SAN DIEGO
Community College District

San Diego Community College District

Risk Management Office

Air Monitoring Program

PROGRAM AUTHORIZATION

_____ Chancellor	
_____ Trustee _____ Trustee _____ Trustee	_____ Trustee _____ Trustee
_____ Vice Chancellor, Facilities	_____ Vice Chancellor, Human Resources
_____ Risk Manager	
Date: _____	

REVISION RECORD

Revision Date	Revision #	Initials	Contents of Revision
11/7/17	1709	TAW	New program
1/27/2025	2501	MFC	Comprehensive Review

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I. PURPOSE

The San Diego Community College District, recognizing that the health, safety, and well-being of its employees are of paramount importance in the management of the District, affirms its commitment to create and maintain a safe and healthful working environment.

The San Diego Community College District's *Air Monitoring Program* provides guidance to assess the presence and magnitude of potential atmospheric contaminants. Such assessments can be used to identify atmospheric hazards, evaluate the effectiveness of control methods, determine if respiratory protection is required and, if so, assist in determining what type of respirator is required to safely perform work in the area or space.

The *Program* functions in tandem with the District's *Hazard Assessment Program* as well as the individual College *Respiratory Protection Programs*.

II. REGULATORY CITATIONS

California Code of Regulations, Title 8, § 3204
California Code of Regulations, Title 8, § 3380
California Code of Regulations, Title 8, § 5144
California Code of Regulations, Title 8, § 5155
Code of Federal Regulations, Title 29, § 1910.134
Code of Federal Regulations, Title 29, § 1910.137

III. DISTRICT POLICIES AND PROCEDURES

SDCCD Administrative Procedure 6800
SDCCD Respiratory Protection Program (POL-RM-018)

IV. AUTHORITY

The Chancellor has ultimate authority and responsibility for the health and safety programs within the District. Creating broad-based safety accountability is the responsibility of the Chancellor and District leadership.

The Chancellor has designated the Director of the District Facilities Services Center and the Regional Facilities Officers to act as the *Air Monitoring Program* administrators at each College within the District.

To ensure effective implementation of this *Program*, all personnel with designated specific responsibilities are expected to understand and implement the procedures outlined in this document, together with the specific contents of this *Air Monitoring Program* for their assigned facility.

A. Chancellor's Designees

The Vice Presidents of Administrative Services and Regional Facilities Officers have the authority and are responsible for the implementation and maintenance of this program, including:

1. Developing or adopting the necessary policies and programs to adequately maintain a safe and healthful work and learning environment at the facilities of their responsibility
2. Conducting formal inspections of each assigned workplace as required
3. Providing air monitoring activities as required by this *Program*
4. Recommending to the Risk Management Office any additions or changes to the *Air Monitoring Program*
5. Providing for, planning, organizing, and coordinating training for those employees required to abide by this *Program*
6. Assigning designees to fulfill all aspects of this *Program.*

B. Risk Management Office

The District Risk Management Office is responsible for the oversight and maintenance of this *Program*, including:

1. Reviewing the *Program* annually and updating, as necessary
2. Assisting all Chancellor's designees in air monitoring strategies and surveys, as requested or required.
3. Conducting air monitoring as requested by Chancellor's designees
4. Conducting air monitoring surveys as it relates to occupational health and safety of non-facilities services activities.
5. Properly maintaining air monitoring equipment assigned to the Office.
6. Producing reports as it relates to air monitoring surveys for review by appropriate stakeholders, including external parties.
7. Providing technical expertise to all Chancellor's Designees, as requested and required.
8. Monitoring Cal/OSHA standards for relevant regulatory changes
9. Conducting periodic program audits and inspections at District facilities to evaluate compliance with all Federal, State, County, District, Facility, and College regulations
10. Reviewing site-specific programs drafted by the independent Colleges to ensure compliance and consistency with regulations, this *Program*, and District policy.

C. Facilities Services

The District Service Center is responsible for

1. Properly maintaining air monitoring equipment assigned to the Department
2. Conducting air monitoring as it relates to their employees' activities.
3. Maintaining relevant records for confined spaces.

D. Employees

Employees are responsible for

1. Completing all necessary training
2. Complying with all relevant aspects of the *Air Monitoring Program*
3. Reporting any *Program* deficiencies to their supervisor or the Risk Management Office.

E. Students

This *Program* does not apply to the activities of students.

V. EQUIPMENT

The validity and usefulness of air monitoring results is based on the proper selection and maintenance of air monitoring equipment.

