Indoor Air Quality Tools for Schools
Planning and Information Kickoff
Web Conference Summary
Minutes and Action Items
February 26, 2004

Participants

Robin Anderson, EPA
Michele Guarneiri, EPA
Dena Moglia, EPA
Eugene Benoit, EPA Region 1
Cristina Schulingkamp, EPA Region 3
LaShon Blakely, EPA Region 4
Chuck Ruple, EPA Region 6
Greg Crable, EPA Region 7
Shelly Rosenblum, EPA Region 9
Barbara Spark, EPA Region 9

Dave Conner, Cadmus Group
Tiffany Klebe, Cadmus Group

Tracee Binion, Chair- Health and Safety Committee, Jefferson County Federation of Teachers
Diane Estrin
Aileen Gagney
Judith Gostin, Pennsylvania Department of Health
Claudine Hennessy
Keith Kreemer
Dan LaHart
Anne Kelsey Lamb, Director, Regional Asthma Management and Prevention Initiative
Sheri Lynn, Program Coordinator, Vermont Department of Health
Mary McBride, Jefferson County Public Schools
Nicole McPhee, Professional Development Coordinator, Association of School Business Officials Intl.
Odette Mina
Jean Ross
Gary Stanley, Director of Facilities, Aptakisic-Tripp School District 102
Jeff Suggs, Environmental Health Specialist. New Hanover County Health Department
Thomas Vasek, IAQ Coordinator, Bensalem Township School District
Dennis Wilson

I. Agenda

Welcome and Introductions – Robin Anderson
Purpose of the Web Conference -- Robin Anderson
Background Information – Robin Anderson
Group Discussion – LaShon Blakely and Shelly Rosenblum

What are the primary challenges and barriers to IAQ implementation in schools?
What are some of the important issues for schools to consider when starting an IAQ program?
How has the IAQ TfS Kit played a role in your efforts?
What do you expect to gain from participating in these IAQ TfS conference calls?

General Question and Answer Period – Robin Anderson
Closing Remarks

II. Summary

Welcome and Introductions

Robin Anderson of the U.S. Environmental Protection Agency (EPA) began the conference by welcoming everyone and thanking them for participating. Robin announced that other members of EPA's *Indoor Air Quality Tools for Schools* (*IAQ TfS)* team were also participating on the call, including Michele Guarneiri (EPA's *IAQ TfS* lead) and Dena Moglia (senior *IAQ TfS* implementer). The entire EPA *IAQ TfS* team is excited about conducting and participating in these regular meetings, which are currently planned on a bi-monthly basis.

EPA's goal is to use this Web conference format to present IAQ-related materials that will assist schools in implementing the *IAQ TfS* Program. To enhance and improve this process, please let EPA know how to best serve participants implementing the Program.

Robin then reviewed the agenda, which includes the following topics:

- Welcome and introductions
- Purpose
- Background information
- Polling questions – questions that will help EPA structure future conference calls
- Discussion questions
- Question and answer session for participants
- Closing remarks

Purpose

EPA has planned this and subsequent conference calls as a venue for participants to receive information and assistance for their *IAQ TfS* programs as well as to network with one another. The calls will help to develop a support network for *IAQ TfS* programs. During the calls, participants will have an opportunity to discuss *IAQ TfS* issues and to receive guidance on resolving these issues. EPA hopes these conference calls will be used as a tool to strengthen the *IAQ TfS* Program by identifying and attempting to resolve barriers to successful implementation.

EPA plans to develop a list of Frequently Asked Questions (FAQs) for distribution to call participants and others. These questions will be drawn from this and future discussions.

