



# **Shelby County Schools**

## **Indoor Environmental Quality Management Plan**

**Office of Risk Management**

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## **1. INTRODUCTION**

The health, comfort, and learning environment of students and staff are important aspects of Shelby County Schools' mission. Indoor Environmental Quality (IEQ) is a critical component of providing a healthy and comfortable learning environment. IEQ is important for the following reasons:

1. Indoor air pollutants can “cause or contribute to short- and long-term health problems, including asthma, respiratory tract infection and disease, allergic reactions, headaches, nasal congestion, eye and skin irritations, coughing, sneezing, fatigue, dizziness, and nausea<sup>1</sup>”.
2. Indoor air pollutants and extremes in temperature and humidity may cause discomfort, which can affect students' ability to concentrate and learn.
3. Indoor Environmental Quality problems can hasten building deterioration, contribute to the closing of schools, create liability problems, and strain relationships among parents, teachers, and the school administration.

In accordance with the Environmental Protection Agency (EPA), Tools for Schools, Indoor Air Quality Program, Shelby County Schools has implemented and is committed to maintaining an Indoor Environmental Management Plan that will help monitor and improve the quality of air in school buildings. The objectives of the IEQ Management Plan are to:

1. Reduce the levels of indoor air pollutants through preventive measures such as routine maintenance activities, periodic building evaluations and inspections, and IEQ-specific procedures.
2. Provide and maintain adequate air exchanges by repairing and maintaining ventilation equipment, which will promote a comfortable and healthy learning and working environment.
3. Respond to IEQ related concerns and problems in a thorough and prompt manner, and to effectively communicate the progress of investigations and their resolution to all interested parties.
4. Provide training for staff and parents on environmental health and safety issues.

## **2. INDOOR ENVIRONMENTAL QUALITY COORDINATOR**

Shelby County Schools has identified the safety advisor of the Office of Risk Management as the Indoor Environmental Quality Coordinator for the district. The school administration and school board is committed to providing the necessary support to meet the school district's IEQ Management Plan objectives.

The safety advisor's responsibilities include the following:

1. Acting as the key contact person within the district to respond to and address IEQ issues and concerns.

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<sup>1</sup> United States Environmental Protection Agency. “Indoor Air Quality Tools for Schools: Actions to Improve Indoor Environmental Quality”. Publication # 402-F-99-008. September 1999.

2. Acting as the lead staff person to develop and manage the district’s IEQ Management Plan, in accordance with local, state and federal (EPA, Memphis/Shelby County Health Department, etc.) requirements. This includes establishing an IEQ Team at each school, coordinating building walk-through inspections, coordinating the building systems evaluations, coordinating the investigations of reported IEQ issues and concerns, and modifying the Model IEQ Management Plan to fit the district’s specific needs and objectives.
3. Attending the IEQ Coordinator Certification training workshops.
4. Responding to reported IEQ concerns and issues.
5. Communicating with staff, parents, and other parties regarding the progress made with the Plan and the process of reporting IEQ concerns.
6. Obtaining school board approval of the IEQ Management Plan after every major revision.
7. Coordinating the annual review of the Plan, which involves building walk-through inspections, building systems evaluations, and revising the Plan to include the new information obtained.
8. Coordinating the IEQ Team activities and meetings.
9. Distributing the United States Environmental Protection Agency’s Indoor Environmental Quality Tools for Schools (TfS) kit to individual school IEQ Team coordinators.

### **3. INDOOR ENVIRONMENTAL QUALITY SCHOOL-BASED TEAM**

Shelby County Schools will establish an Indoor Environmental Quality Team at each MCS location with representatives from the staff, students, and parents. The school IEQ Team coordinators will assist the school district administration by reviewing IEQ-related information and recommending IEQ procedures to maintain and improve the air quality within district facilities and school buildings.

The Indoor Environmental Quality Team must be composed of the following individuals:

<u>Name</u>	<u>Position</u>	<u>Contact Information</u>	<u>Any Specific Duties</u>
<b>(Recommended Team Members)</b>			
	Principal		
	Asst. Principal		
	Secretary		
	Plant Manager		
	Nutrition Services Mgr.		
	MEA Representative(s)		
	School Nurse (if assigned)		
	Parent(s)		
	Student Representative(s)		

At work sites other than schools, the Indoor Environmental Quality Team recommended members will consist of the following:

Designated Building Administrator

An administrator from each floor of buildings with more than one level

Clerical from each floor of buildings with more than one level

Plant Manager

Nutrition Service Manager (if assigned)

Additional members can be appointed for large work sites

**---Team Member list is to be submitted annually to Risk Management via Email---**

The school-based IEQ Team is involved in the following efforts:

1. IEQ Team members contribute to the IEQ Management Plan creation and implementation by conducting walk-through inspection of school buildings and compiling information to submit to Office of Risk Management. The IEQ Team members have been trained in using the United States Environmental Protection Agency's *Indoor Environmental Quality Tools for Schools* (TfS) Action Packet, found in the TfS kit. The Action Packet includes a backgrounder, memo, and checklist relevant to the Team members' professional duties. A copy of this IEQ Management Plan will be kept with the TfS kit.
2. The IEQ Team will meet annually to review and update, as needed, the IEQ Management Plan, which includes the completion of walk-through inspections of school buildings, key building systems evaluations, and the review of existing procedures in the IEQ Management Plan.
3. The IEQ Team will meet quarterly to review IEQ issues. Recommended: January, April, June and September.
4. The IEQ Team will meet to evaluate and respond to IEQ concerns that have been reported to the district through the IEQ concern reporting procedure outlined in the IEQ Management Plan. The Team will take steps or recommend measures to resolve the reported concern.
5. IEQ Team meeting minutes, reports and other documents will be kept with the IEQ Management Plan.

