

Indoor Air Quality (IAQ) Management Plan Community Unit School District 95 Lake Zurich, IL

1. Mission Statement

The health, comfort, and learning environment of students and staff are important aspects of Community Unit School District 95 (CUSD 95) Lake Zurich's mission. Working with the U.S. Environmental Protection Agency (EPA) and their *IAQ Tools for Schools* Program, and also with the Illinois Department of Public Health (IDPH), we developed an Indoor Air Quality (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. IAQ Coordinator and IAQ Team

IAQ Coordinator

CUSD 95 has identified the Director of Facilities and Grounds as the IAQ Coordinator for the district. The school administration and school board is committed to providing the necessary support to meet the school district's IAQ Management Plan objectives.

The IAQ Coordinator's responsibilities include:

- Acting as the key contact person within the district to respond to and address IAQ issues and concerns.

- Coordinating the development and management of the district'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 two building walkthrough inspections per year, building systems evaluations, and revising the Plan to include new information.
- Obtaining school board approval of the IAQ Management Plan after every major revision.

IAQ Team

CUSD 95 has established an IAQ Team at each school to represent staff, students, and parents. The IAQ Team assists the school district administration by reviewing IAQ-related information and recommending IAQ policies to maintain and improve the air quality within district facilities and 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 implementation. The members distribute the IAQ checklists and the IAQ Backgrounder to the appropriate staff members
- Meeting regularly, quarterly, or as needed 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 concerns.
- Maintaining IAQ Team meeting minutes, reports, and other documents in the IAQ Management Plan.

The following individuals are members of the IAQ Team:

Co-chairperson: Principal
Co-chairperson: Director of Facilities
School Nurse
Teachers/Staff
Parents
Board Member (if possible)
Student (if possible)

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, unions, and the school administration.

The IAQ Coordinator along with part or entire IAQ school committee researches 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, the IAQ coordinator or his designee (Facilities Coordinator) identifies 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 are resolved using in-house staff. However, professionals, experts, and other outside personnel may be brought in to deal with specific issues.

The IAQ Coordinator and/or Team uses a variety of tools, such as the EPA Tools for Schools (TFS) kit I (Problem Solving Wheel, Problem Solving Checklist, and Sections 4-6 of the IAQ Reference Guide) and website 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. The IAQ Coordinator also may contact IDPH or USEPA to discuss persistent IAQ problems or any proposed changes to the IAQ Management Plan..

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 organizes a meeting with the IAQ Team or a committee to develop and recommend specific policy changes. These policy changes are presented to the appropriate school officials for review and adoption. All new or revised policies are 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 have classroom pets, animals can be a source of allergens, asthma triggers, and microorganisms that may cause infectious diseases. Therefore, CUSD 95 has instituted an animal policy based on information gathered from walkthrough inspections, building systems evaluations, IAQ concern reports, and staff meetings.

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.

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. The use of mercury-containing antimicrobial agents in paint was banned in 1990 or 1991, so mercury in new paints should not be an issue. Lead is still used in some industrial paints, but lead-based paint will not be used in District 95. 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.

Hazardous Materials

It is important to handle hazardous materials according to manufacturer's guidelines. Employees are not allowed to bring hazardous materials to school premises. Material Safety Data Sheets (MSDS) will be available at each school in the Maintenance Office.

Asbestos Hazard Emergency Response Act (AHERA) Management Plan

An AHERA Management Plan is required by Federal law and is intended to prevent staff exposure to asbestos during general operation and maintenance activities. It describes the location and condition of asbestos-containing building materials, and documents their removal and repairs. The AHERA Management Plan also describes the proper recordkeeping practices that school officials must follow. Schools must update their AHERA Management Plans with information collected from their periodic surveillance every 6 months, re-inspection of buildings for asbestos-containing materials every 3 years, and response actions taken within the school. The AHERA Management Plan is located in the main office of the following schools which have ACM: Seth Paine Elementary School, Sarah Adams Elementary School, May Whitney Elementary School, and Lake Zurich High School. It is also available in the Facility Director's office at 66 Church St., Lake Zurich, IL.