Background Information

Prior to beginning the day's discussion, Robin Anderson provided background information on the *IAQ TfS* Program to set the stage for future discussions. First, she provided an overview of the *IAQ TfS* Program by highlighting the following aspects:

- Voluntary program
- No formalized training necessary to participate
- Introduces a common-sense approach to addressing IAQ
- Assists schools in assessing IAQ issues including mold, ventilation, rodents, maintenance, etc.
- Presents ideas about low-cost and no-cost means to improve IAQ
- Assists schools in developing specialized IAQ management plans

With the *IAQ TfS* Program, schools are encouraged to take ownership of their individual *IAQ TfS* programs. However, EPA and its partner organizations are available to support individual school needs. Some partner organizations include the American Lung Association (ALA), the National Education Association (NEA), and the Council of Educational Facilities Planners International (CEFPI), among others.

Robin Anderson provided additional background information about the history of EPA's *IAQ TfS* Program. Michele Guarneiri has been with the *IAQ TfS* Program since the beginning and was instrumental in its development. Since 1995, about 100,000 *IAQ TfS* Action Kits have been distributed. Twenty-two percent of U.S. schools have an IAQ management plan in place that meets EPA's guidelines; eleven percent of U.S. schools use the *IAQ TfS* Program in the implementation of their IAQ management plans. To date, 71 schools, school districts, and individuals have received an *IAQ TfS* Excellence Award or a Special Achievement Award. These are the highest awards that EPA grants for IAQ management in schools, and they are awarded to schools, school districts, or individuals that demonstrate an ability to maintain and implement the *IAQ TfS* Program effectively. In addition, several states, including Connecticut, Indiana, and West Virginia, have passed legislation requiring every school district to develop and implement IAQ management plans.

Polling Questions

In order to target this and future discussions, Robin asked a series of polling questions, which the call participants answered online. The results of the polling questions are listed below in the order in which the questions were asked.

Please indicate the option that best fits your current job description.
(13 respondents)

30% Facilities Personnel
7% Teachers
23% State/Local Government Officials
7% Health Professionals
30% Other

How many years have you been working on IAQ issues in schools?
(15 respondents)

20% <1 year
13% 1-2 years
13% 3-5 years
13% 6-10 years
20% 10-15 years
20% >15 years

How many years experience do you have with EPA's *IAQ TfS* Program?
(15 respondents)

20% <1 year
33% 1-2 years
20% 3-5 years
26% >5 years

What percentage of schools in your district are implementing the *IAQ TfS* Program and Kit?
(9 respondents)

11% 0 schools
33% 1-25% of schools
11% 25-33% of schools
0% 33-50% of schools
11% 50-75% of schools
22% 75-99% of schools
11% 100% of schools

In your experience, which is most important for implementing an IAQ management plan in schools?
(15 respondents)

26% Funding
13% Education/training

40% Administrative support
6% Communication
13% Regular maintenance

Following the polling questions, Robin Anderson thanked the participants for answering the questions, which provided insight about the audience. Based on the answers to the questions, the audience is diverse, but generally experienced with implementing the *IAQ TfS* Program.

The next portion of the call was a discussion led by Shelly Rosenblum (of EPA's Region 9 office in San Francisco) and LaShon Blakely (of EPA's Region 4 office in Atlanta) on a variety of topics.

Discussion: *Important Issues for Schools to Consider When Starting an IAQ Program*

Shelly Rosenblum, EPA Region 9

Shelly began his discussion by recognizing the range of IAQ experience represented on the call, both within EPA and among participants. The remainder of his discussion focused on barriers to successful implementation of IAQ programs in schools. This list of barriers includes many specific examples that Shelly has encountered over the year.

Shelly acknowledged that EPA and many other call participants strive to educate the American public on IAQ issues, often attempting to counteract media and advertising messages. The primary message that Shelly attempts to relay is that the best air quality results from adding the fewest things to the air; this includes air fresheners.

When introducing IAQ to schools, Shelly is often asked how an IAQ program will affect student performance and test scores (i.e., how are IAQ and student performance related). EPA and others are currently working to quantify the effects of IAQ on test scores and student performance. In fact, EPA has published a document entitled "Indoor Air Quality and Student Performance," 402-K-03-006 (see attached file). Sometimes, however, factors that may affect student performance are obvious, such as stuffy rooms with uncomfortable temperatures.

