Indoor Air Quality Management Plan

Duluth Public Schools Academy dba Duluth Edison Charter Schools

Approved by DPSA Board, June 18, 2019

Every Minnesota public school district must have a health and safety program that complies with health, safety, and environmental regulations and best practices including indoor air quality management. (Minn. Stat. § 123B.595, Subd. 4. Facilities plans; and Minn. Stat. §124E.03, Subd.2. General federal, state and local requirements.)

Though not a requirement for charter schools, DPSA wishes to align with best practices and therefore has created this plan and process. ([required of school districts and intermediate districts, not charter schools, under statute 123B.595].

Table of Contents

1. INDOOR AIR QUALITY COORDINATOR

Duluth Public Schools Academy has identified Steve Lindberg, Facilities Manager, as the Indoor Air Quality Coordinator. The school administration and school board is committed to providing the necessary support to implement the IAQ Plan.

The IAQ Coordinator is:

1. an individual that is either based in the district or spends most of his/her time in the district.
2. able to answer basic questions from parents.
3. authorized to respond to parents and local complaints as well as problems and complaints forwarded by state agencies.
4. fulfills a separate IAQ function from that of building systems maintenance expert.

The IAQ Coordinator's responsibilities include:

1. Monitoring a written IAQ Management Plan, encompassing the U.S. EPA 'Tools for Schools' and MDH guidelines. Bring to board any needed changes in plan.
2. Coordinate the IAQ Team and delegate as appropriate tasks below.
3. Conduct and document an annual building walkthrough.
4. Monitor plan implementation including documenting situations and work practices that require indoor air quality remediation.
5. Inform and educate staff about indoor air quality procedures and policies.
6. Develop a communication plan to include response to building complaints.
7. Respond to regulatory agency correspondence, guidelines and recommendations.
8. Monitor regulatory changes and new developments.
9. Communicate proactively with staff, parents, and other parties regarding the progress made with the IAQ Plan and any other relevant IAQ information.
10. Manage compliance with other IAQ-related regulations, such as smoking, asbestos, lead
11. Review and approve renovation projects to determine whether they appropriately address IAQ concerns and are consistent with the IAQ Management Plan and other requirements.

2. SCHOOL BOARD ADOPTION

The DPSA School Board adopted the initial IAQ Plan on **June 18, 2019.** Changes recommended by the IAQ Team are brought to the School board for approval. School board minutes indicating annual IAQ Plan approval and changes are maintained at the DPSA Business Office, 1515 London Road, Duluth, MN 55812

3. ANNUAL UPDATE

DPSA performs an annual update of the IAQ Plan, as part of the updates to the five-year facility plan.

The annual review involves:

1. Ensuring an IAQ Coordinator is functioning in the roles stated above
2. An operational IAQ Management Plan is implemented
3. Walkthrough inspections
4. Building systems evaluations
5. Reviewing IAQ Concern Reports and other information
6. Discussing new issues with the IAQ Team
7. Creating a 'Plan to Address Identified Issues'
8. Reviewing and changing the IAQ Management Plan as needed

4. GOALS AND OBJECTIVES

The health, comfort, and learning environment of students and staff are important aspects of DPSA's mission. Indoor air quality (IAQ) is a critical component of providing a healthy and comfortable learning environment. DPSA's goals are as follows.

1. Minimize indoor air pollutants, which will reduce the likelihood of health problems, including asthma, respiratory infections, allergic reactions, and other health problems.
2. Control temperature, humidity, and ventilation associated problems, which will foster students' comfort and learning.
3. Prevent indoor air quality problems, which will slow building deterioration, avoid school closures, minimize liability risks, and foster a positive relationship among parents, teachers, and the school administration.

DPSA has implemented an IAQ Management Plan that will monitor and improve the quality of air in school buildings. The objectives of the IAQ Plan are the following.

1. Reduce the levels of indoor air pollutants through preventive measures such as routine maintenance activities, periodic building evaluations and inspections, and IAQ-specific policies.
2. Provide and maintain adequate air exchanges by maintaining ventilation equipment.
3. Respond to IAQ-related concerns and problems in a thorough and prompt manner, through investigation, documentation, and effective communication.