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. No pesticides will be used inside schools. Outside of schools, only the least toxic methods will be employed, and by a licensed pest control applicator. The school district's IPM file is located in the Facility Director's office at 66 Church St., Lake Zurich, IL.

Lead Policy

Lead can adversely affect the nervous system. Young children are particularly susceptible. Small areas of lead paint exist in the May Whitney Elementary School in doors, door jambs, and a few window sills. Lead paint surfaces will be inspected during 2 yearly inspections and repainted as needed using lead safe methods and a licensed lead contractor. A copy of the consultant's report can be found in the Facility Director's office at 66 Church St., Lake Zurich, IL. Water is provided by the Village of Lake Zurich in all schools except Middle School North and Spencer Loomis Elementary School, where it is provided by the Aqua Company of Hawthorn Woods. Please refer to these two organizations for any information on lead in water.

Radon Gas Policy

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. Testing will be implemented every 5 years and in accordance to the Illinois Emergency Management Agency recommendations. Information on the radon testing is located at the Facilities/Maintenance Office at 66 Church Street.

Non-Smoking Policy

CUSD 95 prohibits tobacco use in all public school facilities and vehicles.

Anti-Idling Policy

Delivery trucks/vehicles 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. CUSD 95 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. Trucks are not to idle their engines when delivering material other than at loading docks at our schools. If idling at loading docks results in a problem, you may wish to restrict idling at loading docks, too. Remember, diesel exhaust contains negligible carbon monoxide, but it contains high levels of nitrogen oxides and particulates. Nitrogen oxides and particulates are irritants which may cause eye, nose, and throat irritation, as well as aggravate asthma.

5. Procedures

<u>IAQ Parameter</u>	<u>EPA Recommended Measures</u>	<u>District 95 IAQ Program Objectives</u>	<u>District 95 IAQ Program Specifics</u>	<u>EPA Concurs</u>	<u>IDPH Concurs</u>
Inspections	Inspect as often as possible.	Train custodial, maintenance and school staff to inspect everyday and put in work orders. Inspect fully two times yearly by Facilities Dept.	In place	X	X
Temperature	Winter 67.5-75.5° Summer 73-80°	Winter 70-73°. Summer 74-85° in non air-conditioned spaces and 74-80° in air-conditioned space. Open windows if no air-conditioning.	In place	X	X
	Properly maintain heating and air conditioning equipment.	Perform preventive maintenance according to equipment manufacturers' recommendations.	In place	X	X

	Provide adequate ventilation and good air distribution.	Monitor outside air intake through CO2 checks bi-annually. Also refer to CO2 parameter below.	In place	X	X
Humidity	Maintain relative humidity between 30-60% except on rainy days, summer humid days or winter days below 32 degrees.	Measure during two yearly full inspections or more often if needed.	In place	X	X
Water Leaks	Inspect as often as possible.	Monitor for roof leaks, pipe leaks, spills, etc. visually and with moisture meter. Discard porous items such as ceiling tiles if wet for more than 24 hours. For carpeting, if < 9 sq ft of wet area, shampoo with germicide and fan dry. For areas > 9 sq ft, replace carpet with tile in reasonable timeframe. If carpet is over ACM tile, replace during next unoccupied break time (winter break, spring break, summer). Locate source of water leak and repair.	In place	X	X
Carbon Dioxide	Maintain under 700 ppm plus outside air CO2 ppm (ASHRAE standard).	Measure carbon dioxide two times yearly or more often if needed. Measure only in fully-occupied rooms,	In place	X	X

