

# COALITION FOR HEALTHIER SCHOOLS

## FINAL COMMENTS

to  
US EPA Office of Children's Health Protection  
on  
Draft State School Environmental Health Guidelines

SUBMITTED ONLINE APRIL 20, 2012

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### Public Comment Summary

The national Coalition for Healthier Schools shaped and championed EPA's congressional authorization to address school environments. Coalition members have led environmental health policy reforms in multiple states, and urged federal actions to help states. We are extremely pleased to see these draft guidelines posted for public comment, and to see an RFA for state agencies released. We look forward to working with EPA and other agencies to advance healthier, greener schools for all children and personnel.

We are very pleased to see that EPA recommends state inter-agency task forces with advisory councils, and introduces an innovative tiered approach to showing schools how to get started. There are many other fine elements. However, recognizing the importance of children's environmental health to the future of the nation, the volume of peer-reviewed literature, and the scale of these issues at the nexus of environmental justice, civil rights, and education, we urge EPA to take these immediate steps to clarify, improve, and correct the draft guidelines. EPA should:

- incorporate children's health protection goals from EPA's FY 2011-2015 Strategic Plan (*work to prevent and reduce exposures and risks*) and agency wide goals and objectives for health protection and promotion;
- provide national contexts and citations for states on why school environmental health needs attention and why children are more vulnerable to environmental risks;
- fulfill congressional requirements to: "help states and the public better understand and protect children" from environmental risks; address the special needs of children with disabilities, and the needs of children from low-income, disadvantaged or minority communities; address how states may collaborate with the federally funded PEHSUs for school on-site investigations;
- recommend preventive actions and avoiding common problems, versus "managing" problems;
- address perceived conflicts of interest inherent in highlighting NGOs in the guidelines; instead, EPA should cite federal programs and state examples, then expand the Appendix listing of NGOs to include EPA's schools program contractors, stakeholders, and partners;
- expand upon scientific citations;
- expand upon and correct the cited state programs/regulatory examples;
- provide a referral map to EPA, so that states and districts, personnel, parents, and communities can access EPA's headquarters and regional regulatory and voluntary programs and initiatives;
- correct technical errors in the guidelines (list attached) and seek EPA program office and stakeholder input on certain judgment calls, such as recommending benchmarking school energy efficiency when occupant health, attendance and productivity provide more savings and benefits.

**Detailed comments follow.**

## Background

**Context** Each school day 56 million children and seven million adults – that is 20% of the total US population and 98% of all children—are in some 130,000 PK-12 schools. But unfortunately, too many schools have environmental problems that are documented to erode health, attendance, achievement, and productivity: such as problems with ventilation, indoor air, water quality, hazardous products, and chemical uses. EPA has estimated that half of all schools have indoor environmental problems. Fortunately, there is a robust literature (NRC, IOM, EPA, ED) reporting that healthy environments in schools are essential to children’s health, attendance, and learning, and to personnel recruitment, retention, and productivity.

Children are more vulnerable to environmental hazards than adults (AAP, EPA, NIEHS, ATSDR; EO 13045), and outnumber adults in schools by a wide margin. Few child-specific facility standards exist. Personnel with environmental concerns or suspected exposures may have union support or employment contracts, call on OSHA, or use occupational health clinics, children (and families) have no such support (Paulson, 2010). The lack of services for and information about the most numerous and vulnerable school occupants effectively deprives state and local decision-makers of information on how educational facilities are impacting their missions, and deprives parents and providers of the information they need to address children’s health effectively

**Congress acts** Congressional briefings and hearings (2002-07) led to US EPA receiving a first-ever federal agency authorization to address school environments with the enactment of the High Performance Green Buildings Act in EISA (2007). As required, EPA published a first-ever federal guideline on the siting of schools (2011), and is now requesting comments on first-ever draft federal guidelines for state agencies on school environments. As part of the latter, EPA is congressionally required to “assist states and the public in better understanding and improving the environmental health of children”, “provide technical assistance...on facilities used by students with disabilities or special needs”, and include guidance to states on “collaborat(ing) with federally funded PEHSUs to assist in on-site environmental investigations.”