Another barrier to proper IAQ management occurs when teachers, administrators, and others believe that IAQ is strictly a maintenance staff responsibility. Training and education of all school personnel will help to change attitudes and convince building occupants that they can affect IAQ. Often the audience is more receptive to these messages if photographs are used to tell the story and if each person's responsibility is clearly defined. Teachers, maintenance personnel, facilities personnel, administration officials, and others may be drawn into the IAQ management process with effective training and education. The training and education can also help to address the argument that this Program is "too much work." The district's IAQ Coordinator is the key to opening and maintaining lines of communication among teachers, parents, administration, facilities personnel, and maintenance crews.

Many school representatives complain that they cannot secure buy-in from the administration. An additional frustration is lack of resources or funding. In addition to implementing a strategic communications and training program as discussed previously, *IAQ TfS* can be implemented at individual school sites. This can be used to demonstrate the effectiveness of the Program and to help secure administration buy-in in the future.

Some administrators are reluctant to develop and implement an IAQ management plan for fear of "opening Pandora's box." Some worry that an influx of questions, inquiries, and unrealistic demands will result from any mention of IAQ. However, these same administrators often do not realize that much press has already been generated about IAQ issues and many members of the community are already aware of the issues. These administrators must be trained to communicate proactively with all members of the

community. A proactive approach will generate support, whereas a reactive approach often leads to negative press/media and potential law suits.

The district maintenance staff is often seen as the “bad guy” when implementing IAQ management plans. However, this perception can be avoided or addressed by opening lines of communication. One suggestion is to develop and distribute a list of easy classroom improvements that can be made by teachers, students, maintenance crews, and others. If any complex or widespread problems are identified, the district staff should work to secure resources for improvements or remediation efforts. Seek assistance from the IAQ Coordinator to educate staff and the community about maintenance efforts in the schools.

LaShon Blakely, EPA Region 4

LaShon agreed with and reiterated all of the issues raised by Shelly. Most importantly, LaShon feels that lack of communication is the greatest barrier to implementing IAQ programs in schools. For example, a particular school with which LaShon has worked discovered a mold problem. This discovery prompted the school to conduct health tests on students. When results of the tests showed that the students were not adversely affected by the mold, school representatives sent letters to parents stating that students were not sick. However, the letter was sufficiently vague to trigger questions and suspicions among parents and the community. This action ultimately resulted in a law suit which prompted a full-blown mold remediation effort at the school. This outcome could have been avoided with proper and proactive communication. This example highlights the risk of hiding IAQ issues that may arise. Often, when schools attempt to hide issues or problems, the public or media tends to learn of the problem and become outraged.

Another common barrier to implementing a good IAQ management program is budget cuts for the maintenance department. Often these budget cuts are announced as maintenance departments are expected to assume additional IAQ-related tasks. The option of requesting additional funding is rarely an option in today’s cash-strapped schools. Consequently, maintenance departments are required to re-evaluate existing processes to ensure that they are operating as efficiently as possible. One way to assist these schools is to work with facilities managers to train maintenance staff on *IAQ TfS* and *Design Tools for Schools.* The success of any IAQ management program is dependent upon buy-in of the maintenance and facilities personnel.

Often, principals and superintendents do not support the *IAQ TfS* Program, nor do they “buy-in” to the Program. In other instances, individual principals do not support the Program in spite of district-wide support. Often, these principals are overwhelmed with work and cannot justify taking on another program. In such a situation, the district (i.e., IAQ Coordinator) may work with nurses, teachers, or other school-based representatives to start a school-based IAQ management effort. Local education associations may also influence principals locally. Principals are another group that will appreciate training and education on proactive communications and efforts to prevent problems and avoid future costs. Communication with all members of a school’s staff will help to change some individual classroom practices that may affect IAQ in schools.

When communicating the importance of an IAQ management plan, do not focus solely on existing school buildings. Inform school officials and representatives that new school buildings require an IAQ management plan to establish and maintain good IAQ. In addition, school districts must address IAQ issues in older school buildings that remain occupied while new construction is being completed. Focus must remain on the goal of preventing future problems rather than reacting to existing problems.