	Assume outside CO2 is 350 if temp is below 41 ° and air is not stagnant with no wind.	after students have been in the room for over 2 hrs. If problems persist after outdoor air adjustments, use data logging to monitor CO2 concentrations over time, and look for other sources of problems (e.g., odor sources).		
		All univents should remain on during the school day.	Instruct staff to leave univents turned on. Check during two yearly inspections or more often.	X X
		Univents should not be obstructed.	Instruct staff to not store materials on top of univents. Check during two yearly inspections or more often.	X X
Carbon Monoxide	Boilers/furnaces must be maintained to assure there are no blockages and air and fuel mixtures must be properly adjusted to ensure complete combustion.	Test all boilers for combustion analysis annually in heating season and adjust.	In place	X X

	Vehicular use should be carefully managed adjacent to buildings.	No buses to be parked by building except at drop off and pick up. Minimize truck or bus engine idling.	In place	X	X
	Detect classroom CO.	Monitor during two yearly inspections or more often if needed. Also include some "leave-in" monitors in a few classrooms in each building for continuous measurement.	In place	X	X
Outside Air	Intake 15 cfm per student, based on reasonable classroom occupancy or maximum occupancy. Alternatively may use 700ppm over background as measurement.	Adjust dampers as needed. See CO2 section above.	In place	X	X
Organic Spores	No current Federal Standards.	Do not test for organic spores.	In place	X	X
Dust	Keep dust to a minimum with good housekeeping.	Check for dust due to poor housekeeping every day.	In place	X	X

<p>Consider damp dusting and high efficiency vacuum cleaners.</p>	<p>Use only HEPA vacuums.</p>	<p>In place</p>	<p>X</p>	<p>X</p>
<p>Upgrade filters in ventilation systems when possible and change frequently.</p>	<p>Univents have medium efficiency filters and air handling units have high efficiency. Implement manufacturers' recommendations for filter type and frequency of changing.</p>	<p>In place.</p>	<p>X</p>	<p>X</p>
<p>Exhaust combustion appliances to the outside and clean and maintain flues and chimneys. If previously non-vented appliances are in place, install "leave-in" carbon monoxide monitors in room and additionally check CO levels with GrayWolf Indoor Air Quality Monitor (or similar) during two yearly inspections. If any unusual readings are found, log readings over time with GrayWolf, taking readings over 10-15 minute intervals.</p>	<p>Check yearly. Last completed July, 2014.</p>	<p>In place</p>	<p>X</p>	<p>X</p>

	When construction or remodeling is underway, special precautions should be used to separate work areas from occupied areas.	Minimize dust/odors in construction/remodeling projects. Use critical barriers and negative pressure air systems in major construction projects, or if significant dust or odor is anticipated. When feasible, preferably do major projects during breaks.	In place	X	X
Lead	Test for lead paint. All janitorial staff needs to be trained in "lead awareness".	Consultant tested in April 2009.	Completed	X	X
	Take preventive measures to reduce lead exposure, as follows:	Inspect all lead paint surfaces during two yearly inspections and re-paint as needed using lead safe methods and a licensed lead contractor.	In place	X	X
	Clean play areas.	Clean play areas nightly.	In place	X	X
	Mop floors and wipe window ledges and other smooth flat surfaces with damp cloths frequently.	Mop floors nightly. Dust when needed or minimum weekly.	In place	X	X

	Keep children away from areas where paint is chipped, peeling, or chalking.	Repair immediately using lead-safe methods and licensed lead contractor.	In place	X	X
	Prevent children from chewing on window sills and other painted areas.	Teachers to monitor.	In place	X	X
	Ensure that toys are cleaned frequently and hands are washed before meals.	Cleaning staff and teachers clean toys. Teachers ensure hands are washed before meals.	In place	X	X
Asbestos	Extensive Federal Requirements.	Implement Federal Requirements.	In place	X	X
	Maintain Management Plan and keep a copy at each school.	Completed in 1989.	In place	X	X
	Perform 6 month and 3 yr inspections.		In place	X	X
	Remove ACM with licensed consultant, licensed contractor and according to Federal Requirements.		In place	X	X

