Protecting the Most Vulnerable Indoor Air Testing for Polychlorinated Biphenyls (PCBs) in Vermont Schools

2012-2013 Vermont School Pilot Test

- Identified potential for PCBs to be present in schools in VT

- Worked with VDH and Education to identify schools to test, a sampling protocol and screening values

-Sampled four schools across VT for PCBs in indoor air that met our criteria (built or renovated before 1980).

- Indoor air samples were collected via TO 10A

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2013 Vermont School Pilot Test Results

Barre Town Elementary

- 23 indoor air samples collected;
- 3 of the 23 samples had detections, all others were ND below 15 ng/m^3;
- Detected concentrations were 33 ng/m^3, 56 ng/m^3 and 130 ng/m^3; and
- VDH determined that these levels were not a significant health threat because the average indoor air concentration was below 15 ng/m^3.

Champlain Elementary School, Burlington

- 20 indoor air samples were collected;
- 4 of the 20 samples had detections, all others were ND below 15 ng/m^3;
- Detected concentrations were 27 ng/m^3, 32 ng/m^3, 36 ng/m^3 and 65 ng/m^3
- VDH determined that these levels were not a significant health threat because the average indoor air concentration was below 15 ng/m^3.

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2013 Vermont School Pilot Test (cont)

- Holland Elementary
  - 10 indoor air samples collected
  - All samples were ND below 15 ng/m^3
- Mt Anthony, Bennington
  - 24 indoor air samples were collected
  - All samples were ND below 15 ng/m^3

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Burlington High School

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Sec. E.709.1 ENVIRONMENTAL CONTINGENCY FUND;

POLYCHLORINATED BIPHENYLS (PCBs) TESTING IN SCHOOLS

(a) Notwithstanding 10 V.S.A. § 1283, of the funds transferred in Sec. D.101(a) of this act to the Environmental Contingency Fund, the Department of Environmental Conservation, in consultation with the Department of Health and the Agency of Education, **shall use up to $4,500,000 to complete air indoor quality testing for Polychlorinated Biphenyls (PCBs) in public schools and approved and recognized independent schools that were constructed or renovated before 1980**. All schools subject to this subsection **shall test for PCBs on or before July 1, 2024**. It is the intent of the General Assembly to develop additional guidance during the 2022 legislative session.

Sec. E.709.2 10 V.S.A. § 1283(g)(3) and § 6602(17) are amended to read:

(3) "Release" means any intentional or unintentional action or omission resulting in the spilling, leaking, pumping, pouring, emitting, emptying, dumping, or disposing of hazardous materials into the surface or groundwaters, or onto the lands in the State, or into waters outside the jurisdiction of the State when damage may result to the public health, lands, waters, or natural resources within the jurisdiction of the State. ***"Release" also means the intentional or unintentional action or omission resulting in the spilling, leaking, emission, or disposal of polychlorinated biphenyls (PCBs) from building materials in a building or structure.***

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What's the Plan?

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What's the Plan?

1. Get an inventory of schools in VT (construction and renovation dates).
   - We think there are up to 300 schools statewide that could require indoor air testing (built/renovated before 1980)
2. Contract with consultants (similar to SI/Brownfields) to conduct IA sampling.
3. Provide guidance to schools and consultant for sampling IA for PCBs.
   - This guidance is 99.9% complete…….
4. Use up to $4.5M to assist with the IA sampling of schools.
5. There is no money currently available to assist with sampling of building materials (if IA is impacted) or remediation/mitigation.

Who's the Team and What Are Our Roles?

Health and DEC work with the schools and Consultants to sample IA

- DEC will contract with consultants to conduct IA sampling at schools

- DEC will review and provide comment on WP

- DEC/Health will review results

***** IF DETECTIONS NEW DEFINITION OF RELEASE…..IRULE KICKS IN**

- Health will review data and provide guidance based on continued occupancy and potential health risk related to detections

- DEC/Health will participate in public meetings and provide information to school community

