

# **IAQ Management Plan**

## **Indiana Math and Science Academy**

**June 12, 2015**

**1. MISSION STATEMENT** The health, comfort, and learning environment of students and staff are important aspects of Indiana Math and Science Academy's mission. Working with EPA and their *IAQ Tools for Schools* Program, we developed an IAQ Management Plan that will help monitor and improve the quality of air in school buildings. The objectives of this IAQ Management Plan are:

- Reduce the levels of indoor air pollutants through preventive measures such as routine maintenance activities, periodic building evaluations and inspections, and IAQ-specific policies.
- Provide and maintain adequate airflow by repairing and maintaining ventilation equipment, which will promote a comfortable and healthy learning and working environment.
- Respond to IAQ-related concerns and problems in a prompt and thorough manner, and effectively communicate the progress of investigations and their resolution to all interested parties.

**2. ROLE OF THE IAQ COORDINATOR AND IAQ TEAM**

**IAQ Coordinator** Indiana Math and Science Academy has identified Teruko Knight-Gavia as the IAQ Coordinator for IMSA North. The school administration is committed to providing the necessary support to meet the school's IAQ Management Plan objectives. The IAQ Coordinator's responsibilities include:

- Acting as the key contact person within the building to respond to and address IAQ issues and concerns.
- Coordinating the development and management of the school's IAQ Management Plan. This includes establishing and overseeing an IAQ Team, coordinating building walkthrough inspections, coordinating the building system evaluations, coordinating the investigations of reported IAQ issues and concerns, and modifying the IAQ Management Plan to fit the district's specific needs and objectives.
- Responding to IAQ concerns and issues that are discussed or reported.
- Coordinating the IAQ Team's activities and meetings, including distribution of the IAQ checklists.
- Communicating with staff, parents, and other parties regarding the progress made with the Plan and the process of reporting IAQ concerns.

- Coordinating the annual review of the Plan which involves building walkthrough inspections, building systems evaluations, and revising the Plan to include new information.
- Obtaining director's and superintendent's approval of the IAQ Management Plan after every major revision.

**IAQ Team** Indiana Math and Science Academy has established an IAQ Team to represent *staff, students, and parents*. The IAQ Team assists the school by reviewing IAQ-related information and recommending IAQ policies to maintain and improve the air quality within the school buildings.

Led by the IAQ Coordinator, the IAQ Team is involved in the following efforts.

- Supporting the IAQ Coordinator to ensure good IAQ in all facilities and areas.
- Contributing to the IAQ Management Plan creation and implementation. The members distribute the IAQ checklists and the *IAQ Backgrounder* to the appropriate staff members.
- Meeting regularly *biannually* to review and resolve IAQ issues.
- Meeting *annually or as needed* to review the IAQ Management Plan, which includes the completion of walkthrough inspections of school buildings, key building systems evaluations, and the review of existing policies in the IAQ Management Plan.
- Meeting to evaluate and respond to IAQ concerns that have been reported to the district. The Team takes steps or recommends measures to resolve the reported concern.
- Maintaining IAQ Team meeting minutes, reports, and other documents in the IAQ Management Plan.

The following individuals are members of the IMSA North IAQ Team:

<u>Name</u>	<u>Position</u>	<u>Contact Information</u>
<b>Teruko Knight-Gavia</b>	<b>Administrative Assistant</b>	<b>317-259-7300 ext.101</b>
<b>Ramazan Sevendik</b>	<b>Assistant Director</b>	<b>317-259-7300 ext. 157</b>
<b>Levent Elibal</b>	<b>District operations Manager</b>	<b>317-259-7300 ext. 306</b>
<b>Lisa Watts</b>	<b>School Nurse</b>	<b>317-259-7300 ext. 210</b>
<b>Mr. Ravshan</b>	<b>Head of Maintenance</b>	<b>317-259-7300</b>

**Specific duties:** The IAQ Team will work to coordinate checklist distribution and collection and conduct facility walkthroughs and ensure that ventilation systems are operating properly. The School's Nurse Health Office will work to track health symptoms on a school map.