**US EPA Strategic Plan** US EPA FY 2011- 2015 Strategic Plan for Cross-Cutting Strategies for Environmental Justice and Children’s Health states EPA will “***work to reduce and prevent harmful exposures and health risks to children and underserved, disproportionately impacted low-income, minority and disadvantaged communities, and support efforts to build healthy, sustainable green communities***”. It also states EPA will “work with states, tribes, and territories using the Children’s Healthy Communities: Clean, Green, and Healthy Schools Initiative approach to ***improve children’s environmental health in school settings...***” This also helps EPA implement two Executive Orders: **EO 13045** on Protection of Children from Environmental Health Risks and Safety Risks, and **EO 12898** on Federal Actions to Address Environmental Justice in Minority and Low Income Populations, as well as meet the strategic goals and objectives of various EPA program offices.

### General Comments on Draft Guidelines: Executive Summary, pp 1-2

See attached list of technical corrections.

The guidelines will be better understood and accepted in the field if EPA edits the title from “State Schools...” to “State Guidelines to...”. The term “state schools” has a distinct meaning legislatively, such as state-operated schools for the blind or deaf. EPA’s guidelines apply universally, to all public and private K-12 schools, and may be helpful for public and private child care facilities.

In developing the draft state guidelines, EPA chose to rework its multiple voluntary programs into a single new program, but in so doing, it omitted individual goals for programs and omitted an agency-wide coordinated child health message and specific goals and objectives (CHPAC 2004).

**Thus, the overall document and the Executive Summary should be improved by including a detailed review of the issues, the context, an accurate federal statute citation, EPA's child health protection purposes, goals and objectives, and the cost-effectiveness of preventing problems rather than managing problems.**

Suggestion for the overall set of guidelines, to be carried throughout. EPA will be well served by clarifying its goals and rationale by using "child/children" in text, instead of "student/s". EPA and OCHP's mission is protecting children -- where they live, learn, and play. Education addresses "students" -- locally, when and where they sit, what tests they take, when to eat, dress codes, homework, extra-curriculars, etc. EPA is about environmental health and backs it up with science.

EPA should improve the purpose statement, to be carried throughout. When outlining "best practices", EPA should headline and describe these in text as "preventing problems" or "preventing exposures" or "improving child health and learning outcomes" similar to EPA's Strategic Plan, instead of just "managing" facilities. Managing a school facility to reduce health complaints, asthma absenteeism, or chemical exposures requires specific knowledge and skills very different from those required to manage a facility to cut utility or transportation costs.

Correction: The guidelines are required by EISA, Title IV, Subtitle E, Section 461 which amends TSCA by adding Title V, Sections 501 to 505. Section 504 of TSCA is the guidelines section. They can be cited as required by EISA, Title IV, Subtitle E, Section 461 which amends TSCA at 15 USC § 2695C.

EPA should underscore the importance of both federal and state regulatory compliance. GAO and others have documented that school conditions have been ignored and have little oversight in the states, and that school officials have little knowledge or training in these issue. The context might address these underlying issues, as well as observe that OSHA sometimes protects workers in indoor environments, but provides no measure of protection for children. Also, ASHRAE ventilation standards assume that 20% of adult occupants will not be satisfied with IAQ; yet children breathe more air per pound of body weight than adults, outnumber adults, and are compelled to attend school.

Education leaders and state education agencies, unless they have a well-staffed facility office, will not necessarily be aware of health and environment laws; conversely, state health, environment, and energy agencies may not be aware of school building codes, life safety, emergency management, disability rights, or other education laws. It is a complex area. Thus a potential grant activity for states and advisory councils could be to inventory the relevant federal and state policies (arrayed in EPA's Healthy SEAT, called out by congress), assess the extent of implementation, then set time-lined priority interventions, public and school community communications, trainings, complaint procedures, or other actions to improve facilities for all, but especially the most vulnerable, highest risk children.

#### **Comments on Guidelines:**

#### **K-12 School Environmental health Programs, pp 5-45**

See attached list of technical corrections.

#### **About the Guidelines**

This section should be strengthened to give the overall guidelines the weight and importance they need to improve school facility environments and for children's health protection.