5. INDOOR AIR QUALITY TEAM

DPSA has established an IAQ Team. The IAQ Team assists the school administration by reviewing IAQ-related information and recommending IAQ policies to maintain and improve the air quality within district facilities and school buildings.

The Indoor Air Quality Team is composed of the following individuals: Bonnie Jorgenson, Head of School, Steve Lindberg, Facilities Manager, Tim Golden, Director of Business Services, Ryan Dickinson, Health and Wellness Coordinator, and Katie Bailey, School Nurse.

The IAQ Team is involved in the following efforts.

1. IAQ Team members contribute to the IAQ Plan creation and implementation.
2. The IAQ Team evaluates non-routine IAQ concerns that have been reported to the IAQ Coordinator. The Team takes steps or recommends measures to resolve the reported concern.
3. The IAQ Team meets quarterly to review ongoing IAQ issues and projects.
4. The IAQ Team meets annually to conduct an annual review the IAQ Plan.
5. IAQ Team meeting minutes, reports and other documents are kept with the IAQ Plan in the Head of School's office.

6. WALKTHROUGH INSPECTIONS

An IAQ walkthrough inspection is conducted annually of all functional spaces in buildings that house administrative or educational operations. The purpose of the walkthrough inspection is to identify new problems, further evaluate previously identified problems, and confirm corrective actions and other changes. The inspection is a quick overview of each building. The walkthrough inspections provide some insight regarding the type, location, and magnitude of apparent IAQ-related issues and problems.

The walkthrough inspections assess IAQ through the use of general human senses. The inspections check the occupied spaces (classrooms, hallways, offices, kitchens) and other 'functional' areas (exterior, roof, mechanical rooms, bathrooms, storage rooms, and boiler rooms). The walkthrough identifies problems related to: cleaning, fresh air ventilation, pests, nearby pollutants, pesticides, moisture, walk-off mats, temperature, humidity, odors, mold, occupant concerns, dry drain traps, exhaust ventilation, chemicals, fuel containers, engines, combustion appliances, lead, and radon.

The following issues are emphasized:

1. Water intrusion problems (interior and exterior)
2. Ventilation failures and/or problems
3. Building/structural failures and/or problems
4. Cleanliness of buildings and classrooms
5. Need for O&M programs (e.g. ventilation, carpet, building compounds)

A checklist developed by the IAQ Team is used. Walkthrough inspections are combined with the other building systems evaluations to form a 'super walkthrough inspection'.

IAQ issues identified during the walkthrough inspections are addressed by *the IAQ Team.*
Copies of the walkthrough checklists are kept with the IAQ Plan in the Facilities Manager's Office.

7. PLAN TO ADDRESS IDENTIFIED ISSUES

During the walkthrough inspections and building systems evaluations,IAQ problems and issues are identified. The issues are prioritized from most important to least important and tracked in the 'Plan to Address Identified Issues Table' maintained by the IAQ Team.

Issues are categorized and addressed through one or more the following methods:

1. Completing one-time repairs (immediate or near future actions).

2. Scheduling and executing mid to long- term projects.
3. Identifying deferred maintenance items that may be addressed if/when funding is available.
4. Adopting new policies and practices as part of the IAQ Plan annual review.

This plan has an implementation schedule that describes the timeline to remediate known IAQ issues. The plan also assigns an individual who is responsible for completing the task or overseeing the work. After completion of building walkthrough inspections, the IAQ Plan is updated every year to address identified issues. Responses to particular staff concerns and complaints are also maintained.

8. TOBACCO & E-CIGARETTE BAN

Tobacco smoking, chewing or ingestion is prohibited in all school facilities and vehicles, as mandated under MN Statute 144.4165. In addition, the use of e-cigarettes is prohibited in any building owned or operated by a school district according to Minnesota Statutes, section 144.414, subdivision 5(a)(1). The lighting of tobacco by an adult as a part of a traditional Indian spiritual or cultural ceremony is the only exception to these prohibitions in schools. While this law does not apply to outdoor smoking, DPSA has also banned smoking on school grounds.