**3. BACKGROUND AND IAQ FINDINGS** Indoor air quality (IAQ) is a critical component of providing a healthy and comfortable learning environment. Indoor air pollutants may 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. In addition, indoor air pollutants and extremes in temperature and humidity may cause discomfort, which can affect students' ability to concentrate and learn. IAQ problems can hasten building deterioration, contribute to the closing of schools, create liability problems, and strain relationships among parents, teachers, school staff, and the school administration.

The *IAQ Team* and *IAQ Coordinator* will research IAQ issues affecting the school. For example, schools' histories related to radon, pests, lead, and other IAQ issues are investigated and documented.

During the walkthrough inspections and building systems evaluations, *IAQ Team* and *IAQ Coordinator* will identify IAQ and problems and issues. The issues are prioritized from most important to least important. Urgent or simple issues are addressed first and issues that require continual attention are scheduled appropriately.

Problems are reported to the IAQ Coordinator, who documents all IAQ concerns, performs an initial investigation, and documents and communicates the resolution to all interested parties. Many issues may be resolved using in-house staff. However, professionals, experts, and other outside personnel may be brought in to deal with specific issues. The district administration will be expected to complete the necessary maintenance, renovations, and construction in a reasonable amount of time.

The IAQ Coordinator *or Team* will use *a variety of tools, such as the Problem Solving Wheel, Problem Solving Checklist, and Sections 4-6 of the IAQ Reference Guide* to help identify IAQ problems. If the problem cannot be identified or persists despite the district's efforts to identify and remediate it, the IAQ Coordinator discusses the matter with the appropriate school official(s) in order to determine whether a contracted service provider is needed. When a problem has been identified, the IAQ Coordinator coordinates a response, communicates with the relevant parties, documents actions taken, and keeps copies of all documents. When the problem is not urgent but requires a policy change, the IAQ Coordinator will organize a meeting with the *IAQ Team* to develop and recommend specific policy changes. These policy changes will be presented to the appropriate school officials for review and adoption. All new or revised policies will be added to the existing IAQ

Management Plan. All interested parties are informed about the measures taken to resolve the problem and all policy changes.

#### 4. IAQ POLICIES AND PLANS

**Animals in the Classroom Policy:** While many teachers and students may have classroom pets, animals can be a source of allergens, asthma triggers, and microorganisms that may cause infectious diseases. Therefore, Indiana Math and Science Academy has instituted an animal policy based on information gathered EPA Best Practices. Animals should be isolated to the extent possible and should be kept away from carpets, upholstered furniture, and stuffed toys. Specific types of animals may be restricted from the classroom if a concern is expressed by staff, students, or parents. The district also reserves the right to ban certain animals if they pose a threat to the safety or comfort of staff and students. Classroom pets should be placed away from return air ducts and from students with known allergy or asthma problems.

*Live animals with the exception of fish in aquariums are only to be in the school for educational purposes. At no time will animals considered dangerous be brought into the classrooms.*

*When an animal is to be brought into a classroom a note will be sent home with the students of that class notifying the parents that an animal will be present. If known in advance this will be done at the beginning of the school year. It is up to the parents to notify the teacher or principal if their student is allergic to the animal. Upon such notice, the Principal will confer with the Teacher and determine what options are available including having the student transferred to a different classroom without animals or changing to a different species with no allergy problems, or not having an animal in the classroom. The school will not reveal the name of the student with allergy issues to students or parents. If after an animal is brought into the classroom, the parent finds their student is allergic to the animal, the school will work with the parent and teacher to resolve the issue. If necessary, housekeeping will clean all surfaces in the classroom to remove any animal dander that may still cause an allergic reaction by the student.*

*Examples of educational purposes where animals would be in the classroom for an extended period are:*

- 1) Animals used in health class to demonstrate effects of different diets.*
- 2) Animals used in biology to show developmental changes or diversity.*
- 3) Eggs incubated to show development.*

*Examples of educational purposes where animals are in the classroom for one day or less:*

*1) Pets/animals brought into the classroom to allow students exposure to a variety of species.*