EPA representatives are available by phone to provide technical assistance and to answer questions about the *IAQ TfS* Program. EPA representatives are also available to present *IAQ TfS* trainings or workshops. These types of training courses will show that IAQ is not a local problem. Schools nationwide

often share common problems, and events such as this call provide a forum for sharing ideas and advice for solving these common problems.

Open Discussion of important issues to consider when establishing an IAQ Program

One participant from Sodexo mentioned that baseline data about the type of ventilation or air source for a particular classroom or building is useful in evaluating the success of IAQ management programs. This is particularly useful for old buildings.

Eugene Benoit (EPA Region 1) then inquired about proposed methods for obtaining this baseline data. Some states do investigations on a routine basis, whereby this data may be available. For instance, some state health departments may have baseline information (e.g., CO_2 and temperature) for certain school ventilation systems. Eugene agrees that this data would be useful for schools to determine achievements related to implementation of *IAQ TfS*. However, this data is rare in most states unless they have conducted testing or tracked complaints.

The Sodexo representative, reiterated that baseline ventilation data would be useful, especially for establishing or investigating a complaint. One important criterion to consider is the amount of fresh air (in cubic feet per minute) reaching each room. Often, in older buildings, these levels do not meet current recommended levels.

Eugene Benoit indicated that the baseline numbers are not a critical part of *IAQ TfS*. These baseline numbers are not considered part of the *IAQ TfS* Program, and Eugene does not consider baseline numbers necessary to track progress.

Dan LaHart, Environmental Manager of Anne Arundel Schools (Annapolis, Maryland), indicated that he is not currently implementing *IAQ TfS* because he has other issues to consider besides IAQ. He feels that this additional duty would be too time consuming to implement effectively in 125 schools with a 12,000 member staff and 80,000 parents. He is interested in learning about resources available from EPA, its partner organizations, and other sources for assisting school districts implement *IAQ TfS.* In particular, Mr. LaHart is aware of other districts that have received ALA grants. These grants were used to bring in a full-time person to implement *TfS*. Also, Mr. LaHart is interested in guidance on maintaining a program once it is implemented, as well as tips for keeping parents engaged.

Shelly Rosenblum suggested student involvement as one method for maintaining enthusiasm and involvement in an IAQ management program. Since a good portion of *TfS* is site-based, Shelly suggested that Mr. LaHart work to build teams and involvement at each school. He (Mr. LaHart) would then maintain responsibility for overall coordination and communication of the program.

Eugene Benoit suggested that Mr. LaHart work to generate interest in the *IAQ TfS* Program over time. He might begin by informing the superintendent about *TfS* and by working to gain administration buy-in. He could then move into each school by providing training/education sessions, preparing a newsletter (or articles in existing newsletters) that addresses IAQ issues, or simply directing interested individuals to EPA's Web site as a means of introducing them to the Program.

Shelly Rosenblum mentioned that Mr. LaHart could use one of EPA's letters with boiler plate language to introduce staff at each school to *TfS*. Such a letter could provide specific information about site-specific tasks for improving IAQ. See the attached document for an example letter.

Barbara Spark (EPA Region 9) offered some suggestions for promoting *IAQ TfS* in districts by involving other stakeholder groups (e.g., PTA, teacher unions, etc.). These other stakeholders can use their existing outreach mechanisms to communicate IAQ information to their members. These outreach mechanisms can be used to provide examples of common problems and easy fixes (e.g., blocking ventilation systems in classrooms), publish the IAQ backgrounder; articles, or other simple, background *IAQ TfS* information. Most recipients will be receptive to learning about IAQ and implementing simple fixes.

Eugene Benoit noted that meetings and conferences are excellent venues for presenting IAQ topics and building awareness. Example venues include Superintendent Association meetings, teacher association meetings, PTA meetings, etc. By responding to requests to speak and by proactively seeking opportunities for speaking engagements, EPA or partner groups can present *IAQ TfS* information at these types of meetings to introduce new groups to the Program and assist them in starting IAQ management programs.