#### **4. WALK-THROUGH INSPECTION OF SCHOOL BUILDINGS**

Each IEQ school-based team performs an IEQ walk-through inspection of the functional spaces in all the buildings that house administrative or educational operations. The walk-through inspections involve observations that assess the factors that affect Indoor Environmental Quality, through the use of general human senses (sight, smell, touch, hearing). During the walk-through, all physical components that affect the air quality of functional spaces are examined, including the flooring or carpet, walls, ceiling, furniture, air intake, building entrances, mechanical rooms, and the roof. The walk-through inspections provide some insight regarding the type, location, and magnitude of apparent IEQ related issues and problems.

The EPA TfS "Walk-through Checklist" is used during the walk-through inspections. All observations, recommendations and comments received from staff during the walk-through inspection are noted on the "Walk-through Checklist". All "Walk-through Checklists" are

signed and dated by the staff performing the walk-through inspections. Copies of the checklists and associated notes are kept with the IEQ Management Plan.

IEQ issues identified during the walk-through inspections are noted and addressed by the IEQ Team during the development of the IEQ Management Plan. Where appropriate, potential and existing problems are investigated and resolved.

District staff will perform building walk-through inspections annually. The walk-through inspections are documented by using Attachments 2-1 and 2-2. The “Walk-through Checklist” is kept with the IEQ Management Plan, with a copy of the Checklist emailed to Risk Management.

## **5. BUILDING SYSTEMS EVALUATION**

The school-level IEQ Team will evaluate the building systems with the TfS checklists. The IEQ Team coordinates the distribution, collection, and evaluation of the TfS checklists. These checklists serve to educate staff about IEQ, and help the IEQ Team to obtain IEQ-related information from the district staff who are most familiar with their respective areas. The following checklists shall be distributed, returned, and evaluated: “Teachers”, “Maintenance”, “Administrative Staff”, “Nurses”, “Food Services” and “Ventilation” checklists. It is suggested that additional checklists, provided in the TfS kit, are also distributed.

A memo accompanies the distributed checklists to identify the purpose of the checklists, and explain how to effectively fill out the checklists. The checklists use the staff’s experience and knowledge to identify and evaluate potential IEQ issues that may be associated with building system or operational failures.

The IEQ Team Coordinator keeps a log of the checklists, using the TfS log. During the evaluation of the checklists, obvious or likely IEQ problems are identified and the IEQ Team Coordinator establishes specific procedures or procedures to correct the problems. The same checklists or equivalent evaluations are completed annually to assess the district’s changing IEQ issues and concerns.

## **6. EVALUATION AND RESOLUTION OF IEQ ISSUES**

### ***Walk-through Inspection and Building System Evaluations Findings:***

During the walk-through inspections and building systems evaluations, the IEQ Team identifies IEQ problems and issues. The issues are prioritized from most important to least important. For urgent or simple issues, the proposed solutions and their outcomes should be noted for immediate attention.

The district determines which IEQ issues are to be deferred. Issues are deferred if:

- they are suspected to take more than three months to resolve;
- they are “big ticket” items that require re-appropriation of money; or
- time restraints limit the district’s ability to respond promptly.

The findings of the IEQ Teams are submitted to the Indoor Environmental Quality Team Coordinator for review and action. These reports are submitted immediately following each annual walk-through. A copy of the report is kept at the site. The Indoor Environmental Quality Team Coordinator assists the sites regarding issues that require district decisions or actions.

The deferred maintenance issues are described in the “Deferred Maintenance Table” located in Attachment 4-1. Issues are organized by priority and by who does the work (district staff or a contracted service provider). The district administration expects to complete the necessary maintenance, renovations, and construction by the date indicated.

***Resolving Problems reported to the IEQ Coordinator:***

Problems are reported to the IEQ Coordinator through the IEQ Concern Reporting Form, Attachment 3-1. The IEQ Coordinator documents all IEQ concerns, performs an initial investigation, and documents and communicates the resolution to all interested parties. All concerns are investigated and documented, reflecting the district’s commitment to addressing all IEQ related concerns.

The IEQ Team uses the IEQ Concern Reporting Form and the TfS “Problem Solving Wheel”, “Problem Solving Checklist”, and sections 10-13 of the TfS IEQ Coordinator’s Guide to help identify IEQ problems. If the problem cannot be identified, or persists despite efforts to identify and remediate it, the IEQ Coordinator discusses the matter with the appropriate school official(s) in order to determine whether a contracted service provider is needed.

When the problem is successfully identified, the IEQ Coordinator decides whether an immediate response is necessary, communicates with the relevant parties, documents the action taken, and keeps copies of the documents. Appropriate staff or consultants will visit the school or work location to assess the actual or potential environmental health and safety hazard within three work days of the notification from the IEQ team. When the problem is not urgent but requires a procedural change, the IEQ Coordinator organizes a meeting with the IEQ Committee to develop and recommend specific procedural changes. These procedural changes are presented to the appropriate school officials for review and adoption. All new or revised procedures are added to the existing IEQ Management Plan. All interested parties are informed about the measures taken to resolve the problem and of any procedural changes.