Nitrogen Oxides	Vent NO2 sources to the outdoors.	Inspect cooking hoods, chemical hoods yearly.	In place	X	X
	Assure that cooking stoves and appliances are correctly installed, used, and maintained according to manufacturers' specs.	Inspect yearly.	In place	X	X
Lab Chemicals	Follow OSHA and ISBE regulations. Separate acids/corrosives from base chemicals.	Inspected yearly by ROE and yearly by Fire Dept. Also separate flammables from oxidizers, separate chemicals that may react to produce toxic or explosive byproducts, and put in approved containers and approved storage (e.g., lockable, appropriate ventilation). Follow recommendations in Prudent Practices in the Laboratory: Handling and Disposal of Chemicals. When possible, preferentially use less toxic and least toxic chemicals. Using School Chemistry Laboratory Safety Guide.	In place	X	X

	Discard unused chemicals	Perform yearly. Dispose of chemicals according to regulations. Discard any chemicals with expiration dates (e.g., chemicals that may decompose to produce explosive peroxides). Follow recommendations in Prudent Practices in the Laboratory: Handling and Disposal of Chemicals. Using School Chemistry Laboratory Safety Guide	In place	X	X
Insects and Pests	Use Integrated Pest Management process.	Employ licensed contractor.	In place	X	X
	Communicate applications.	Notify schools, staff and parents.	In place	X	X
	Pesticides/toxic chemicals.	Use no pesticides inside.			
	Mix or dilute pesticides outdoors or in an isolated, well-ventilated area.	Outside use no, or least, toxic chemical.	In place	X	X

	Dispose of unwanted pesticides safely to minimize exposure.	Completed 6/2009. Store no unused pesticides on school property.	In place	X	X
Radon	Test for radon every 5 years following IEMA's recommendations.	Radon testing was performed during the 2011-12 school year.	In place	X	X
Volatile Organic Chemicals	Increase ventilation when using products that emit VOCs .	Use no, or low, VOC products. Increase ventilation when installing carpets, upholstered furniture, shampooing carpets, etc.	In place	X	X
	Meet or exceed any label precautions.	Read MSDS sheets carefully.	In place	X	X
	Do not store opened containers of unused paints and similar materials within the school.	Only water based paints stored in schools. Use oil based paints only outside and store in locked outside storage buildings.	In place	X	X
Paint	Suggest using only water based products inside.	Use only water based paints inside schools.	In place	X	X

"Green" Products	Suggest using Green Cleaning Products.	Migrate to 100% Green Cleaning Products.	At 85% presently.	X	X
Testing Equipment	Maintain and calibrate all testing equipment in accordance with manufacturers' recommendations.	Follow manufacturer's calibration and maintenance recommendations.	In place	X	X

Outside Air Intake

Carbon dioxide (CO₂) is a normal component of exhaled breath, so measurements can be used to determine if a sufficient quantity of fresh, outdoor air is being introduced into the indoor environment. The American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) maintains a standard which specifies minimum ventilation rates and indoor air quality that would be acceptable to occupants. This standard presently recommends providing schools with 15 cubic feet of outdoor air per minute (cfm) per person. Indoor CO₂ levels are dependent on the outdoor level, but 15 cfm will result in an indoor CO₂ level approximately equivalent to 700 parts per million (ppm) greater than the outdoor level (1). This ventilation rate is expected to reasonably dilute odors and contaminants common to indoor air. Carbon dioxide levels in excess of the ASHRAE standard indicate that an insufficient volume of outdoor air is being supplied to the building to mix with recirculated air. ASHRAE standards are recommended guidelines and not legally enforceable limits.

Complaints of headaches, fatigue, and eye, nose, and throat irritation are commonly reported in buildings where CO₂ is present at high levels, but these symptoms are not caused by CO₂. At the levels typically found in indoor environments CO₂ is not a health hazard, and several studies have demonstrated that it will not cause measurable health effects until it is present at levels much greater than the current occupational guideline (5,000 ppm) enforced by the Occupational Safety and Health Administration (OSHA). High CO₂ levels within a building indicate a lack of ventilation which could allow other contaminants common to indoor environments to be present at elevated levels and be responsible for occupant complaints. These chemicals originate from building components, cleaners, copiers, markers, printers, people, and other sources. Inadequate outside air intake also may make other comfort factors such as temperature more noticeable. In spite of the recent media emphasis on molds, inadequate outside air intake actually is the most common cause of indoor air problems.