9. ASBESTOS

Asbestos is a mineral fiber that can be found in some building materials. If these materials are damaged or disturbed, they may release asbestos fibers into the air. Airborne asbestos fibers pose an increased health risk for mesothelioma, lung cancer, and asbestosis.

In compliance with federal law, DPSA has developed and maintains an Asbestos Hazard Emergency Response Act (AHERA) Management Plan for our Raleigh building. This plan reduces the likelihood of exposure to asbestos. Asbestos containing materials are regularly inspected. Removal is done safely, following applicable state and federal laws.

10. LEAD

Lead can be found in paint and varnishes, in pre-1978 building structures, and possibly other materials and items. When lead is released as dust or chips, individuals may inhale or ingest the lead. This can affect the nervous system, and young children are particularly susceptible.
The school has determined the areas that have lead paint. When renovation that disturbs this paint is conducted, lead-safe work practices are employed that minimize the exposure of building occupants to airborne lead-based paint particles. Any required work is done by a hired certified inspector.

11. INTEGRATED PEST MANAGEMENT

Pests (such as mice and cockroaches) and pesticides can cause health problems, such as allergy and asthma symptoms. Integrated Pest Management (IPM) is an important strategy for maintaining IAQ because it reduces pesticide use and pest problems.

The school strives to minimize pesticide use and utilize non-chemical options where feasible. Individuals that apply certain pesticides must be properly licensed by the Minnesota Department of Agriculture. ***DPSA*** contracts with Guardian Pest Management Control and stipulates in its contract with the company that proper licensing is maintained. Pesticides are only applied indoors during unoccupied times and with fresh air supply air set to 100 percent outdoor air, unless pesticides have been recently applied by the air intake.

Parents and staff are notified about the application of certain pesticides, per MN Statute 121A.30, by September 15 of each school year. General notification occurs through weekly parent emails. Individual notification is also provided, when requested by a parent or staff.

12. RADON

Radon is a naturally occurring gas that can enter any building from the underlying soil. In some cases, radon can build-up in classrooms, which may increase occupants' risk for developing lung cancer. While radon testing is not required, the school has elected to test every five years.

In compliance with MN Statute 123B.571, when radon testing is conducted:

1. The Minnesota Department of Health radon testing plan is followed, as described in this policy;
2. The results are reported to the Minnesota Department of Health; and
3. The results are reported at a school board meeting.

If short term testing is chosen, testing is conducted on school days only (not holidays, vacations or weekends), between November 1 and March 31. If long term testing is chosen, testing is conducted in a manner where at least half the test duration includes days between November 1 and March 31. Certified radon testing devices are used, as listed by either the National Radon Proficiency Program (NRPP) or the National Radon Safety Board (NRSB). All frequently-occupied rooms are tested, including rooms with ground contact and rooms immediately above unoccupied spaces that are in contact with the ground, such as crawl spaces and tunnels. If necessary, follow-up testing is completed in all frequently-occupied rooms that have radon. Corrective measures are taken in frequently-occupied rooms that have radon following Environmental Protection Agency (EPA) guidelines described in 'Reducing Radon in Schools: A Team Approach.' Re-testing is completed after corrective measures that reduce radon levels.

13. PREVENTIVE MAINTENANCE AND OPERATIONS

Preventive maintenance means the routine inspection, cleaning, adjustment, and repair of building structures and systems, including the heating, ventilating, and air conditioning system

(HVAC), local exhaust ventilation, 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 in occupied spaces.

DPSA preventive maintenance schedules for each building are located in the facilities manager's office. It describes the building and ventilation components that are inspected and maintained on a routine basis. The schedule was established using the past experience with maintenance professionals, the availability of resources, and technical guides, including the manufacturer's specifications. The person performing the preventive maintenance follows the checklist strictly, and the IAQ Coordinator monitors its completion. All records of completed preventive maintenance are kept in the facilities manager's office.

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 parameters described in standards 55 and 62. If the current parameters cannot be met, school staff make ventilation adjustments that provide a fresh air delivery, temperature, and humidity level that are as close as possible to the ASHRAE standard.