**7. COMMUNICATION PROCEDURE**

Communication is a critical element to successfully manage IEQ issues. The IEQ Coordinator and other district authorities try to limit misinformation and confusion through the use of effective communication. The IEQ Coordinator and other district employees communicate with relevant parties in a prompt, courteous, and consistent manner until the issue is resolved to the

greatest extent possible. It is the goal of Shelby County Schools to develop and maintain the trust of the community and staff.

Every time a concern is addressed or resolved, the IEQ Coordinator reports the measures taken and the resolution of the identified concern to the appropriate parties. This will ensure that all interested parties know what actions have been taken.

In addition, the IEQ Team and Coordinator will inform parents and staff about the following:

1. The IEQ Management Plan, how to view the Plan upon request, and how to obtain an IEQ Concern Reporting Form.
2. How to contact the IEQ Coordinator about IEQ issues and learn:
  - a. where to find self-help information to evaluate IEQ in the home; and
  - b. how to obtain information about the structural features and operational practices of the school buildings; and
  - c. how to obtain information on what parents can do to address IEQ issues that cannot be resolved through the concern reporting process. [*see Appendix A for resources to answer questions*].

Shelby County Schools will announce this information and the availability of resources to parents and staff using a specific letter at the beginning of the school year, Attachment 6.

In the unlikely event of an IEQ emergency, the district will accommodate the needs of students, parents, and staff. The media will be alerted when it is necessary to provide information to a broader audience. Every effort will be made to share appropriate information as soon as it becomes available to the school district.

## **8. IEQ CONCERN REPORTING AND RESPONSE PROCEDURE**

Shelby County Schools encourages the reporting of IEQ concerns, regardless of how trivial the issue may seem. The prompt reporting and resolution of IEQ issues has the potential to prevent serious problems from developing, which should prevent potential health effects, discomfort, and unnecessary costs. This makes the investigation of all reported concerns worthwhile.

The IEQ Coordinator will require the concerned staff, students, and parents to report their IEQ concern in writing. A written description of the concern should reduce misunderstanding and create a history that can be referred to at a future date. The “IEQ Concern Reporting Form”, located in Attachment 1-C, has been made available to district staff and parents. However, parental and student concerns can also be documented through the SCS Risk Management Office, Florida-Kansas Administration, 1380 Pennsylvania 2<sup>nd</sup> Floor, 38106, 416-5515, and staff concerns can be documented in the SCS Employee Incident Report. These forms should be completed and sent to appropriate offices to initiate an official IEQ concern reporting process; the Office Risk Management will then investigate the concern. The resolution of the issue will be documented and the interested parties will be informed in writing about the measures taken. IEQ Concern Reports and associated documents are located in the school office. Information collected is processed and stored according to the school district’s data practices policies.



## **9. EMERGENCY RESPONSE PROCEDURE**

Emergencies are defined as situations that require immediate action. This includes situations that are potentially life threatening, such as:

- complaints of headaches, nausea, and combustion odors;
- diagnosed Legionnaire's disease or tuberculosis; and
- spills of hazardous materials.

In addition, emergencies include situations where there is limited time available to prevent serious property damage or health problems, such as flooding in a carpeted area.

It is up to the discretion of the school administrators to determine emergencies on a case-by-case basis, using the above definition as a general guideline only. If doubt exists about whether exposure to a specific hazard constitutes an emergency, a precautionary approach may be used where the matter is handled as an emergency. Non-emergency situations are addressed according to the "Concern Reporting and Response Procedure", section 8.

Shelby County Schools officials shall respond and begin remediation of environmental health and safety hazards immediately. If the problem cannot be resolved with in-house resources, external help will be requested and convened to analyze the situation and collaborately plan appropriate emergency actions. The Risk Management Office will immediately notify the Office of the Superintendent and appropriate department administrators including but not limited to the Chief of Staff, Regional Superintendents, Chief of Business Operations, and Chief Academic Officer as to the situation.

If testing is conducted, results of the findings will be communicated to appropriate staff and with the school community. Parents will be notified of testing results. Individuals requiring additional information or clarification can contact the Indoor Environmental Quality Team Coordinator directly. If a hazard poses an immediate health threat to the students and staff, the affected building areas will be evacuated. All avenues of communication will be utilized to warn and inform interested parties in a prompt manner (see Communication Procedure, section 7).

## **10. PREVENTIVE MAINTENANCE AND OPERATIONS PROCEDURE**

Preventive maintenance means the routine inspection, adjustment, and repair of building structures and systems, including the heating, ventilating, and air conditioning system (HVAC), unit ventilators, local exhaust, fresh air intakes, and flooring. Preventive maintenance plays a major role in maintaining the quality of air, by assuring that the building systems are operating effectively and efficiently. Moreover, it helps to maintain a comfortable temperature and humidity level in occupied spaces.

Shelby County Schools' preventive maintenance schedule is located in Attachment 2-2. It describes the schedule and location of building and ventilation components that should be inspected and maintained on a routine basis. The schedule was established using the past experience of school district maintenance professionals, the availability of financial resources, and technical guides, including the manufacturer's specifications. The person performing the preventive maintenance should follow the checklist strictly, and the IEQ Coordinator or appropriate staff person will monitor its completion. All records of preventive maintenance

should be kept in the IEQ Management Plan or attached to the operating system for easy evaluation.

