for PCBs in Indoor School Air" (School Levels). The School Levels are established at concentrations below which "EPA does not believe will cause harm." The acceptable PCB air concentration in schools ranges from 0.07 ug/m^3 (0.0053 ppb) to 0.6 ug/m^3 (0.045 ppb), depending upon the age of children. The concentration for teachers or adults is 0.45 ug/m^3 (0.034 ppb). These levels are based upon a school scenario that assumes people are exposed for 10 hours a day for 180 days a year. In contrast, the PCB RSL concentration is based upon an assumption that people are exposed for 24 hours for 360 days for 30 years. The highest concentration of PCBs found in air to date at Malibu High School is 0.1 ug/m^3 (0.0075 ppb) and this concentration in a school exposure scenario is roughly equivalent to a 1 in 1 million (10^{-6}) excess risk, or likelihood, of developing cancer.

Based on the School Levels, the relevant health levels for Malibu High School range from 0.3 ug/m^3 (0.023 ppb) to 0.6 ug/m^3 (0.045 ppb) total PCBs in air. EPA Region 9 also consulted with our Region 2 office in New York and elected to use at Malibu High School/Middle School a health-based screening level Region 2 developed of 0.2 ug/m^3 (0.015 ppb) for total PCBs in air. To date, all air data collected at Malibu High School/Middle School has been below 0.2 ug/m^3

The RSL tables provide risk-based concentrations in air for total PCBs, as well as, all PCB dioxin-like or co-planar congeners, such as Congener 126. EPA has examined the limited PCB congener

results provided by the District. To date, all congener concentrations fall within the acceptable risk range.

c. Toxicological Endpoints

Chronic and long-term exposure to PCBs can elicit a broad range of both carcinogenic and non-carcinogenic health impacts. EPA's risk assessment framework is a formal four-step process as outlined by the National Academy of Sciences. This process includes a formal step referred to as hazard identification. This step in the process is designed to assess the full range of health impacts associated with chronic PCB exposure. In general, toxic exposures are assessed via impacts occurring at the lowest dose on specific target organs or systems. This is referred to as the most sensitive toxic endpoint. Endocrine disruption is considered a mechanism of toxic action rather than a toxicological endpoint in and of itself. PCBs exert their toxic action by several different mechanisms or modes of action and endocrine disruption is potentially one of many.

d. California Human Health Screening Levels.

The California Human Health Screening Levels (CHHSLs) are more commonly applied by the California Environmental Protection Agency including its boards, offices, and departments such as the California Department of Toxic Substances Control (DTSC). For more information about the applicable use of CHHSL's please contact DTSC.

C. Data and Testing

EPA generally considers all available data when providing technical assistance. Depending on the quality of data collected independently by other parties, EPA may consider that data in making regulatory decisions. All available PCB data for Malibu High School helps us to understand the relative magnitude of the situation at this school.

At this time, air sampling has been conducted in 21 separate rooms at the school. All the air results are within EPA's health protective guidelines for schools and our acceptable RSL risk range for a residential exposure scenario.

EPA did not review, oversee, or accept the sampling plan implemented by the District before EPA's involvement with the Malibu High School site. However, we accepted the District's plan for sampling air and surfaces inside the five rooms with elevated caulk and/or wipe samples. Also, we were at the school when air and wipe samples were collected inside those rooms. Similar to the air samples collected at the school before EPA's involvement, these latest air sample results are all below or within our acceptable risk range for schools and residential exposure scenarios.

D. PCB Best Management Practices and PCB Cleanup Plan

EPA has recommended that the District implement PCB Best Management Practices (BMPs) to reduce the amount of PCBs in dust and air. The District conducted limited cleaning of certain school rooms during the 2013 – 2014 school winter break. The results of this cleaning are very positive as they show reductions in PCB air concentrations by approximately 50% and in dust by approximately

90%. As noted in the cover letter, we are aware that certain sampling conducted without EPA oversight show less reduction in air concentrations.

The District has verbally informed EPA that it intends to implement the BMPs throughout the Malibu High School/Middle School and other schools within the District. The District's cleanup plan is due to EPA on April 25, 2014. We expect the District will (1) identify specific BMPs and explain in the plan with sufficient detail the approach and schedule it will follow to implement the proposed BMPs, (2) explain its approach to address caulk at the school, and (3) provide a schedule to conduct the work proposed in the plan. We will also work with the District to develop a testing protocol to ensure that surfaces do not represent an exposure hazard.

E. Contaminated Soils

The California Department of Toxic Substances Control (DTSC) has entered into a Voluntary Cleanup Agreement with the District to further investigate soil contamination at the Malibu High School. EPA is coordinating with DTSC on this effort to assure that soil samples for PCB analysis are collected in areas near known potential PCB sources.