*2) Pets/animals used to demonstrate obedience training.*

*This is not a comprehensive list of appropriate uses. The principal, when requested by a teacher, has the authority to determine if it is appropriate to bring an animal into the classroom.*

*Cleaning: Cages shall be cleaned by the teacher in charge of the animal (not students) on a routine basis as to avoid offensive odors or pest issues. Aquariums with fish are to be maintained by the teacher in charge of the aquarium including cleaning as needed.*

*When appropriate, teachers may allow students to handle and/or feed the animals.*

**Food in the Classroom Policy** Food should not be left in classrooms. When it is necessary to store food in classrooms, it must be kept in airtight, sealed containers to minimize the potential for pests, odors, and biological growth.

**Painting Policy** Schools must use latex, water-based paints; using paints that contain mercury or lead is prohibited. Painting and drying should only occur when the area of the building is unoccupied and properly ventilated. It is also important to inform all affected staff and students before a painting job begins. The school's Hazardous Materials Policy is located in main office.

**Hazardous Materials Policy** It is important to handle hazardous materials according to the manufacturers' guidelines. Wastes generated from hazardous materials should be stored separately from regular waste and disposed in appropriate containers. Hazardous materials are common in art, science, and vocational/industrial classes. Training sessions for staff can help explain the risks associated with hazardous materials and the importance of compliance.

**Integrated Pest Management Program** Integrated Pest Management (IPM) is a comprehensive strategy for controlling pests, pest-generated substances (such as cockroach fecal matter), and pesticides, which can act as irritants and trigger allergies and asthma. The district's IPM program aims to reduce the frequency and magnitude of both pesticide use and pest problems. The school's IPM file is located in main office.

**Non-Smoking Policy** Indiana Math and Science Academy prohibits tobacco use in all public school facilities and vehicles. Information about smoking regulations is located in Staff Personnel Handbook.

**Anti-Idling Policy** Delivery and bus pickup and drop off zones have been located away from building outdoor air intakes to ensure that exhaust fumes do not enter the facility. Indiana Math and Science Academy prohibits buses and cars from idling while waiting to pick up or drop off students. Buses shall idle no longer than the time required to bring engines to proper operating temperature and to defrost all windows. This policy is not in effect when temperatures fall below 32 degrees Fahrenheit. The school district's anti-idling policy is located in Parent Student Handbook.

## 5. PROCEDURES

**Cleaning and Chemicals** 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, guidelines have been created.

- Custodial staff shall only use cleaning agents approved by the district for school use. All products must be clearly labeled and stored in a secure area. Bottles of cleaning agents must be tightly closed when stored.
- All material safety data sheets should be stored in an area available to all staff, and the location of this information is discussed in the district's "Employee Right to Know" annual training.
- Rooms must be kept clean. 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) must never 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 gases are removed by the time classes resume.*
- Areas of frequent use should be cleaned more often than areas of infrequent use.
- Large walk-off mats must be 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.
- Staff members are not permitted to bring any cleaning products, pesticides, air fresheners, or other chemicals into the school.

### **Flooring**

The two most common types of floor covering for general use in schools are carpet and resilient floor covering products. Carpet offers acoustical and comfort benefits that are generally not available with other floor coverings. Many schools prefer to use carpet in

classrooms and administrative areas. Resilient flooring is used for high traffic areas including classrooms, hallways, cafeterias, art rooms, restrooms, and anywhere liquid spills are likely.

While there is considerable debate about the most appropriate flooring material for use in schools, EPA recognizes that there are advantages and disadvantages associated with all types of floors coverings. Regardless of the floor covering type, regular and effective cleaning and maintenance is essential to keep it dry and clean. All carpets must be cleaned with hot water extraction at least twice a year. Carpet may not be cleaned during summer months unless it can be dried within 24 hours.

**Preventive Maintenance and Operations** Preventive maintenance involves 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 comfortable temperatures and humidity in occupied spaces.

The preventive maintenance schedule for Indiana Math and Science Academy can be found in main office. The schedule describes the time intervals and locations of building and ventilation components that are inspected and maintained on a routine basis. All records of preventive maintenance should be kept attached to the relevant operating system for easy evaluation.