Discussion: *Primary Challenges and Barriers to Implementing TfS*

LaShon Blakely

Many of the topics previously discussed centered around challenges and barriers to implementing an *IAQ TfS* Program in a school. However, LaShon views funding as one of the primary obstacles to implementing effective IAQ management strategies. With many schools facing budget crises, facilities managers must develop innovative strategies for managing IAQ and dealing with crises that may arise. Often no additional resources are available to implement an IAQ management program or to address issues. For instance, if a school has no funding for necessary HVAC system upgrades, then the facilities and maintenance (and IAQ Management) teams must identify ways to reduce the amount of pollutants in a building. This is a challenge for school buildings, considering the diverse array of activities that take place in most schools. In order to address such a problem effectively, the responsible team must examine the current building condition and search for way to maintain or improve each element. For example, evaluate the use of cleaning products, consider carpet cleaning procedures (i.e., address potential mold growth if carpets are cleaned when school is not in session and when the HVAC system is not operational), replace broken or damaged windows, etc. Schools should also explore creative and non-traditional funding sources, such as PTA fundraisers, local businesses (e.g., have them adopt a class or wing of the school), or other organizations.

Open Discussion of challenges and barriers to implementing an *IAQ TfS* Program

Dan LaHart agreed that funding (or lack thereof) remains an issue that reaches beyond the scenarios presented. Often a school's operations and maintenance budget is the first to be cut, and it is often cut the most. With that in mind, school administrators must consider the amount of square footage that custodial staff can be expected to clean. Anne Arundel County schools have three custodians per 75,000 square foot building, while the national average for commercial buildings is 18,000 square feet per custodian. Examples such as this illustrate that many custodial staffs are overburdened. As a result, many school buildings are not being maintained properly to prevent problems.

Shelly Rosenblum assured Mr. LaHart that his comments resonate with every participant; the lack of proper and sufficient maintenance is a common problem nationwide. However, proper cleaning and maintenance procedures are a fundamental aspect of the *IAQ TfS* Program. Again, the key to resolving the problem lies with effective education and communication. Teachers must understand that classrooms must be free of clutter to maximize the effectiveness of custodial staff (especially to allow proper dusting and vacuuming).

Eugene Benoit emphasized the importance of forming an involved *IAQ TfS* Team that can analyze the current situation and offer a list of recommendations. Often a team recommendation is more effective than an individual request and will help to secure additional resources (e.g., for custodial work).

Shelly Rosenblum indicated that the Association of School Business Officials publishes a list of recommended staffing levels. An official recommendation from a trusted source such as this could help in securing resources to meet the minimum or recommended staffing levels.

Polling Question

How would you rate the reaction of school occupants to your IAQ initiatives?
(16 respondents)

18% Positive

56% Mixed
6% Negative
18% They aren't aware of initiatives

Discussion: *Role of the IAQ TfS Kit in IAQ Management Efforts*

LaShon Blakely

Upon implementing *IAQ TfS,* many schools experience immediate, quantifiable results, such as drops in absenteeism and decreases in asthma rates or inhaler usage. In some schools and districts, the *IAQ TfS* Kit produces much more profound results. LaShon provided the following three examples:

- One school won a lawsuit by demonstrating that they implemented the *TfS* Kit. The lawsuit was filed by the husband of a teacher who died of respiratory failure.
- A school district spent about $700,000 on a mold remediation project. In order to avoid future expenditures of that magnitude, the district trained in-house staff to conduct future remediation work in accordance with *TfS.* By doing so, costs for remediation efforts were reduced to $70,000 - $80,000 per occurrence
- In another school, a student was removed from the school because of respiratory problems that were aggravated by the school building. After this school implemented the *TfS* Program, the ill student was able to return.