To the extent possible, school officials try to maintain the school buildings according to the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) recommended comfort parameters described in standards 55-1992 and 66-1999. If the parameters cannot be met, the district staff will make ventilation adjustments that provide a fresh air delivery, temperature, and humidity level that is as close to the ASHRAE parameters as possible.

## **11. CONSTRUCTION AND RENOVATION PROCEDURE**

Shelby County Schools considers Indoor Environmental Quality when planning construction and renovation projects. The findings from the walk-through inspections and building systems evaluations should be considered when planning renovations.

To the extent possible, major renovations are performed when school is not in session. If renovation projects must be performed while school is in session, the return air from any area being renovated is isolated from the main ventilation system. Engineering controls are used to contain and minimize the distribution of dust and other contaminants produced by construction activities. Cleaning operations are more frequent during and after renovation.

## **12. MOLD MANAGEMENT PROCEDURE**

Microbials, such as fungi (for example, mold), bacteria, and viruses, are a significant cause of illness, health symptoms, and discomfort. Because the easiest way to control microbial growth is to control moisture, school staff emphasizes moisture control to manage microbial growth.

Shelby County Schools officials pay close attention to water intrusion and microbial growth during the walk-through inspections, buildings systems evaluations, and other efforts. The maintenance staff has been informed about identifying damaged buildings systems and components that cause water leaks and water condensation. School staff is expected to make the necessary repairs and adjustments in a prompt manner. Materials damaged by water are replaced when possible. Materials, that cannot be replaced and must be kept (this could include carpets, padding, ceiling tiles, sheet rock, and insulation), will be dried preferably within 24 hours, but no later than 48 hours.

Materials contaminated with microbials are promptly cleaned or replaced. Mold growth is removed from non-porous surfaces with a strong brush and non-ammonia containing detergent, and then by thorough drying. Remediation projects that cannot be handled by district staff will be contracted to a professional. Large-scale remediation projects will follow the guidelines in the “Construction and Renovation Procedure” section 11, and additional control and protection measures may be necessary.

### **13. ANIMALS IN SCHOOL BUILDINGS PROCEDURE**

Since animals can be a source of allergens, asthma triggers, and microorganisms that can cause infectious diseases, Shelby County Schools has instituted an animal procedure. Information gathered from walk-through inspections, building systems evaluations, IEQ concern reports, and staff meetings has been used to create this procedure.

Animals should be kept in an appropriate habitat when they are not being used for education. They should be kept away from carpeted areas in order to minimize the transfer of allergens to the carpets, and the possibility of soiling the carpets.

Specific types of animals will be restricted if a concern is expressed by staff, students or parents. The district reserves the right to ban certain animals if they pose a threat to the safety or comfort of staff and students.

### **14. CLEANING AND CHEMICALS PROCEDURE**

Regular and thorough cleaning is an important means for the removal of air pollutant sources; however, the use of cleaning products may also contribute to indoor air pollution. To ensure that cleaning practices remove pollutant sources while using cleaning products appropriately, cleaning guidelines have been created:

- Custodial staff is instructed to only use cleaning agents approved by the district for school use. The bottles are clearly labeled, and stored in a secure area. Bottles of cleaning agents must be closed tight when stored.
- All material safety data sheets are stored in an area available to all staff, and the location of this information is discussed in the district's "Hazard Communications: Right to Understand (GHS)" annual training.
- Building rooms are maintained at reasonable cleanliness. Slightly damp cloths are used to remove dust from surfaces—however, wiped surfaces should not be left damp or wet for extended periods of time, since this can cause mold growth.
- Ammonia-based cleaning agents and chlorine-containing cleaners (such as bleach) are never to be mixed because this generates toxic gases.
- During routine operations, pollutant-releasing activities are restricted by time of day, week, or year. For example, the waxing of floors will be performed on Friday afternoons or vacations, to ensure that most gases are removed by the time classes resume. If pollutant-releasing procedures must be performed during school session, the minimum amount of chemical and local exhaust is used when available.
- Areas of frequent use are cleaned more often than areas of infrequent use.
- Large walk-off mats are used to trap dirt and moisture at building entrances. These mats are cleaned according to manufacturers' guidelines to ensure optimal performance. Trapping dirt and moisture at building entrances helps to maintain the cleanliness of floors and carpets throughout the building. Mats that are torn, uneven, or dangerously worn should be removed from the entrance.

## **15. FLOORING AND FURNISHING PROCEDURE**

Flooring can be a trap for allergens, and can be a source of potentially hazardous gases called “volatile organic compounds”, especially following installation. Carpets can be more difficult to properly maintain than hard flooring, and as a result, carpets may accumulate more pollutants. When performing building systems evaluations, walk-through inspections, and reviewing concern reports, the possibility of the carpet acting as the primary source of pollutant is considered. If a persistent problem is associated with carpeting, it is replaced with hard flooring, unless there is a compelling reason to install a new carpet.

Carpets will be phased out in certain parts of school buildings. Heavy traffic areas, building entrances, science laboratories, bathrooms, art rooms, and shop rooms will not have carpeting, and hard flooring will replace any existing carpets, as budget and time allows.

Furniture can also be a source of volatile organic compounds and trap allergens. Staff is not allowed to bring personal furniture to school. The school district approves and purchases furniture that is used on school property.

All carpets are cleaned with hot water extraction at a minimum of frequency identified in custodial operations manual. Carpeting is not cleaned during summer months unless the carpet can be dried within 24 hours. This also applies to carpeting supplied by an educational staff member.