The guidelines will be strengthened if the list of health symptoms/diseases from indoor exposures includes both the acute short-term symptoms, and is expanded to add illnesses, disabilities, and life-threatening diseases.

We also recommend deleting the “CDC Coordination School Health Framework” (box, page 7) It appears to confuse the CDC Strategy (appropriately titled as a framework for state agencies) with the school-level “eight components” that are not addressed in the narrative. Overall, the CDC references need to be reviewed and clarified.

Critical problems” should be defined. We recommend EPA define “critical problems” as those that 1- now, or 2- will soon, adversely impact occupant health and/or access to K-12 school facilities. Critical facility health and safety problems are not old stadium lights, lack of synthetic turf, lack of ornamental shrubs, or faded carpeting in administrative offices.

We also recommend strengthening the guidelines’ science citations. NRC (2007), IOM (2011), and ED (2004), all summarized the extensive peer-reviewed literature. EPA-funded Centers of Excellence in Children’s Research should be cited, particularly on recent findings on exposures to diesel exhaust, particulates, pesticides, lead, PCBs, and on asthma, learning and developmental disabilities, autism, diabetes, and obesity. Public schools disproportionately and increasingly enroll children with pre-existing health and learning problems, and low income and minority children, all of whom may be even more vulnerable than their peers to environmental hazards (AAIDD 2010; also see EO’s on risks to children and on EJ). EPA CHPAC member and PEHSU Director at GWU/CNMC Jerome Paulson, MD has also published on school environments and lack of protections for children.

We also strongly urge EPA to delete or re-work how it addresses energy efficiency in these guidelines. EPA’s recommendation to benchmark energy and several examples of energy efficient schools could easily defeat EPA’s environmental health goals. Energy efficiency is discretionary in EPA’s authorization; EPA was not directed to promote it, only take it into account. When the bill text was drafted, the intent was to give EPA room to identify how poor indoor environments can drive the need for efficient new equipment and building systems. Scientific support for this nuanced view is in the stunning EPA-funded IOM report *Climate, Indoor Environments, and Health* (2011) which found that indoor environments are already “damaging health and learning”, recommended “preventing exposures”, and commented on the possible complications from tightening up buildings. Energy efficiency as a stand-alone project can create sick buildings and sick occupants.

### **Steps for Establishing State Programs...**

Improve the utility and reach of the guideline by re-titling them. “State School Environmental Health” is a misleading title, in as much as “state schools” have distinct meaning in the states as facilities for highly specialized-needs children. We recommend EPA re-title the guideline: for example, “State Agency Guidelines to Promote School Environmental Health”.

We commend EPA for the narrative for states on interagency groups, **but EPA does not tell states the purpose or context for the guidelines or the goals and objectives**. We believe that most states know how to form interagency groups – but in this instance they need to know the purpose(s) so they can accurately charge or task a work group and appoint agencies and name advisors. States must have a clear statement of goals and objectives and a rationale for action.

We are pleased to see EPA recommend advisory councils. The guidelines will be improved if EPA recommends councils include representatives of school occupants and knowledgeable advocates in environment, children’s health, justice, disabilities, and public health.

And a correction in the list of potential NGO council members: the National Education Association is the nation's largest union and has state affiliates; many of EPA's school stakeholders have national offices and state affiliates. Many national associations in K-12 education have developed their own resources over the years, as have state-based healthy schools advocates networked into the Coalition for Healthier Schools. **We know from experiences in the states that advisory councils omitting environment, health, justice, and facility expertise are unlikely to sustain work or to move EPA's child health protection goals.**

EPA has listed some interesting state examples; others are available. State examples can be improved. The WI example cited shows how challenging voluntary efforts are: after ten years, only about 5% of schools are participating; VT has had similar issues. The RI citation is good on energy efficiency, as is the KY KEEP's program, but EPA cites no child health outcomes, such as reductions in absenteeism. We question if EPA really meant to cite KY's "KEEPS", or if it meant instead to cite another KY program. MN and CT have strong programs, but EPA's CT cites are not fully accurate and must be amended. New York is an early leader, with a comprehensive, proactive Board of Regents' adopted "Guiding Principles of School Environmental Quality" (1995) cited in literature as an early example of children's environmental health policy (Landrigan, 1995) that might guide other state policy makers and provides a child-centered policy platform that the state continues to reference. Shortly thereafter, APHA adopted a very similar policy to support its advocacy for healthy school facilities federally and in the states.