Unless otherwise notes, school buildings should be maintained according to the American Society of Heating, Refrigerating, and Air-Conditioning Engineers' (ASHRAE) recommended comfort parameters. If the recommended parameters cannot be met, the district staff makes ventilation adjustments that provide fresh air, temperature, and humidity levels that are as close to the ASHRAE parameters as possible.

**Construction and Renovation** Indiana Math and Science Academy will consider IAQ when planning construction and renovation projects. The IAQ Coordinator, *IAQ Team*, superintendent, and school board will discuss major structural changes that may impact IAQ. The findings from walkthrough inspections and building systems evaluations should be considered when planning renovations. *IAQ Design Tools for Schools (DTfS)*, a web-based guide for establishing good IAQ practices into the design, construction, renovation, operation, and maintenance of K-12 school facilities ([www.epa.gov/iaq/school design](http://www.epa.gov/iaq/school design)) can be utilized. These plans will be summarized and will be placed in a convenient location.

To the extent possible, major renovations should be 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 should be isolated from the main ventilation system. Engineering controls should be used to contain and minimize the distribution of dust and other contaminants produced by construction activities. Cleaning operations should be more frequent during and after renovation.

### **Microbial Management**

Microbials, such as mold, bacteria, and viruses, are a significant cause of illness, health symptoms, and discomfort. School staff should be aware that the easiest way to control microbial growth is to control moisture.

Signs of water intrusion and microbial growth should be investigated during the walkthrough inspections, building system evaluations, and other efforts. The maintenance staff should be informed about damaged buildings systems and components that cause water leaks and water condensation. School staff must make the necessary repairs and adjustments in a prompt manner. Materials damaged by water should be replaced when possible. Damp or wet materials must be dried within 48 hours (preferably within 24 hours).

Materials contaminated with microbials should be promptly cleaned or replaced. Mold growth should be removed from non-porous surfaces with a strong brush and non-ammonia containing detergent and thorough drying. Remediation projects that cannot be handled by district staff should be contracted to a professional. Large-scale remediation projects may require specific control and protection measures. For additional information on mold remediation, refer to EPA's guide, "Mold Remediation in Schools and Commercial Buildings" and EPA's website: [www.epa.gov/mold](http://www.epa.gov/mold).

### **Staff Education**

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 objects on unit ventilators, adjusting room thermostats, or turning off unit ventilators can worsen the quality of air in a room. An educated employee is more likely to take steps to maintain good air quality. In addition, an employee with an understanding of IAQ is more likely to report IAQ concerns quickly and accurately. For these reasons, the district staff must be educated about IAQ.

Indiana Math and Science Academy performs an annual IAQ training session, as part of the teacher professional development. The *IAQ Coordinator or another qualified person* performs the training. The training will include *the importance of IAQ to health and learning*. Staff should complete all the checklists. At a minimum, each year the Teacher's, Ventilation, and Building and Grounds Maintenance Checklists should be completed.

### **Communication**

Communication is a critical element to successful IAQ management. The IAQ Coordinator and other district authorities try to limit misinformation and confusion through the use of effective communication. In order to develop and maintain the trust of the community and staff, the IAQ Coordinator and other designated district employees should communicate with relevant parties in a prompt, honest, and courteous manner until the issue is resolved. Every time an IAQ concern is addressed or resolved, the IAQ Coordinator should report the measures taken and the resolution of the identified concern to the appropriate parties.

In the unlikely event of an IAQ emergency, the district will accommodate the needs of students, parents, and staff. One or more contacts shall be selected to handle the media and update the community during a crisis. No one other than the district representative(s) should discuss IAQ-related issues with the press. The media will be alerted by Katherine Beckwith 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.

The IAQ Team and Coordinator will inform parents and staff about:

- The IAQ Management Plan and ongoing efforts, how to view the Plan upon request, and how to obtain an IAQ Concern Reporting Form.
- How to contact the IAQ Coordinator about IAQ issues.
- Where to find self-help information on how to evaluate IAQ in the school and to learn about structural features and operational practices of the school buildings.