## **16. OTHER IEQ-RELATED ENVIRONMENTAL PROCEDURES**

Shelby County Schools has established the following environmental procedures and programs to help improve and maintain the quality of air within our schools.

### **Asbestos Hazard Emergency Response Act (AHERA) Management Plan**

The AHERA Management Plan reduces the likelihood of the district staff’s exposure to asbestos during general operation and maintenance activities. It describes the location and condition of asbestos containing building materials, and their removal and repairs if necessitated by AHERA. The AHERA Management Plan also describes the proper record keeping practices that school officials follow. **The AHERA Management Plan is located in main office or school library.**

### **Integrated Pest Management (IPM) Program**

Integrated Pest Management (IPM) is an important strategy for maintaining good IEQ because both pest-generated substances (such as cockroach fecal matter) and pesticides can act as irritants and trigger allergies and asthma. The district’s IPM program should reduce the frequency and magnitude of both pesticide use and pest problems. The program should also reduce the likelihood of exposure to over-the-counter chemicals by building occupants introduced by staff members. The school district’s IPM file is located in the Office of Grounds Maintenance, 1364 Farmville, Memphis, TN.

### **Lead**

Lead can affect the nervous system, and young children (six years old and younger) are particularly susceptible. If lead is present in existing school building paint coatings, renovation procedures will be employed that minimize the exposure of building occupants to airborne lead-based paint particles. District maintenance and custodial staff have been trained by the Tennessee Department of Environment and Conservation in identifying health and safety procedures involving lead-based paint. In addition, a “Lead in Water Plan” has been implemented that includes water sampling, replacing faucets, piping and solder joints, education, and record keeping. This plan is located in the Office Risk Management.

### **Radon Gas**

Radon is a naturally occurring gas that can enter into school buildings from the underlying soils, and build-up to levels that increase occupants’ risk for developing lung cancer. Radon testing and mitigation has been performed in several schools in the district. Radon levels were found to be at 4 pCi/L or below. Any radon levels that exceeded 4 pCi/L would have been reduced to levels comparable to the outside air. Information on the radon testing and mitigation is located in the Office of Risk Management.

### **Tobacco Ban**

The Shelby County Board of Education Policy #6028 prohibits tobacco use in all public school facilities and vehicles. Information about the law and the school district’s implementation of the law is located in Shelby County Schools Policy Manual. This prohibition does not apply to the lighting of tobacco by an adult as a part of a traditional Indian spiritual or cultural ceremony.

## **17. EDUCATION PROCEDURE**

All district employees play an important role in maintaining and improving air quality since their behavior can affect the quality of the air present in school buildings. For example, placing heavy objects on unit ventilators, adjusting the room thermostats, or turning off noisy unit ventilators can worsen the quality of air in a room. An educated employee is more likely to take steps that maintain good air quality. In addition, an employee with an understanding of IEQ is more likely to report IEQ concerns quickly and accurately. For these reasons, the district staff is educated about IEQ.

Shelby County Schools performs an annual IEQ training session as part of the Hazard Communication Right to Understand Training. The IEQ Coordinator or other qualified persons perform the training. The training describes the importance of IEQ to health and learning, and the behavioral and building characteristics that are associated with poor IEQ.

Indoor Environmental Quality Training sessions will be offered to parents and community organizations quarterly. Training will be in coordination with other divisions including Health Services, Maintenance, Nutrition Services, along with outside community agencies such as the Memphis-Shelby County Health Department, Tennessee State Extension Services and other related organizations. Notification of the meetings will be provided to parents by the schools and the Parent Teacher Association.

## **18. ANNUAL REVIEW**

Shelby County Schools will perform an annual review in order to make changes to the IEQ Management Plan. The annual review is necessary because changes may occur in the building systems, components, occupants, and the administration's attitudes and priorities.

The annual review involves:

- building systems evaluations;
- walk-through inspections;
- reviewing IEQ Concern Reports and other information;
- discussing new issues with the IEQ Team; and
- changing the IEQ Management Plan as needed.

A description of the changes to the Plan will be written and included in all future versions of the Plan. This creates a history of IEQ that should reduce the likelihood of repeating procedures that were ineffective or inefficient.

## **19. DOCUMENTATION OF SCHOOL BOARD APPROVAL**

The **Shelby County Schools IEQ Management Plan** was approved and adopted **September 26, 2005** without exception. School board approval is sought after every major change to the Plan, or every year, whichever comes first.

**ATTACHMENT 1-A**

**INDOOR ENVIRONMENTAL QUALITY MATERIALS CHECKLIST**

Our school has on hand the following materials needed to perform Indoor Environmental Quality Reviews:

Yes	No	
_____	_____	Tools for Schools kit (if “No”, contact Risk Management at 65515)
_____	_____	SCS Indoor Environmental Quality Management Plan (if “No”, contact Risk Management at 65515)

\_\_\_\_\_  
Name of School/Site

\_\_\_\_\_  
Signature of Principal/Site Administrator

\_\_\_\_\_  
Date

**EMAIL TO RISK MANAGEMENT**

## ATTACHMENT 1-B

**Your IEQ Team must include all of the following people:**

- 1. Principal**
- 2. Asst. Principal (If your school has no AP, please note this on the form)**
- 3. Secretary**
- 4. Plant Manager**
- 5. Nutrition Services Mgr.**
- 6. MEA Rep.**
- 7. Nurse (If you have no nurse or he/she only comes to your school a few days a week, please note this on the form)**
- 8. Custodial/Cafeteria Helper**
- 9. Parent**
- 10. Student**