EPA did not include and is congressionally required to include how states can collaborate with the EPA and CDC co-funded Pediatric Environmental Health Specialty Units (PEHSUs) for onsite investigations. EPA has not addressed this. PEHSUs have been involved in onsite work before; EPA should cite examples. EPA could also cite specific examples of how PEHSUs are assisting state and local agencies and the public with understanding and communicating about children's environmental health.

## **Determine Capabilities**

It is worth noting that no two states are alike in if and how they address school environments or children's environmental health.

Recommendation to clarify this section. It is important for states to do a gap assessment that includes which agencies are authorized and/or funded on which issues (Paulson, 2010). Capability is based on having both the authorization and the resources. States will help parents and communities and districts by being transparent and accountable for what they are and are not authorized to do, and what they are funded and staffed to do. Healthy SEAT, called out by congress in EPA's authorization, is one tool states might employ to consider the array of policies.

## **Develop A Plan -- for states or for local schools?**

State interagency plans to advance healthier schools and state guidelines sent to schools are two different exercises and they need not be identical sets of actions. We believe EPA is on the right track, but the tracks need to be clarified.

- CDC's Coordinated School Health Strategy (p 51) provides a framework for state agency programs. But EPA cites it in the section of the guidelines on "Model K-12 EH Program" for improving school buildings.
- EPA's *LAQ Tools for Schools* framework (appropriately cited on pp 49-50, "Model K-12 EH Program") is a well-tested tool for effective school building actions that states can promote, as in the CT example (p 27, in "Implement... Program").
- EPA's draft guidelines propose "Five Components" for states to advance with local schools is a good concept, but it does not fully address what states need to do at a state level.

For example, EPA did not and is congressionally required to address the needs of children with learning disabilities and children of low-income and minority communities. State guidelines must also include how to assist the public in better understanding and improving the environmental health of children. How state agencies direct staff time, program resources and funding play major roles in addressing the special needs of children.

EPA must educate states about children's environmental health and states in turn can move that into public communications and state work plan goals. One partial fix may be to take the sample outcome measures included in EPA's RFA for state agencies and move those up into this section.

EPA's guidelines helpfully identify "Five Components" for school buildings and recommend policies and best practices for maintaining school facilities. The components will be improved if they move schools towards preventing or avoiding problems and do not suggest simply managing routine issues.

We recommend simple edits to promote prevention to be carried throughout the document, such as:

- "Prevent Dirt, Effective Cleaning" (instead of "routine cleaning")
- "Reduce Chemical Hazards/Exposures" (instead of "manage")
- "Ensure Good Ventilation" (instead of "maintain", and add "provide good air filtration to remove dusts and particulates that trigger asthma")
- "Prevent/Reduce Pests and Pesticides" (instead of "control"), and
- "Smart Materials" selection should be clarified by adding "such as low-emissions interior finishes and furnishings" and "low emissions instructional materials" or similar text from *IAQTS* or *Design TS*. EPA should also consider how to include its new Chemicals of Concern list in a work plan for states to address with local schools.

The simple edits suggested above will have the effect of moving schools towards cost-effective prevention, instead of after-the-fact pollution control measures. Controlling hazards indoors is more expensive-- in terms of first costs and human health effects-- than preventing hazards.

## **Roles and Responsibilities**

We agree with EPA and urge that EPA underscore the need for states to put a priority on school district staff training.

EPA did not and is congressionally required to "assist states and the public in better understanding and improving the environmental health of children". This strongly suggests that EPA should include a high priority recommendation to provide public information and training about children's environmental health. There is very little activity in the states on children's environmental health, and no state provides directly or supports parent/community information or interventions on school environmental issues.

## **Evaluate the Program**

EPA should state its goals and objectives for states and for local schools, then recommend sample metrics or output/outcome measures that states might consider, consistent with EPA's Strategic Plan. These might be borrowed in part from EPA's current RFA for states. Metrics must be set before evaluations can be conducted. If the primary purpose is children's health protection and promotion, what measures might be feasible? If the purpose is healthier school environments, what facility metrics or occupant health metrics will be meaningful?