A. Selection

1. Appropriate air monitoring equipment will be selected based on the known or suspected airborne contaminants.
    a. Combustible gas indicators (CGI) are used to detect the level of flammable vapors and gases.
        1) Instruments must be selected to monitor for the appropriate hazard category as CGIs can be used to detect the percentage of flammable vapors and gases in the air (the explosive or flammable limit) or the exposure limits for organic vapors (in parts per million).
        2) It must be understood that these instruments do not identify the components but measure the total amount of flammable vapors in the air.
        3) The sensitivity and responsiveness of the instrument is dependent on the proper selection of calibration gas in relation to the air contaminants being analyzed.
    b. Oxygen meter
        1) Measures the amount of oxygen in the air, with normal oxygen being approximately 20.8%.
            a) Oxygen rich is more than 23.5%.
            b) Oxygen deficient is less than 19%.
    c. Toxic gas sensors
        1) Toxic gas sensors, in the form of instruments or badges, may be selected for specific airborne contaminants.
            a) Any cross-sensitivities must be understood by the user when interpreting results.
        2) Toxic gas sensors may be in the form of

a) Direct-read instruments, as standalone instruments or in conjunction with a combustible gas meter.
b) Badges that change colors when exposure limits are exceeded.
c) Badges that are exposed to the environment, sent to a laboratory for analysis, and results are provided at a later date.
d) Colorimetric tubes.

d. Particulate sampling
    1) Dust, pollen, smoke and other particulate matter can be sampled by District personnel on an as-needed basis.

B. Maintenance

1. Certain sensors or detection systems require periodic maintenance, such as
    a. Periodic calibration
    b. Bump/challenge tests
    c. Replacement due to aging.
2. The type and degree of maintenance depends on the equipment, use, and storage conditions.
3. Equipment maintenance is the responsibility of the supervisor or their designee.
    a. Any lapse in maintenance, including improper calibration or the use of expired detectors, can impact the accuracy of the results and ultimately affect employee health and safety.
4. District employees shall rigorously adhere to the calibration and maintenance schedules suggested by the manufacturer or by industrial hygiene best practices, whichever is more stringent.
5. Depending on the equipment, repairs, calibration, and maintenance may be able to be performed by the supervisor or their designee or a certified technician must perform the work.
    a. Supervisors shall retain any documentation related to employee qualifications for maintenance, repair, or calibration for air monitoring equipment.

C. Care

1. Air monitoring equipment shall be stored in the case provided by the manufacturer when not in use.
    a. If a case is not provided, a suitable case should be obtained to protect the instrument from damage.
2. Air monitoring equipment shall be stored indoors, away from sources of extreme heat or cold.

VI. SURVEY

An air monitoring survey is an assessment of the atmosphere to determine the presence and quantity of airborne contaminants.

A. Time

1. Surveys shall be conducted during normal business hours and under normal working conditions.
2. Surveys shall be conducted for no less than two (2) consecutive hours unless the activity is completed in less time.
3. Results shall be expressed as eight (8) hour time weighted averages to allow comparison to published exposure limits.
    a. For short-term exposures, the individual conducting the survey shall query the employee for any additional exposures in order to calculate the TWA.

B. Sampling

1. Sampling events shall be recorded on a log. Refer to Appendix A for an example.
2. For individual surveys, samples shall be collected as close as possible to the employee's breathing zone.
    a. The best location for personal sensors is on the front collar, representing the breathing zone.
    b. The employee with the highest or longest exposure shall be selected for each task being evaluated.
3. For area monitoring, samples shall be collected from no fewer than two (2) locations where the employee(s) spends most of their working period.
    a. An area shall be defined as a contiguous space.
        1) The same activity that occurs in two different rooms will be considered two separate areas.
        2) If the indoor area is larger than fifty (50) foot on any side and, when the area is divided into two (2) equal parts, the source of contamination is located distal to one of the parts, the area shall be considered two (2) or more areas, at the discretion of the person conducting the samples.
        3) If an indoor area is serviced by a separate ventilation system, it shall be considered a separate area (including local exhaust ventilation).
    b. The locations shall be recorded on a sketch. Refer to Appendix B for an example.
    c. Results from multiple locations within a single defined area may be averaged if more than ten (10) readings are taken at each location and the mean values differ by less than 20% of the smaller mean.
4. The individual conducting the survey shall use their professional judgement, training, experience, and opinion in selecting appropriate monitoring locations.
    a. A reference sample, or baseline, will help assess the air quality in each specific environment.
5. For direct read instruments, readings should be taken at the following periodicities:
    a. Readings shall be recorded every ten (10) minutes for the first hour.
        1) If the readings are relatively stable (difference <+/-20% variance from the mean value), readings may be recorded every fifteen (15) minutes

thereafter.
    a) If the readings continue to be stable (difference <+/-20% mean value), readings may be recorded every thirty (30) minutes for hours three (3) until the end of the sampling event.
b. Readings shall be recorded immediately on a log.
c. Extreme caution shall be used when reaching conclusions derived from samples collected for a single occurrence of an activity (e.g., less than two (2) hours.