14. MICROBIAL PREVENTION AND REMOVAL

Microbial organisms, such as mold and bacteria, can cause illness (including allergies, asthma, and respiratory symptoms), costly damage, and discomfort. Microbes need moisture, a food source (such as drywall) and other particular conditions to grow. Moisture control is emphasized to prevent and manage microbial growth, because it is the easiest way to control microbial growth.

DPSA officials pay close attention to water intrusion and microbial growth during the walkthrough inspections, buildings systems evaluations, preventive maintenance activities, and the investigation of reported concerns. The maintenance staff have received basic training about identifying moisture problems. School staff are expected to address problems in a prompt manner.

Materials damaged by water are replaced when possible (e.g., ceiling tiles, boxes, books). Materials that cannot be replaced and must be kept (e.g., carpets, sheet rock, insulation, structural lumber, etc) are dried, preferably within 24 hours, but no later than 48 hours. Porous materials that remain wet longer or items wetted with dirty water are evaluated on a case-by-case basis, but these are usually replaced.

Materials contaminated with microbial growth are promptly cleaned or replaced. Microbial growth is removed from non-porous and semi-porous surfaces (solid wood, concrete, metal, etc.) by cleaning with a detergent, followed by application of diluted bleach or other antimicrobial, when necessary, and then thorough drying. Porous materials that have mold growth are typically replaced.

Microbial or moisture problems that are difficult to identify or remediate are contracted to a professional.

15. ANIMALS IN SCHOOL BUILDINGS

Animals can be a source of allergens that cause allergy and asthma symptoms, microorganisms that can cause infectious diseases, and bites or stings. DPSA has adopted animal procedures that strives to minimize animal-related health problems while recognizing the positive educational role animals can have in schools.

DPSA reserves the right to ban certain animals if they pose a threat to the safety or well-being of staff and students.

Before an animal is brought to a classroom, the teacher must request permission from the Head of School. If a known sensitive individual is present or uses the room, then the request may be denied. Requests for animals that are merely pets and serve no educational purpose may also be denied. This policy does not apply to companion animals, which are permitted in the school building. If or when animals are brought to school on a temporary basis (e.g., 'show and tell' events), the event will be held, where possible, outdoors or in a room with a hard floor (e.g., gym). Cold-blooded animals (fish, reptiles, amphibians) are recommended over warm-blooded, furry or feathered animals.

If an animal is permitted, the responsible staff person is expected to watch for any obvious health symptoms that may be related to the animals, such as allergy or asthma symptoms. The staff person is also responsible for the care of the animal, including cleaning and maintenance of the habitat and other areas that may become soiled. Staff and students' hands must be washed after handling animals or contacting their waste. Animals must 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 and soiling of the carpets. Finally, animals should be kept away from air supply and return vents.

16. CLEANING AND CHEMICALS

Regular and thorough cleaning is an important means for the removal of air pollutant sources; however, the cleaning products themselves release chemicals into the air. Keeping flooring and furniture clean can help to minimize dust, allergens, and the likelihood of mold growth (if the flooring becomes wet).

To ensure that cleaning practices remove pollutant sources while using cleaning products appropriately, cleaning the following procedures have been adopted.

1. Custodial cleaning products are stored in a secure area. All bottles are clearly labeled. Bottles of cleaning agents must be closed tightly when stored.

2. Environmentally preferable products are used, where cost and performance are comparable to conventional cleaning products.
3. HEPA-filtered vacuum cleaners are used to clean carpeting and entry mats.
4. Teachers and other staff are provided a cleaner for spot cleaning. Staff are not permitted to bring cleaning products from home.
5. Teachers and other staff are encouraged to minimize clutter, to ensure rooms are easier to clean and to minimize dust collecting surfaces.
6. Most cleaning and other maintenance is completed during unoccupied hours. Most routine cleaning is performed after school.
7. The building and rooms are maintained at reasonable cleanliness. Each building's operations and maintenance schedule specifies the cleaning and maintenance schedule for flooring, entry mats, and furnishings.