Shelly Rosenblum

Shelly provided an additional example to further highlight the importance of the *TfS* Program. One school district experienced public backlash for the use of portable classrooms and their typical IAQ issues. In response, the district hired consultants to study and report on the problems. However, the public outcry continued. Next, the district implemented the *IAQ TfS* Program, and demonstrated to the community that proactive efforts were under way. As a result, the local newspaper has cited the school district as a model because of its *TfS* program. The project lead has since moved to another school district and has opted to implement the program proactively at the new school district.

Open Discussion about the role of *TfS* in IAQ Management Efforts

Eugene Benoit observed that a school or district with a well-managed and implemented IAQ management plan often goes unnoticed. However, a crisis will highlight any IAQ efforts or lack thereof. Often the *TfS* Program can come to the rescue in these crisis situations, though the *TfS* Program is intended for proactive use to prevent problems from occurring.

Eugene Benoit noted that Vermont has also passed good IAQ legislation, which was not mentioned earlier. State-wide legislation is an effective method for getting schools to implement *TfS* proactively. States with legislation tend to be most successful in getting more schools involved in proactive IAQ measures. The public can promote legislation in other states by contacting their state congressmen.

Chuck Ruple inquired about promoting school success stories. He would like to see these success stories advertised on EPA's Web site as a means to promote successful implementation strategies.

Eugene Benoit provided more examples of recognition and promotion of successful *TfS* Programs, such as the Awards Ceremony at the National *TfS* Symposium, as well as Regional and state-wide recognition programs. In addition, the *IAQ TfS* Kit provides form letters to promote communications. Examples include memoranda to students, newsletters, Web sites, and letters and tips for working with media/press to place positive stories. This helps to generate press for IAQ issues other than in crisis situations.

Discussion: *what do you expect to gain from participating in these calls?*

Sheri Lynn (Vermont) would like to receive more information and guidance on actual costs (in personnel time and dollars) to implement IAQ management plans, in particular, and environmental management plans, in general. She is surveying Vermont schools in an attempt to quantify this

information. The cost of implementation is crucial information for use when advocating the use of the *TfS* Program.

Dan LaHart mentioned that Montgomery County (Maryland) Public Schools (MCPS) started a *TfS* program from scratch about six years ago. Since then, the district has won EPA's Excellence Award. This district could likely provide data and guidance on start-up costs.

Dena Moglia mentioned that Richard Cox is the current MCPS IAQ contact. His contact information will be distributed with this meeting summary.

Dan LaHart would like to receive information that could serve as a resource for facilities personnel. Specifically, he would like information on dealing with specific technical issues. For example, last summer/fall, Maryland had a three-week stretch with 90-plus degree temperatures and 90 plus percent humidity. This combination of factors led to HVAC problems in Mr. LaHart's 125 schools. When he sought help, he received conflicting recommendations from several engineers. As a result, Mr. LaHart is interested in having engineers and experts on a future call to answer similar questions. He would also like to be able to pose questions prior to the call so that other participants can have answers prepared for the call.

Several EPA representatives mentioned the TfS technical hotline can provide guidance on technical issues, such as those raised by Mr. LaHart. The hotline can be accessed weekdays from 8:30 am to 4:30 pm central time through a toll-free telephone number, **1-866-837-3721**. Questions may also be sent by e-mail to **tfs_help@epa.gov**. The hotline and e-mail are answered by University of Wisconsin engineers with IAQ experience.

Tracee Binion (Jefferson County, Alabama District 4) works for a large school system with over 5,000 employees. She is interested in obtaining information about funding sources and grants for IAQ projects. She would like to have this information available on future calls.

Diane Estrin (Community Action to Fight Asthma in California) is interested in a listing of all states with IAQ legislation or state mandates for implementing IAQ measures. Eugene Benoit responded that the Environmental Law Institute (www.eli.org) is the primary source of information on IAQ legislation. The Web site has a section dedicated to IAQ legislation in schools, which has been updated recently.

