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INDOOR AIR QUALITY PROGRAM

(Adopted from California State University Office of the Chancellor's Sample IAQ Program)

TABLE OF CONTENTS

1.0 REGULATORY AUTHORITY

California Code of Regulations, Title 8 sections 332.2, 332.3, 3203, 3362, 5141 through 5143, 5155, and 14301. This regulation provides guidelines for the protection of employees and for addressing employee related concerns to indoor air quality (IAQ).

2.0 PURPOSE

The purpose of this program is to establish a uniform set of guidelines for maintaining the quality of indoor air in all campus buildings. Through the collaborative efforts of Environmental Health and Safety, Facilities Management, and Human Resources, indoor air quality shall be maintained through preventative and responsive measures. Preventive approaches include periodic inspections, preventive maintenance, and plan review. Responsive approaches shall include a mechanism for complaint response, analytical monitoring and implementation of corrective actions. This program also designates departmental responsibility for ensuring the completion of programatical elements and will incorporate other programs that concern specific IAQ issues.

3.0 SCOPE

This program shall include all CSU East Bay structures, including leased structures, and apply to all CSU East Bay employees. Response and improvement duties of this program rest with Environmental Health and Safety and Facilities Management. However, it is the responsibility of all employees to report IAQ deficiencies and complaints to their supervisor or Environmental Health and Safety.

4.0 RESPONSIBILITIES

4.1 Department of Environmental Health and Safety

4.1.1 Develop and maintain the campus Indoor Air Quality program. Make copies of the written program available to affected departments.

4.1.2 Provide assistance to individual departments concerning implementation of the program.

4.1.3 Respond to complaints concerning the quality of indoor air. Coordinate analytical testing and monitoring of indoor air if warranted by conditions.

4.1.4 Maintain record of employee/occupant complaints related to indoor air quality.

4.1.5 Coordinate mitigation efforts of conditions which may impact indoor air quality.

4.2 Department of Facilities Management

products. For instance, interior paints are now available that are water based and emit very low VOCs. If possible, source removal would ensure the improvement of indoor air quality. Source removal is required in the event of a spill or release. Office furnishings and carpet should be off-gassed out-of-doors prior to installation and placement to reduce the concentration of off-gassed products after installation. Off-gas time is dependent on the size and type of furnishing. Once carpet is installed, 100% outside air supplied by the affected building's HVAC system should be used to remove remaining VOCs.

5.2 Biological Agents

5.2.1 Sources

Biological agents can create a complex mixture of indoor air pollutants. The scope of biological agents includes: viruses, bacteria, fungi, protozoa, arthropods, and mammals. Biological agents in indoor air are known to cause four types of human disease: infections, where living organisms penetrate and grow in human tissue (e.g., Legionnaires' disease); allergic or hypersensitivity diseases (e.g., hay fever, asthma); toxicoses (e.g., endotoxins) and irritant effects from compounds released from biological growth.

irritation and microbiological growth. Adjustments shall be made to HVAC system if humidity monitoring results are not within the previously described range.

Document History

Document Revision:	Date	Prepared by:	Reviewed by:
New Document	**unknown**	**CSU CO**	**unknown**
No revisions	**May 15, 2012**	**CSU CO**	**Donna Placzek**

APPENDIX A

Examples of typical indoor air contaminants and their sources

Table 6.1

Contaminant	Health Effects	Sources
Carbon Monoxide	Nausea, headaches, visual disturbances, brain damage, angina	Automobile exhaust; improperly vented stoves, hot water heaters, and furnaces.
Formaldehyde	Mucous membrane irritation, fatigue, skin rash, and cancer in high exposures.	Particle board; plywood; adhesives in office furnishings and carpets; and tobacco smoke
Ozone	Upper respiratory irritation; dry eyes	Copiers; laser printers; air ionizers
Organic Vapors	Upper respiratory irritation; fatigue and nausea; long term exposures result in liver and kidney damage.	Paints, solvents, disinfectants and plastics
Asbestos	Asbestosis (lung tissue damage); mesothelioma (cancer of peritoneal lining); lung cancer.	Insulation; ceiling and floor tiles
Dusts	Upper respiratory irritation; dry throat; rhinitis.	Various
Carbon Dioxide	Fatigue and malaise; shortness of breath	Bioeffluents; poor HVAC operation.

APPENDIX B
Contaminant Source and PEL

Contaminant	Sources	Permissible Exposure Limit (PEL)
Carbon Monoxide	Automobile exhaust; improperly vented stoves, hot water heaters, and furnaces.	OSHA 8 hr. - 35 ppm OSHA ceiling limit - 200 ppm
Formaldehyde	Particle board; plywood; adhesives in office furnishings and carpets; and tobacco smoke	OSHA 8 hr. - 0.75 ppm OSHA 15 min - 2 ppm
Ozone	Copiers; laser printers; air ionizers	OSHA 8 hr. - 0.1 ppm OSHA 15 min. - 0.3 ppm
Organic Vapors	Paints, solvents, disinfectants and plastics	OSHA 8 hr. - 100 ppm -150 ppm OSHA 15 min. - 150 ppm - 200 ppm
Asbestos	Insulation; ceiling and floor tiles;	OSHA 8 hr. - 0.1 fiber per cubic centimeter
Dusts	Various	OSHA 8 hr. - 10 milligrams per cubic meter
Carbon Dioxide	Bioeffluents; poor HVAC operation.	OSHA 8 hr. - 5,000 ppm OSHA 15 min. - 30,000 ppm

APPENDIX C

QUESTIONNAIRE
Indoor Air Quality

Occupant Name:_____ **Today's Date:_____**

Building Name:_____ **Room Number:_____**

Time/Hours Worked Today:_____

Symptom Patterns

1. What kind of symptoms or discomfort are you experiencing?

2. Are you aware of other people with similar symptoms or concerns? Yes___ No___

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

Timing Patterns

1. When did your symptoms start?

2. When are they generally worst?

3. Do they go away? If so, when?

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

Spatial Patterns

1. Where are you when you experience symptoms or discomfort?

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