**INDOOR ENVIRONMENTAL QUALITY  
QUARTERLY BUILDING INSPECTION  
CHECKLIST**

- Interview of Building occupants (preferably Plant Manager) to determine if complaints have been filed concerning IEQ, and to identify known problem areas (water leaks, HVAC, repairs, unusual odors, etc.)
- Inspect air filter change schedule. Check HVAC units for proper installation. Check A/C for cleanliness.
- Check for quantity of air and quality of air dampers.
- Inspect coils, ensure condensate drain pans are clean.
- Check for standing water, inside or outside the building, especially around A/C units.
- Thorough walk-through of Building to determine if there are areas of the building connected to ventilation shaft where moisture can collect and stand for periods of time.
- Inspect chemical storage rooms for chemicals that should be discarded or have damaged containers.
- Inspect wooden cabinets with water supplies, i.e. chemistry labs and home economic labs, for leaks or leaks that have been repaired.
- Inspect drains to determine if water is being carried off properly. Check outdoor storm drains for stoppages by leaves, grass, etc. Check floor drains to ensure proper drainage.

## Preventive Maintenance Schedule

Edit according to operational needs of each school building.

	Every 3 Months	Every 6 Months	Annually	Every 2 Years	As Needed	Date Completed/ Checked
<b>HVAC System</b>						
Filters Replaced/Fitted Properly	x				x	
Fan / Air Flow Direction	x					
Belt Tension			x			
Drain Pans Empty/Clean	x					
Overall Cleanliness of Ductwork			x			
15-20 percent of Air Delivered is Fresh				x		
Calibration of System				x		
Thermostats Functional	x					
<b>UNIVENTS</b>						
No Objects on Univent Diffusers	x					
Filters Replaced					x	
Fan/Air Flow Direction	x					
Belt Tension			x			
Drain Pans Empty/Clean	x					
Overall Cleanliness of Unit		x				
<b>CLEANING SCHEDULE</b>						
Cleaning of Heating Coils			x			
Cleaning of Cooling Coils		x				
Cleaning of Drainage Areas		x				
Cleaning of Ductwork					x	
<b>AIR INTAKE</b>						
No Obstruction	x					
Air Flows into duct	x					
No Pollutant Sources Nearby (garbage, idling vehicles, exhaust)	x					
Dampers Operational	x					
Motors Operational	x					
<b>LOCAL EXHAUST SYSTEMS</b>						
Proper Exhaust Volume			x			
Air Direction Correct			x			
Fan Functional			x			
Outdoor Vent Checked / Cleaned			x			
<b>OTHER</b>						
Sewage Traps Filled with Water	x					
Hazardous Chemicals Storage		x				
Walk-off Mat Cleanliness	x					
Carpet Cleanliness	x					



## Deferred Maintenance Table

Location \_\_\_\_\_ Date \_\_\_\_\_

### Deferred Maintenance Table (in order of priority)

	IEQ Issue	Why deferred?	Proposed Timeline	Internal	District/ Contractor	Comments	Responsible Party at the School or District
	Example: <i>[roof leaks, water damage]</i>	<i>[Need approval of funding]</i>	<i>[Completion 8/2006]</i>	<i>[None]</i>	<i>[No / Leaks Roofs, Inc.]</i>	<i>Water leaking in rooms 1, 2 and 4</i>	<i>Maintenance Supervisor-Roofing</i>
1.							
2.							
3.							
4.							
5.							

Copy emailed to Risk Management

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## Indoor Environmental Quality Concern Form

This form can be filled out by the building occupant or by a member of the building staff.

Occupant Name: \_\_\_\_\_ Date: \_\_\_\_\_

Department/Location in Building: \_\_\_\_\_ Phone: \_\_\_\_\_

Completed by: \_\_\_\_\_ Title \_\_\_\_\_ Phone: \_\_\_\_\_

This form should be used if your concern may be related to Indoor Environmental Quality. Indoor Environmental Quality problems include concerns with temperature control, ventilation, and air pollutants. Your observations can help to resolve the problem as quickly as possible. Please use the space below to describe the nature of the complaint and any potential causes.

We may need to contact you to discuss your complaint. What is the best time to reach you? \_\_\_\_\_  
So that we can respond promptly, please return this form to Eric Thomas, Safety Advisor,  
Florida-Kansas Administration, 1380 Pennsylvania, 2<sup>nd</sup> Floor, 38106, 416-5515.

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OFFICE USE ONLY

File Number \_\_\_\_\_ Received By: \_\_\_\_\_ Date Received: \_\_\_\_\_

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## Indoor Environmental Quality Concern Form 2

Building Name: \_\_\_\_\_ File Number: \_\_\_\_\_

Address: \_\_\_\_\_

Occupant Name: \_\_\_\_\_ Work Location: \_\_\_\_\_

Completed by: \_\_\_\_\_ Title: \_\_\_\_\_ Date: \_\_\_\_\_

Section 4 discusses collecting and interpreting occupant information.

### SYMPTOM PATTERNS

What kind of symptoms or discomfort are you experiencing?

Are you aware of other people with similar symptoms or concerns? Yes \_\_\_\_\_ No \_\_\_\_\_

If so, what are their names and locations? \_\_\_\_\_

Do you have any health conditions that may make you particularly susceptible to environmental problems?