Gary Stanley (School District #102 in Buffalo Grove, Illinois) represents a small school district with four schools. Illinois is considering legislation which would require each school to complete indoor air assessments for establishing baseline data. His schools completed a similar exercise a few years ago. That testing focused on mold, asbestos, and other common pollutants. Mr. Stanley is fortunate to have test results available when the legislation is passed. However, Mr. Stanley is certain that other districts are not prepared for the new legislation. He would like additional information on communicating about the Program and getting IAQ management programs started in schools. This information is primarily necessary for the implementer (i.e., custodians and facilities staff). Mr. Stanley is also interested in identifying the most likely *TfS* advocate in a school. However, he recognizes that the advocate may vary among schools, districts, and in different situations. If a district is reacting to an existing problem, the decree will likely be handed down by the administration. However, proactive programs are usually best championed by the implementers.

Eugene Benoit suggested that parents are often the best advocates for IAQ management programs. However, he also recognizes that parental involvement also automatically make the program reactive.

Shelly Rosenblum reiterated EPA's offer for assistance trainings and communications. These training courses address the benefits of a proactive IAQ management program. Though proactive programs often require up-front costs, an effective program will likely save money in the future; it will also positively affect credibility. Superintendent buy-in is key to developing and maintaining a successful IAQ management program. However, program implementers can, and often do, push the idea through to the administration.

Another common challenge is getting principals at each school to implement a school-specific IAQ management program, even with superintendent buy-in and support.

Eugene Benoit suggests a strategy of safeguarding the most vulnerable individuals in each classroom, often asthmatic students. He suggests a district-wide program to reduce or remove asthma triggers in the classroom, and a communication/education program that offers suggestions for maintaining classroom areas. He also suggests stressing that fact that proactive IAQ measures often save money in the long-term.

Tom Vasek (Bensalem, Pennsylvania School District) suggests first targeting a school district's facilities manager. The facilities manager must be convinced that *TfS* can help with everyday facilities management tasks. If the facilities manager advocates the program, he will likely be able to secure funding from the administration and seek teacher support by showing progress. Since any IAQ problems identified in walkthrough or elsewhere will require repair or renovation by the facilities department, his buy-in essential for a successful IAQ management plan. If IAQ issues are pushed by parents, the school board, or the superintendent, then the facilities manager will be defensive and resentful. As such, he can also prevent work from getting done. Consequently, the facilities manager can be any ally or an opponent for any IAQ management plan.

Since the *TfS* has built-in appeal for school nurses (because it can reduce illness and asthma occurrence), business officials (because it saves money, and administrator and human resources personnel (because it can help to reduce absenteeism and increase student performance), *TfS* often sells itself to these populations. However, the Program must be SOLD to the facilities manager. They often must be taught to use money more wisely. The cost-savings aspect of the Program may not necessarily appeal to facilities managers because any money not used is generally taken away for use elsewhere in the school. Therefore, the key message for facilities managers is to identify ways to get "more bang for the buck."

Shelly Rosenblum reiterated that education and communication efforts must focus steps that can be taken in each classroom. To do so, the training must demonstrate how actions in each classroom (or other area of the school) can affect others, possibly the entire building. Shelly also mentioned that the new *Design Tools for Schools* guidance is available for new construction and renovation projects. Many of the issues raise during the call can be prevented by considering IAQ during design and construction. This approach will help to prevent problems and will help the maintenance staff perform their jobs more effectively and efficiently.

At the conclusion of the Web conference, Robin Anderson requested that all participants send their contact information (i.e., name, affiliation, and location) to iaqtraining@cadmusgroup.com.

III. Next Steps

Robin Anderson concluded the Web conference by thanking all speakers and participants and by reviewing the next steps and followup actions discussed.

- Distribute a summary of this call
- Distribute resource materials discussed during the call (contact information for EPA IAQ representatives, sample letters, "Indoor Air Quality and Student Performance" document, contact information for Richard Cox).
- Suggested topics for future calls include technical assistance, funding, and resolving the disconnect between administrators and staff.
- Schedule next Web conference and notify participants of date, time, and topic of next conference.
- Develop and distribute an agenda and speaker information for the next Web conference.
- Develop and distribute a list of FAQs.