The Coalition for Healthier Schools agrees with EPA that CDC provides a framework for state agencies and a good model for EPA to consider in how to partner with the states long-term.

EPA also cites CDC's "School Health Profile" which has raised questions among the Coalition for Healthier Schools' school health professionals. "Profiles" are done at the state level; the "School Health Index" has more on the physical environment, but at a building level. EPA should review and clarify which data collection tool and reporting it is suggesting, and for what uses, and at which level—state agency or school/district.

### **Sustaining the Program**

State programs need organized champions in this fiscal environment, and new sources of support. EPA might suggest finance options from a few state or city examples.

EPA might also recommend how pediatric environmental health data can help build momentum and champions. This also is a key reason why EPA must recommend that, beyond K-12 public education policy leaders and lobbyists, state-based advocacy groups in environment, children's health, disability, justice, and health should serve on state advisory councils. EPA's current listing of possible council members recommends only groups that are leaders inside the K-12 education system, yet EPA is recommending interagency task groups.

### **Common Environmental Health Issues in K-12 Schools**

At a facilitated leadership retreat of the national Coalition in spring 2011, the group identified by voting on its top five issues (EPA Program) priorities. Those were:

- Indoor Air Quality;
- Integrated Pest Management (safer pest control);
- Healthy SEAT (school facility inspections and regulatory reviews);
- Environmentally Preferable Purchasing (buy-green/less hazardous products); and,
- School Chemical Cleanouts (reduce chemical hazards).

We are delighted to see that EPA's five common health issues will largely address the Coalition's list:

However, as previously noted, the EPA list needs to give its list a simple "prevention" edit to help move states and districts towards cost-effective preventive maintenance and pollution prevention, versus controlling or mitigating pollution sources after the fact.

#### Specific concerns within the EPA Five Component issues.

Routine Cleaning and Maintenance. EPA should cite NIOSH funded-studies on work-related asthma and EPA's own information on the special vulnerability of children to chemicals. It also should mention MSDS sheets and "right to know" about hazards on the job; using safer substitutes is the first priority for worker health and safety under OSHA. OSHA applies to all private employers (private schools) and to public school employees in about half of the states.

Preventing Mold and Moisture section should be stronger and should be corrected: there is no such thing as a "mold-free" building. NIOSH has a new excellent user-friendly mold-inspection scoring sheet. Molds can cause long-term health issues. EPA should reference CDC's research or the UConn/Health Center's *Mold and Moisture: Guidance for Clinicians*. In addition, EPA would do well to put into guideline text the following: while human health and mold issues are complex, molds growing indoors are literally digesting the building as they spread, resulting in major renovation needs. Preventing moisture indoors, and thus preventing molds from growing, is cheaper than after the fact investigations, administrative time, health costs, and renovations.

Cleaning and maintenance (C&M -- edit to "Prevent Dirt, Effective C &M ). EPA's recommendations come primarily from the cleaning chemical industry and not from NIOSH that

has recently issued new flyers on green cleaning and health, or from the states, such as CAL OSHA, New York State or Connecticut or Vermont which have strong, cost-effective programs. EPA should cite federal or state agencies for best practices, not the chemical industry or its related associations. EPA's current examples and text undercut enacted policies and pending bills endorsed by NCEL in a dozen states. Implementations relying on the high quality green product standards are yielding significant cost-savings locally (AFSCME in MD; NEISD in TX; NYS agencies report 2010).

C&M - Examples of problematic recommendations: the list (see box) of EPP attributes is too short; the list of EPP attributes should be expanded to include asthmagens and phthalates, concentrated formulas, recyclable packaging. We know and admire US EPA's Design for the Environment technical assistance program for manufacturers of chemical-intensive products (JEH 2009). But we also know that DfE announced it was commencing an ingredient verification program and would address VOCs in September 2011. At that time DfE had over 2,500 products bearing EPA labels that had not been verified as to final ingredients, efficacy, or VOCs (DfE 2011 webinar).