17. FLOORING AND FURNISHING

New flooring and furniture will emit volatile organic compounds, which may irritate people's airways. Older furniture and flooring accumulate dust and allergens, which can be released into the air from time to time. If porous flooring or furniture becomes wet, they can develop mold growth.

When performing walkthrough inspections, and reviewing concern reports, the condition of flooring and furnishings is evaluated. Where persistent problems are found, the flooring or furniture is replaced, preferably with low-maintenance and smooth surfaced flooring and furniture.

Flooring and furniture are cleaned according to the operations and maintenance schedule. Carpets are vacuumed and hard flooring mopped daily. . In addition, carpet extraction cleaning is conducted and hard flooring is refinished every 12 months. Carpeting is not cleaned during summer months unless the carpet can be dried within 24 hours. After extraction cleaning, carpeting is dried with floor fans and dehumidifiers**.** Hard flooring is re-finished during the summer using environmentally preferable products.

Carpets will be phased out throughout or in certain parts of school buildings. Heavy traffic areas, hallways, building entrances, science rooms, bathrooms, art rooms, and areas where food is eaten will not have carpeting, and hard flooring will replace any existing carpets in such areas.
.

18. OUTDOOR AIR POLLUTION

Outdoor air pollution, from nearby agriculture and industry, or general pollution related to fires or vehicles, may impact school occupants' health and comfort. Pollutants such as fine particulate matter, ozone, and odors can become a problem intermittently.

The IAQ Coordinator tracks the daily air quality index, and when air quality is poor, steps may be taken to limit outdoor activities and monitor individual susceptible children.

19. PLANTS

Individuals can be allergic to certain plants, such as cut flowers and flowering plants. In addition, mold can grow on the soil, plant or pots.

Up to three plants are permitted per room. Staff are responsible for plants in their area, and should immediately clean up any water or dirt that spills out of the plant. Plants should not be over-watered and cannot be placed on carpet, ventilators, or other locations where accidental over-watering can cause problems. Plants that develop mold (on leaves, on soil, or pot) must be removed.

20. COMMUNICATION

Communication is a critical element to successfully manage IAQ. The IAQ Coordinator and other district authorities try to limit misinformation and confusion through the use of effective communication. The IAQ 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 DPSA to develop and maintain the trust of the community and staff.

The IAQ Coordinator is:

1. able to answer basic questions from parents:
2. authorized to respond to parents and local complaints as well as problems and complaints forwarded by state agencies.

In addition, the IAQ Team and Coordinator inform parents and staff annually about the following.

1. The IAQ Plan and how to view the Plan upon request.
2. How to report IAQ concerns.
3. How to contact the IAQ Coordinator.

In the unlikely event of an IAQ emergency, the district will strive to 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.

21. CONCERNS

DPSA 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 should prevent potential health effects, discomfort, and unnecessary costs. This makes the investigation of all reported concerns worthwhile.

The IAQ Coordinator may require concerned individuals report their IAQ 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 IAQ Coordinator investigates the concern and documents findings and any changes implemented. The IAQ 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 action(s) have been taken. Where possible, the resolution of the issue, to the satisfaction of the concerned individual, is also documented.

22. TRAINING

All district employees play an important role in maintaining and improving air quality. Staff behaviors can affect air quality in a room and specific staff need to be aware of policies. An informed 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 DPSA staff are educated about IAQ.

DPSA performs an annual IAQ training session of all staff at the annual start of school orientation. Members of the IAQ team and/or outside professional provides training and review the IAQ plan.

In addition to the general training, specific staff receive training on policies and procedures related to their rooms or jobs.

1. Teachers: animals, food, plants, furniture, clutter, chemicals, air movement/unit ventilators, sensitive students
2. Custodians: cleaning, moisture, chemicals, problem identification and reporting
3. Grounds: pesticides, chemicals, grass clippings away from unit vents
4. Facilities staff: ventilation, operations, maintenance, moisture

23. EMERGENCY RESPONSE

Emergencies are defined as situations that require immediate action. The DPSA Crisis Manual includes responses for hazardous materials, gas leak, mass illness and more.

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 ‘Concerns’ procedures outlined in this document.