The Indiana Math and Science Academy will provide this information to parents and staff using *the IMSA Star school newsletter, "Right-to-Know" notification, and/or the school website: north.imsaindy.com*.

## **6. STAFF RESPONSIBILITIES FOR MAINTAINING GOOD IAQ**

All staff members are responsible for improving and maintaining good IAQ

- **Teachers** should refrain from interfering with airflow from ventilators (e.g., do not stack books or other items on ventilators, cover vents with posters, or turn off the fans due to noise), remove clutter in their classrooms, properly dispose of hazardous waste, and enforce the school's various IAQ policies in their classrooms.
- **Administrators** should communicate the school's activities to the school board, staff, students, and community. They also need to ensure that the school is implementing IAQ policies appropriately.
- **Facility operators** must ensure that HVAC systems are operating properly and that the buildings are maintained adequately and cleaned regularly.
- **Custodians** need to follow all policies regarding cleaning chemicals, ensure that the school is regularly vacuumed and swept, clean drain pans, empty trash cans, and check drain pipes regularly. They should also look for signs of pest problems and inform the appropriate people of any issues.
- **Health Officers/School Nurses** should track illnesses, such as asthma, that may provide an early warning of IAQ problems.

**7. APPLICABLE LOCAL AND STATE REQUIREMENTS/REGULATIONS** Indiana Math and Science Academy will meet the following local and state requirements and regulations related to IAQ: Indiana State Department of Health Title 410 IAC 33

## **8. EMERGENCY RESPONSE**

### **Emergency Response Policy**

An emergency is defined as an unforeseen circumstance that requires immediate action, assistance, or relief. This includes situations that are potentially life threatening, such as:

- Spills of hazardous materials;
- Complaints of severe headaches, nausea, and combustion odors; and
- Diagnosed Legionnaire's disease or tuberculosis.

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

It is up to the discretion of the school administrators to identify and react to 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 "Reporting and Response Policy."

District officials must respond to emergencies immediately. If the problem cannot be resolved with in-house resources, external help should be acquired (e.g., local health

agency, IAQ professionals). If a hazard poses an immediate health threat to the students and staff, the affected building areas must be evacuated. All avenues of communication need to be utilized to warn and inform affected or interested parties in a prompt manner.

### **IAQ Reporting and Response Policy**

Indiana Math and Science Academy encourages the reporting of IAQ concerns, regardless of how trivial the issue may seem. The prompt reporting and resolution of IAQ issues has the potential to prevent serious problems from developing, which will help to prevent potential health effects, discomfort, and unnecessary costs. This makes the investigation of all reported concerns worthwhile.

The IAQ Coordinator should request concerned staff, students, and parents to report their IAQ concerns in writing. A written description of the concerns reduces misunderstanding and creates a history that can be referred to at a future date. All written concerns should be sent to the IAQ Coordinator to initiate an official IAQ concern reporting process. The resolution of the issue needs to be documented and the affected parties should be informed in writing about the measures taken. Information collected must be processed and stored according to the school district's policies.<sup>30</sup>

**9. STEPS FOR PREVENTION** Indiana Math and Science Academy is committed to preventing IAQ problems. To reach this goal, the district will complete the following activities:

- Every school must designate an IAQ contact, distribute and collect checklists, and report results to the IAQ Coordinator.
- The IAQ Coordinator should ensure that all IAQ efforts are coordinated and completed in a timely manner. All IAQ policies and programs (for anti-idling, non-smoking, etc.) must be in place by August 3, 2015.
- The school must complete an annual review to make changes to the IAQ 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;
  - Walkthrough inspections;
  - Reviewing IAQ concerns and other information;
  - Discussing new issues with the IAQ Team; and
  - Updating the IAQ Management Plan as needed.

A brief description of the changes to the Plan should be summarized and included in all future versions of the Plan. This documentation should reduce the likelihood of repeating policies and procedures that were ineffective or inefficient and ensure the success of the IAQ program.