-DEC will work with school and consultant on sampling PCB product locations

- DEC will work with school and consultant on corrective action options

Don't forget TSCA is on the TEAM……

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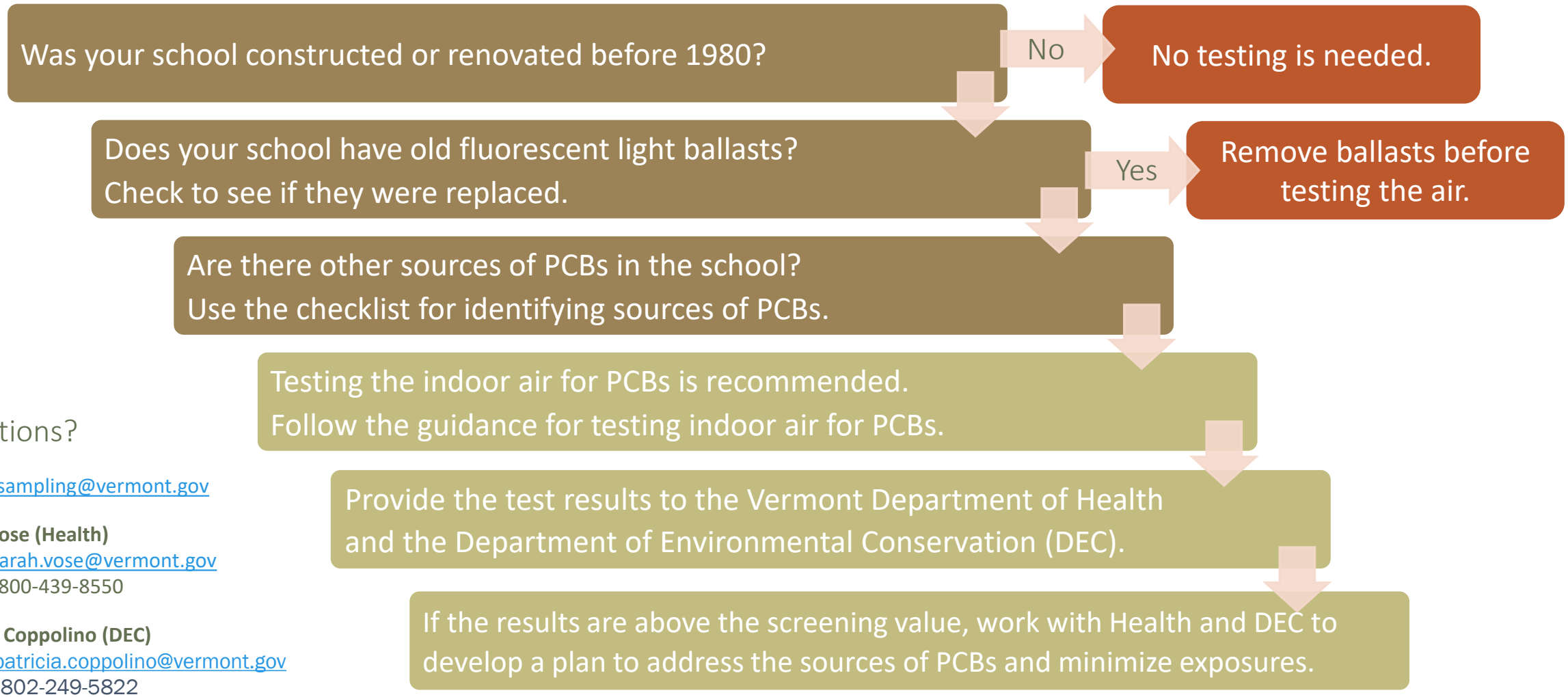
AGENCY OF NATURAL RESOURCES
DEPARTMENT OF HEALTH

Determining Exposure to PCBs in the Indoor Air of Your School

February 2021



Questions?

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Indoor Air Screening Values

Vermont Department of Health screening value for PCBs in Indoor Air is 15 ng/m^3 . Detections of PCBs in Indoor Air less than 15 ng/m^3 will not need further evaluation.

EPA derived the Exposure Levels below to serve as health protective values *intended for evaluation purposes*. They should **not** be interpreted **nor applied** as "bright line" or "not-to-exceed" criteria, but may be used to guide thoughtful evaluation of indoor air quality in schools. ***EPA recommends that the concentrations of PCBs in indoor air be kept as low as reasonably achievable***.

Exposure Levels for Evaluating PCBs in School Indoor Air (ng/m3)*						
Age: 1-<2 yr	Age: 2-<3 yr	Age: 3-<6 yr	Age: 6-<12 yr elementary school	Age: 12-15< yr middle school	Age: 15-<19 yr high school	Age: 19+ yr adult
100	100	200	300	500	600	500

Sneak Peak at our Guidance

Number of samples:

- at least 30% of the rooms in the school or no less than 10 rooms, whichever is greater. If there are less than 10 rooms in the school, sample each room.

-Include one ambient air sample, one field blank and a duplicate sample (per every 20 samples).

Analytical Requirements (suggestions)

- All samples should be conducted via EPA Method TO-10A for 24 hours and analyzed for individual PCBs Aroclors using EPA method 8082
- Samples should be reported as total Aroclors
- The reporting level for each Aroclor should be 10 ng/m^3 or below
- That the laboratory review the raw data (for example, chromatogram) and report any peaks that cannot be identified as an Aroclor (UIP) but fall within the retention time windows for a potential PCB congener

Other suitable methods exist for sampling and analyses of indoor air for PCBs, including analyses as homologs or congeners. Previous sampling efforts have shown acceptable correlation between congener and Aroclor analyses. Aroclors are recommended as a cost-effective screen for PCBs in air.

Sneak Peak at our Guidance (cont)

When the indoor air levels are above 15 ng/m^3, it is recommended that schools demonstrate due diligence to show that indoor air PCB levels are as low as reasonably achievable. The Health Department and DEC will advise schools on actions to take to show due diligence, including identifying, removing and mitigating sources of PCBs. Below are some examples of demonstration of due diligence and lack of due diligence:

1) PCB Free: The best way to demonstrate due diligence to get indoor air PCB levels as low as reasonably achievable is to be free of indoor PCB sources. That means schools should test and then remove known interior PCB sources greater than (>) 1 part per million (ppm). This may not be an option if removal of PCBs is technically infeasible (i.e. the PCBs have extensively migrated into structural substrates).

2) Test all sources, remove and mitigate in place: Alternatively, if schools test all potential interior sources of PCBs, remove what is feasible and required by EPA, mitigate the remaining known PCB sources (substrates) in place as best they can achieve, and indoor air remains above 15 ng/m^3, the state agencies would consider that school to have shown due diligence to get indoor air levels as low as reasonably achievable.

3) Remove and mitigate identified PCB sources without testing all potential PCB sources: If schools test only a portion of potential sources of PCBs and mitigate those, PCB sources may remain in the building that go undiscovered. If air levels are above 15 ng/m^3, a school cannot show due diligence (and levels may not be as low as reasonably achievable) if all potential sources were not tested.

Questions/Concerns/Wanna Say ‘Hi’

Questions?

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