- |                                         |                                                         |                                                                              |
|-----------------------------------------|---------------------------------------------------------|------------------------------------------------------------------------------|
| <input type="checkbox"/> Contact lenses | <input type="checkbox"/> Chronic cardiovascular disease | <input type="checkbox"/> Undergoing chemotherapy or radiation therapy        |
| <input type="checkbox"/> Allergies      | <input type="checkbox"/> Chronic respiratory disease    | <input type="checkbox"/> Immune system suppressed by disease or other causes |
|                                         | <input type="checkbox"/> Chronic neurological problems  |                                                                              |

### TIMING PATTERNS

When did your symptoms start?

When are they generally worst?

Do they go away? If so, when?

Have you noticed any other events (such as weather events, temperature or humidity changes, or activities in the building) that tend to occur around the same time as your symptoms?

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## Indoor Environmental Quality Concern Form 2

page 2

### SPATIAL PATTERNS

Where are you when you experience symptoms or discomfort?

Where do you spend most of your time in the building?

### ADDITIONAL INFORMATION

Do you have any observation about building conditions that might need attention or might help explain your symptoms (e.g., temperature, humidity, drafts, stagnant air, odors)?

Have you sought medical attention for your symptoms?

Do you have any other comments?





## **Attachment 6:** Form Letter for Parents

[Name of School]

[Date]

Dear Parent:

It is the goal of Shelby County Schools to develop and maintain the trust of the community and staff. Our school is proud to be taking a leadership role in providing a safe, comfortable, and productive environment for our students and staff so that we achieve our core mission – educating students. Our school will follow the EPA guidelines to improve our Indoor Environmental Quality (IEQ) by preventing as many IEQ problems as possible, and by quickly responding to any IEQ problems that may arise.

[Name] has agreed to administer the IEQ program for our school. [Name] may be contacted at our school at [phone number and room number]. If you have questions or concerns, please do not hesitate to contact [him or her].

The school newsletter will carry progress reports as we learn more about IEQ in our school.

Sincerely,

[Name]

Principal

# Appendix A: Indoor Environmental Quality Resources for Parents and School Staff

The following is a list of resources recommended for school officials to use when addressing issues at school and assisting parents with their concerns.

## IEQ in Schools

Recommended Best Practices for Mold Investigations in Minnesota Schools (MDH)  
[www.health.state.mn.us/divs/eh/indoorair/schools/schools.pdf](http://www.health.state.mn.us/divs/eh/indoorair/schools/schools.pdf)

Healthy Children Healthy Schools Newsletter (MDH)  
<http://www.health.state.mn.us/divs/fh/mch/CAREweb/newsw01.html#intro>

2001 Policy Letter (MN Department of Children, Families, and Learning)  
<http://cfl.state.mn.us/FACILIT/hsletter.pdf>.

Minnesota Statute 123B.57 (statute referring to IAQ Management Plan requirement)  
<http://www.revisor.leg.state.mn.us/stats/123B/57.html>

US Environmental Protection Agency, Tools for Schools Program, [www.epa.gov/IAQ/schools/index.html](http://www.epa.gov/IAQ/schools/index.html)

Mold Remediation in Schools and Commercial Buildings (EPA)  
[www.epa.gov/IAQ/molds/index.html](http://www.epa.gov/IAQ/molds/index.html)

Teacher's Guide to Indoor Air Quality (Nat. Safety Council)  
[www.nsc.org/public/ehc/IAQ/teachgde.pdf](http://www.nsc.org/public/ehc/IAQ/teachgde.pdf)

Asthma and Schools  
[www.asthmaandschools.org](http://www.asthmaandschools.org)

Healthy Schools Network Inc  
[www.healthyschools.org/](http://www.healthyschools.org/)

## **Integrated Pest Management and Pesticide Issues**

Minnesota Department of Agriculture, IPM in Schools (fact sheets),  
<http://www.mda.state.mn.us/ipm/IPMinSchools.html>

University of Florida, IPM in Schools,  
[schoolipm.ifas.ufl.edu/](http://schoolipm.ifas.ufl.edu/)

Purdue University, IPM Technical Resource Center,  
[www.entm.purdue.edu/entomology/outreach/schoolipm/ipmfront.htm](http://www.entm.purdue.edu/entomology/outreach/schoolipm/ipmfront.htm)

National Pesticide Information Center, Oregon State University (in cooperation with the US Environmental Protection Agency), <http://npic.orst.edu/>, or call toll free 1-800-858-7378

University of Minnesota Extension Service, Community and School IPM,  
[www.extension.umn.edu/pesticides/IPM/ipmhome.htm](http://www.extension.umn.edu/pesticides/IPM/ipmhome.htm)

### General Information About IAQ in the Home

MDH Indoor Air Unit  
<http://www.health.state.mn.us/divs/eh/indoorair/index.html>

Energy Guide Series (MN Dept. of Commerce)  
[www.commerce.state.mn.us/pages/Energy/InfoCenter/EnergyGuides.htm](http://www.commerce.state.mn.us/pages/Energy/InfoCenter/EnergyGuides.htm)

Minnesota Department of Health, Children's Environmental Health  
[www.health.state.mn.us/childreneh](http://www.health.state.mn.us/childreneh)

US Environmental Protection Agency: "Clear your Home of Asthma Triggers"  
[www.epa.gov/IAQ/pubs/asthma.html](http://www.epa.gov/IAQ/pubs/asthma.html)