6. Sampling should cover the range of activities, times, and conditions employees may encounter.
    a. For an activity that occurs at different times of day, month, or year, a discrete survey shall be conducted for each representative time frame (e.g., morning, afternoon, evening; summer, fall, spring).
        1) Results between surveys shall not be combined unless statistical evidence supports consolidation (e.g., p-test or another similar test).
    b. For different activities that may generate air contaminants in the same area, a separate survey shall be conducted for each activity.
        1) Such short-term surveys need only be conducted for the duration of the activity as long as the surveyed activity is representative of normal work conditions.
7. All results must be expressed considering the uncertainty of the detector system, represented as “+/-“.

VII. REPORTS

When the sampling event has been completed and the results have been received, a report shall be generated.

A. Report

1. The report shall contain the following headings
    a. Summary
        1) The summary shall be a brief explanation of the basis for the sampling, the type of sampling that occurred, and the results of the survey.
    b. Basis for Air Monitoring
        1) The section shall summarize the basis for the sampling event(s), be it for hazard assessment or in response to an employee complaint.
        2) If any existing control methods are being evaluated for their effectiveness they should be noted
    c. Environment
        1) This section shall briefly describe the environment in which the sampling event occurred, including time, date, and area dimensions, if indoors.
        2) This section shall also include any engineering controls, including HVAC equipment or other ventilation mechanisms, present in the

area including portable units.
    a) Measurements of flow rates for ventilation equipment may be appropriate in this section.
  3) This section shall document any other controls, including administrative and personal protective equipment, either being used by the employees or made available to them.

d. Sampling
  1) This section shall describe the sampling event, including equipment used and calibration/reference testing that occurred.

e. Results
  1) This section shall summarize the results of the survey.
  2) This section need not include a tabular presentation of all data points and may include either representative or calculated mean results.
    a) The data log shall be attached to the report.
  3) This section shall also include any relevant occupational exposure limits and how the survey results compare to those published limits.
    a) All occupational exposure limits shall be properly referenced.

f. Recommendations
  1) This section is optional and should only be included in reports conducted by District safety professionals.
  2) This section shall outline any recommendations regarding the implementation of additional engineering and administrative controls.
  3) Personal protective equipment may be recommended, but only if engineering and administrative controls have been proven to be inadequate at controlling the concentration of airborne contaminants.

2. After review, the report shall be distributed to the following parties:
  a. Supervisor of the employees in the area where the sampling took place
    1) The supervisor is responsible for either distributing the report or providing a summary to all affected employees.
    2) Employees may request to view a copy of the report at any time.
  b. Manager of the supervisor who requested the report
  c. Vice President of Administrative Services or Facilities Director
  d. Risk Manager or their designee.

VIII. TRAINING

A. Training

1. Training shall occur before an employee conducts an air monitoring survey.
2. Training topics shall include:
  a. Proper use of equipment
  b. Proper calibration of equipment, if necessary
  c. Potential interferences or cross-sensitivities
  d. Data interpretation
  e. Statistical evaluation of data
  f. Report preparation.

IX. RECORDS

A. Training Records

All training records kept by the Risk Management Office until the employee separates service with the District.

B. Reports

Reports shall be kept by the supervisor and Risk Management until replaced by an updated report.

Appendix A: Air Monitoring Log

Facility:	Building/Area:	Room:
Date:	Survey conducted by:	
	Time start:	Time stop:
Person requesting survey:		
Reason for survey:		
Equipment- Manuf.:	Model:	Last cal.:
Bump test: Y N/A	Air blank: Y N/A	Alarm(s) tested: Y N/A

Time	LEL/ppm	Oxy	CO	H2S	Other:	Alarm (Y/N)
Total	**AVERAGES**					
TWA:		**N/A**				
OEL:		19.5	25 REL	10 C/PE L		

Appendix B:
Air Monitoring Log- Site Plan

Date:	Location:	Performed by:

__N

TRAINING RECORD

Facility: _____

Date	Time	Instructor

Name (print)	Signature	Department	Supervisor