C&M- Recommendation regarding NGOs: As previously recommended, EPA needs to avoid conflicts of interest by deleting NGO examples in the body of the guidelines. If EPA continues to cite NGOs in its final guideline, it must cite ISO-compliant international certifiers of general all purpose cleaning products Green Seal and Eco-Logo/UL-E. DfE is not ISO-compliant, nor a registered certification mark.

Or, if EPA deletes all NGO references as discriminating against an array of qualified NGOs, EPA can cite NIOSH and CAL OSHA, as well as states with green cleaning policies endorsed by the National Caucus of Environmental Legislators (NYS, CT, HI, VT). EPA could also cite New York State agencies' powerful finding (spring 2010) that after 3.5 years of requiring the use of Green Seal or Eco-Logo third party certified cleaning products, not one state agency or district had complained about new costs.

Preventing pests and pesticides (not Controlling Pests...). EPA's guidance should be more child-friendly. EPA might cite EPA's IPM regional grantees who are able to demonstrate how to reduce both pests and the use of pesticides. The "control pests" definition in the guidance omits mentioning the use of natural and mechanical barriers to reduce pest populations in a manner that does not require conventional pest control methods.

### **Additional Opportunities for Promoting Environmental Health in School**

The box "Five Components" (p38) is confusing: is this Five Components for State Agencies, or Five Components for Schools? They do overlap, but they need not be the same. Examples: States may wish to develop tracking, interventions, or educational outreach.

"Five Components" – and this section-- omits a congressionally required element of how states can collaborate with PEHSUs for onsite investigations. This should be seen as an essential component for states, but it would not be required for districts. The list of program components for states does not need to be the same as the list of program components for districts.

New Construction and Renovation Projects. EPA has correctly highlighted great opportunities to phase in healthy, greener building options, for which the best reference is Collaborative for High Performance Schools (CHPS) Operations Report Card (CHPS.net), or if EPA opts to delete NGOs, then EPA's Design Tools for Schools. CHPS has been adopted by 15 states as the preferred design tool for schools.

It is important however to correct the text to ensure that EPA OCHP and other new staff and states understand that the term "high performance" was coined to mean that both the occupants and the facility are "high performance". High performance was not ever limited to

energy/water conservation, but to whole building systems and the effects of healthy indoor environments on occupants.

We also strongly recommend that EPA provide a narrative on Footnote 22 (Kats) whose study documented that occupant health benefits, attendance, and productivity far outweigh the combined resource conservation savings. Water and energy savings are important, but because schools are stuffed with vulnerable occupants and because educational success depends on healthy attendees and adult productivity, the occupant health benefits in school facilities are far larger than they would be in commercial offices or factories. It is a unique feature of schools as building types. Children are the mission and output, and personnel the apparatus or machinery of education.

Renovations can be a happy time, and a very dangerous time. We commend EPA for identifying the many hazards.

However, very few schools can complete renovations during vacations. Most major renovation projects take longer than the winter or summer breaks; some are year-long. All must follow EPA's "Lead Safe Renovation Rule" as well as remediate or manage asbestos, as well as other hazards. For those reasons, we recommend that EPA clearly and upfront recommend stringent protections for children and other occupants in schools under renovation. A number of states have adopted policies to protect occupants that might be cited: these may call for contractors to maintain ventilation and life safety codes during all phases of work, or isolate dusts, fumes and debris from occupants, or screen and train construction laborers, and/or keep the work site clean. EPA's IAQ TFS program has a protocol to cite (similar to SMACNA), and state laws could be cited.

### **Enhancing Classroom Comfort**

This is a great section, but it could improve upon and clarify the referral resources.

**We urge that EPA decide if -- and on what basis-- it will cite a handful of NGOs in federal guidelines.**

**Citing a small number of NGOs when there are many equally if not better qualified national and state programs could be discriminatory; it is an implied program endorsement even with EPA's disclaimer, and a perceived conflict of interest. EPA might instead cite federal and state agency programs in the body of the state guidelines, then list EPA's school-focused contractors, stakeholders, and partners and other resources in the Appendix.**

Example. The US Green Building Council (LEED rating system) is widely praised and acknowledged for advancing the green building movement. CHPS was developed from LEED to address the needs of educators for healthier buildings (EHP 2010).