CO₂ can be used as an indirect indicator of the ventilation rate. From the inside and outside CO₂ concentrations, the following formula gives the fresh outside air intake:

cfm/person = 10500/(CO_{2in} - CO_{2out}), where:

cfm/person = cubic feet per minute per person,

CO_{2in} = inside carbon dioxide concentration (ppm), and

CO_{2out} = outside carbon dioxide concentration (ppm).

If the outside air temperature is too low for an accurate measurement (less than 41°F using the GrayWolf), and if the day is windy and not stagnant, assume that city pollution is diluted and the outside carbon dioxide concentration is 350 ppm. Because carbon dioxide is in exhaled breath, it can be used as an indicator of the outside air intake only in occupied areas of a building. All carbon dioxide measurements will be done in fully-occupied rooms, where students have been present at least two hours. If problems persist after outdoor air adjustments, use data logging to monitor CO₂ concentrations with time and look for other potential problems (e.g., odor sources).

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.
- Chlorine-containing cleaners (such as bleach) must never be mixed with acids because this generates highly toxic chlorine gas.
- 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 during periods of non-student attendance (Summer, Winter, and Spring Breaks, or school holidays), 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 are not permitted to bring any pesticides or other chemicals into the school.
- Use ventilation and source control to eliminate odors, rather than using fragrance-emitting "air fresheners," which attempt to cover up an unwanted odor using a supposedly more pleasant odor. Fragrances may cause eye, nose, and throat irritation in some people and may aggravate asthma.

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.

In April 2009, the Board of Education approved the installation of vinyl tile in new classrooms and the replacement of worn carpet in classrooms with vinyl tile throughout the District. It is anticipated that this conversion will take 5-10 years.

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 CUSD 95 can be found in the Facilities office at 66 Church St., Lake Zurich. The schedule describes the time intervals and locations of building and ventilation components that are 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. At a minimum, maintenance is performed in accordance with the recommendations of each manufacturer.

Unless otherwise noted, 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

CUSD 95 considers IAQ when planning construction and renovation projects. The IAQ Coordinator, superintendent, and school board discuss major changes that may impact IAQ. The findings from walkthrough inspections and building systems evaluations should be considered when planning renovations.

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, such as critical barriers and negative air pressure, 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. Preference will be given to construction materials that have low or no emissions of volatile organic compounds (VOCs).

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 (e.g., moisture meter). 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 are to be contracted to a professional organization. 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**". See also 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.

CUSD 95 performs an annual IAQ training session to the school based IAQ committee.

The *IAQ Tools for Schools Backgrounder* and checklists are educational tools. 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 Director of Communications (or other person designated by the Superintendent) should discuss IAQ-related issues with the press. The media will be alerted by the District 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.

CUSD 95 provides this information to parents and staff using the District web page, school newsletters, emails, and through the local press.

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 fan 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 maintenance personnel** must ensure that HVAC systems are operating properly and 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.
- **School Nurses** should track illnesses, such as asthma, that may provide an early warning of IAQ problems.
- **The School Board** needs to approve the IAQ Management Plan. This approval shall include the date, a copy of the minutes from the meeting, and how often the Plan must be updated or reapproved (e.g., after every major change to the Plan, or every year, whichever comes first).

7. Applicable Local and State Requirements/Regulations

CUSD 95 will meet all local and state requirements and regulations related to IAQ.

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

CUSD 95 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.

9. Steps to Prevention

CUSD 95 is committed to preventing IAQ problems. To reach this goal, the district will complete the following activities:

- The IAQ Coordinator should ensure that all IAQ efforts are coordinated and completed in a timely manner.
- The school board, community, staff, unions, and students need to be updated on the district's IAQ efforts and carry out their responsibilities for maintaining good IAQ.
- Every 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.