Children's Health Environmental Coalition: "HealtheHouse Home Page"  
[www.checnet.org/healthehouse/home/index.asp](http://www.checnet.org/healthehouse/home/index.asp)

Healthy Indoor Air for America's Homes (USDA Extension Serv.)  
[www.healthyindoorair.org](http://www.healthyindoorair.org)

Keep Your Home Healthy (North Dakota State Extension Serv.)  
[www.homemoisture.org/kyhh/ae1204-1.htm](http://www.homemoisture.org/kyhh/ae1204-1.htm)

### **Carbon Monoxide**

Carbon Monoxide Danger (Mn. Dept. of Commerce)  
[www.commerce.state.mn.us/pages/Energy/InfoCenter/codanger.htm](http://www.commerce.state.mn.us/pages/Energy/InfoCenter/codanger.htm)

Checklist for the Prevention of Carbon Monoxide (CO) Poisoning (Centers for Disease Control)  
[www.cdc.gov/nceh/asthma/brochures/checklistprint.htm](http://www.cdc.gov/nceh/asthma/brochures/checklistprint.htm)

Carbon Monoxide (Nat. Safety Council)  
[www.nsc.org/ehc/indoor/carb\\_mon.htm](http://www.nsc.org/ehc/indoor/carb_mon.htm)

Product Safety Tips: Carbon Monoxide (Underwriters Lab.)  
[www.ul.com/consumers/monoxide.html](http://www.ul.com/consumers/monoxide.html)

Product Safety Tips: CO Alarms (Underwriters Lab.)  
[www.ul.com/consumers/co.html](http://www.ul.com/consumers/co.html)

You Don't Have to Live with Carbon Monoxide (Healthy Indoor Air for America's Homes)  
[www.montana.edu/wwwcxair/facts\\_co.html](http://www.montana.edu/wwwcxair/facts_co.html)

## **Radon**

Radon in Minnesota Homes (MDH)  
[www.health.state.mn.us/divs/eh/indoorair/radon/index.html](http://www.health.state.mn.us/divs/eh/indoorair/radon/index.html)

Minnesota Radon Testing and Use of Test Results (MDH)  
[www.health.state.mn.us/divs/eh/indoorair/radon/radontestresults.pdf](http://www.health.state.mn.us/divs/eh/indoorair/radon/radontestresults.pdf)

Radon-Specific Publications for Schools (EPA)  
[www.epa.gov/IAQ/radon/pubs/index.html](http://www.epa.gov/IAQ/radon/pubs/index.html)

The Health Effects of Exposure to Indoor Radon (Natl. Acad. Sciences) [www.nsc.org/ehc/radon/public.htm](http://www.nsc.org/ehc/radon/public.htm)

Radon Publications (EPA)  
[www.epa.gov/IAQ/radon](http://www.epa.gov/IAQ/radon)

Iowa Radon Lung Cancer Study (Univ. Iowa)  
[www.cheec.uiowa.edu/misc/radon.html](http://www.cheec.uiowa.edu/misc/radon.html)

## **Mold and Moisture**

Mold in Homes (MDH)  
[www.health.state.mn.us/divs/eh/indoorair/mold/index.html](http://www.health.state.mn.us/divs/eh/indoorair/mold/index.html)

Is Indoor Mold Contamination a Threat to Health? (Wash. State Dept. of Health)  
[www.doh.wa.gov/ehp/oehas/mold.html](http://www.doh.wa.gov/ehp/oehas/mold.html)

Mold Q & A (Calif. Dept. of Health Services) [www.dhs.cahwnet.gov/org/ps/deodc/ehib/EHIB2/topics/qa.html](http://www.dhs.cahwnet.gov/org/ps/deodc/ehib/EHIB2/topics/qa.html)

Guidelines on Assessment and Remediation of Fungi in Indoor Environments (NY City Dept. of Health)  
[www.ci.nyc.ny.us/html/doh/html/epi/moldrpt1.html](http://www.ci.nyc.ny.us/html/doh/html/epi/moldrpt1.html)

Mold Remediation in Schools and Commercial Buildings (EPA)  
[www.epa.gov/IAQ/molds/index.html](http://www.epa.gov/IAQ/molds/index.html)

Mold Resources (EPA)  
[www.epa.gov/IAQ/pubs/moldresources.html](http://www.epa.gov/IAQ/pubs/moldresources.html)

Tools for Schools Guide – Clean up Mold and Control Moisture (EPA)  
[www.epa.gov/IAQ/schools/asthma/eat-cumcm.htm](http://www.epa.gov/IAQ/schools/asthma/eat-cumcm.htm)

## **Asbestos**

Asbestos (MDH)  
<http://www.health.state.mn.us/divs/eh/asbestos/index.html>

Frequently Asked Questions (MDH)  
<http://www.health.state.mn.us/divs/eh/asbestos/faq.html>

An Introduction: Asbestos (EPA)  
<http://www.epa.gov/IAQ/asbestos.html>

## **Lead**

Finding Lead in the Home (MDH)

<http://www.health.state.mn.us/divs/eh/lead/>

Alliance to End Childhood Lead Poisoning

<http://www.aeclp.org/>

Office of Pollution Prevention and Air Toxic (EPA)

<http://www.epa.gov/lead/>

Childhood Lead Poisoning Prevention Poisoning Program

<http://www.cdc.gov/nceh/lead/lead.htm>

www.cdc.gov/nceh/lead/lead.htm