Yet EPA cites only US GBC, whose highest rated LEED buildings do not need to achieve a single credit in Indoor Environmental Quality (IOM 2011). And while LEED offers a variety of IEQ options and has talented practitioners in the field, LEED standards have not been developed by or advised by school users and occupants, occupational health experts, children's environmental health experts, or school facility directors and head custodians. Nor does LEED for Schools embed the recommendations of the NRC 2007 "Green Schools" study US GBC supported (NB - *LEED for all building types is being updated and is still in draft*).

Yet, in this section EPA refers to US GBC's Center for Green Schools and the National Green Schools Coalition: the Coalition appears to be a program of the Center, which would be one resource, not two separate resources, neither of which offer standards or expertise in indoor environments – the primary topic of the state agency guidelines for schools.

If EPA opts to reference NGOs in the final guideline text, then it must at least expand upon qualified NGO resources and EPA contractors. EPA should recommend the Collaborative for

High Performance Schools (CHPS.net) and CHPS' Operations Report Card to phase in high performance building systems in renovations. EPA should also reference EPA's Design Tools for Schools and the resources of both NCEF and ACEF (ED contractors, partners).

### **Additional Information and Resources**

EPA could make the resource listings easier for states and districts, as well as the public, by providing a guide to referral resources at EPA headquarters and in the regions. Which office answers which questions, and what are the intra-agency referral patterns?

EPA should also list all its applicable programs and indicate which are regulatory, which discretionary, as well as list other relevant federal agency programs.

EPA should expand the NGO listings to include EPA's partners and stakeholders in school environments cultivated over 15 years of voluntary field work, and in children's environmental health. Schools are a very big field and a big sector of the economy; EPA needs to advance with partnership strength.

### **Model School Environmental Health Program**

Overall comment. **EPA has really provided a great service** for states herein by scripting what districts should be doing. This is a wonderful and unexpected asset. Without burdening EPA with repeated technical comments, we note that the Five Component program should be edited to drive the prevention of problems as previously described.

We urge EPA to clarify the proposed uses of the **EPA IAQ Tools for Schools** framework for school buildings, and **CDC's Coordinated School Health Strategy** for state agencies which might also be of use in large urban districts (NYC public schools, LAUSD, Chicago public schools, Miami Dade)

Environmental Justice (box, p 52) is fine to be repeated here for districts, but it is congressionally required for states, as are efforts for children with learning and developmental disabilities, and so the context and content of the box should be moved up to the state guidelines section.

District Environmental Health & Safety Teams. Environmental conditions can be galvanizing issue in a positive or negative way, depending on how the school leadership handles issues as they come up, and if the community perceives the school as transparent and accountable. Addressing these factors may or may not require the creation of a new district team or committee.

Core factors for successful districts and schools are: ensuring that leadership is transparent and accountable; ensuring that occupants understand their roles and how they can promote a healthy indoor environment; ensuring that occupants (and parents) can express questions and concerns about facility environments and have accurate responses in a timely manner. Clear, timely public information and a well understood and utilized feed- back loop on facility concerns helps the district, the administration, personnel, parents, and community, and very much helps school facility managers.

New York State mandated boards of education to appoint district health and safety committees on which administrators, staff, and parents serve in 1998. Healthy Schools Network's sense-- having championed the law-- is that while committees can be a helpful tool for organized personnel, it is not clear how well committees are attuned to children's health issues, or whether parents know about or can get to daytime committee meetings, or whether parents' concerns will be addressed.

### **Five Key Components: Tiers**

**Kudos again to EPA for outlining a tiered program.** This is a great first step for districts. We should not need to repeat the Coalition recommendation above in full, but will note them generally below.

C&M. Cleaning “effective” and preventive. The box on green cleaning should be corrected.

Tier One steps should be amended to include: preventing dirt; prohibiting products from home (they have no MSDSs).

