Reviewer's report

Title: Mitigation of Building-Related Polychlorinated Biphenyls in Indoor Air of a School

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Reviewer: Birger Heinzow

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David L. MacIntosh et al. report MITIGATION OF BUILDING-RELATED POLYCHLORINATED BIPHENYLS IN INDOOR AIR OF A SCHOOL. This is another study adding valuable information on this somewhat in the past neglected exposure issue.

I would appreciate publication in environmental health but recommend to include further information to satisfy my and probably other readers curiosity about results presented.

1. Although referring the EPA method provides some insight, it is necessary to describe in detail the total PCB results presented by listing the results for single congeners. Different algorithms are in use by summing up PCB measurements, i.e. by adding the six PCBs (28, 52, 101, 138 and 154, 180) x 5 etc. For comparison of results this information is essential.

2. Providing the single congener results the pattern might give further clues concerning risk assessment of nd- and dl-PCBs.

3. EPA has published recommendations on PCBs in 2009: Public Health Levels for PCBs in Indoor School Air, which are cited but also should be tabulated for the convenience of the reader not familiar with their details.

i.e.:
- elementary school .300
- middle school 450,
- high school 600 ng/m³

the school investigated was an elementary school, thus not all remediation steps seem to reach the 300 ng/m³ goal? I read in the msc occupied by 445 persons in kindergarten through 5th grade and staff, thus the kindergarten mentioned would require 100 ng/m³ according to EPA. This should be discussed accordingly.

It becomes not really clear from the figures if the remediation procedures described (fig. 2 and 3) are independent or as said in methods serial, thus follow on a step by step procedure? The latter seems likely, because of the low pre-intervention levels, some explanation why post-intervention levels for a procedure are not equal the pre-intervention level of the next procedure.

I am wondering why the baselines levels in fig 2 and fig 3 differ.
The same question ocurred to me why are the ventilation values in fig 2 and 3 not the same ....?
I am confused! because interestingly the results are exactly the same for the interventions in table 1:
Encapsulation: Directly Accessible Caulk
on September 19, 2010 = 7 rooms = 220
Encapsulation: Behind Built-in Equipment and Furniture
September 19, 2010 = 7 rooms = 220
and further
September 29, 2010 5 rooms = 133
and after False Wall
September 29, 2010 5 rooms = 133

**Level of interest**: An article whose findings are important to those with closely related research interests

**Quality of written English**: Acceptable

**Statistical review**: No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests**: No conflict of interest