Tier Two steps could be re-ordered to better match how schools phase-in green cleaning: 1- inventory of current products; 2- invite reliable vendors to give a free demonstration of their 3<sup>rd</sup> party certified cleaning products at school for facility workers (uncertified products have no such requirement); 3- test various products and select pilot products; 4- communicate with school stakeholders about the pilot and about how they can help prevent dirt; 5- train staff; 6- develop and maintain a list of approved green products, prioritizing those without added fragrances (see NYS list); 7- invest in updated equipment; 8- celebrate: *the smell of clean is no smell!*

#### Prevent Mold and Moisture

EPA should correct the range of humidity levels, up to 65% to allow for Gulf States climates, as ASHRAE recommends.

Tier One- Add roof leaks as a major source of dampness and water intrusions in buildings.

Tier Three- add vents to the outside for all areas with major water uses (kitchens, gyms, showers, lavatories, pools).

#### Reduce Chemical Hazards

An excellent summary. Suggest adding a clearer explanation of mercury (Ballou HS Box) by translating 250mm = one cup equivalent.

Tier One – EPA should qualify that MSDS sheets are only marginally helpful; they are designed for adult workers, not for children. EPA should also recommend that schools that test and find unacceptable drinking water must provide free drinking water for children; it is not appropriate to close fountains and provide for staff, but not for children.

Tier Two – after conducting an inventory and disposing of old, outdated, or mislabeled products, school procurement officers should not re-stock the old materials. Schools should consult with third party certifiers (Green Seal, Eco-Log/UL-E) to see if they have certified cleaning, maintenance, paints, and other products that may be suitable, or consult with state green procurement initiatives and regional green consortia to determine if safer products are on state contracts.

Tier Three – EPA should not recommend that children test buses for diesel emission without further qualifying how children might do that without putting children at risk. IRB approval?

School Flag Program for high ozone/particulate days. Schools should be cautioned that indoor air is nearly always more polluted than outdoor air, according to EPA 5- up to 100 times worse. If schools have moldy, damp buildings, recent chemical spills, renovations underway, or new pesticide applications, the air inside the school may well be worse than the air outside. This is a naive recommendation without EPA qualifying it further.

#### Ensuring (not maintaining) Good Ventilation

To drive preventive maintenance, EPA should recommend that ventilating systems be evaluated to ensure that they are delivering air as designed and engineered, and that filters are clean. “Maintaining” does not necessarily drive better performing systems.

Tier Two – We question if EPA means Carbon Monoxide or Carbon Dioxide detectors in classrooms. CO monitors are typically recommended to be placed near combustion sources (boilers, stoves, hot water heaters, bus garages, voc ed shops). Occupied classrooms fill up with CO<sub>2</sub> without fresh air. CO<sub>2</sub> monitors are not as sensitive as the children and may not be useful tools. A new study (IJIEH 2011) shows adults with statistically significant

decrements in executive function at 1,000 ppm CO<sub>2</sub>. Unoccupied spaces generally have CO<sub>2</sub> of 500-700 ppm. Also CO<sub>2</sub> monitoring equipment read-outs will lag classroom actuals, resulting in increases in ventilation after the classroom is vacated, but not during class hours when CO<sub>2</sub> builds up and affects attention, concentration, and performance. Tier Three- should include encouragement to apply new air cleaning and air filtration technologies and to use the approved ASHRAE 62.1-2010 IAQ Procedure in school areas that require additional management of the indoor air quality.

#### Preventing Pests and Pesticides

Tier One – should include banning food and pets from classrooms. Food draws pests and pets provide nesting materials.

Tier Two – EPA should add a universal prior notice to parents and staff of applications. Pest monitoring is a Tier Two activity, not Tier Three.

#### Construction and Renovation Projects

EPA should recommend key features of school design that protect children: buildings need to be clean, dry, quiet, control dusts and particulates and provide good ventilation (NRC 2007), and be easy to keep clean and to maintain. Conventional green buildings are not required to meet any of these goals (NRC, IOM 2011).

Scheduling the installation of finish materials is critical: EPA should recommend that soft or absorbent interior materials are the last to be installed, after all finish work is completed. Soft goods absorb pollutants and particulates.

#### Faculty and Staff Training

This is a terrific section, but falls short on children's environmental health protections.

EPA should recommend that states support parent and community information and training in children's environmental health and safety in schools.