



2600SEG208 QUALITY OF ENVIRONMENT IN OFFICES STANDARD

1.0 PURPOSE

To establish the standard requirements for the protection of employees from potential health problems that could be associated to the quality of air inside offices.

2.0 BACKGROUND

In the last years we have noticed an increase in the number of cases related to health problems caused by the quality of air inside office installations. Many of these problems occur as a result of deficiencies in air ventilation systems, remodeling work and microbial or chemical contamination.

3.0 SCOPE

This Standard applies to enclosed work areas under the responsibility of the Panama Canal Authority (ACP) where work or activities are conducted by ACP employees, contractors or third parties.

4.0 LEGAL FOUNDATION

This Standard is established pursuant to Agreement No. 12 of the Panama Canal Authority Board of Directors, Regulation on Occupational Health and Risk Control, Chapter I, Article 3, Number 3.

5.0 DEFINITIONS

For the purposes of this Standard, the following definitions apply:

5.1 Enclosed working area: Working area surrounded by four walls, where ventilation under normal operating conditions is controlled and provided through air conditioning systems, be them central units or local window units. For example: offices, storage areas, shops.

5.2 QAO: Quality of Environment in Offices.

5.3 QAO contaminants: Refers to any substance that could affect the health of the occupants of an enclosed working area, whose origin could be chemical, biological or dust.

5.4 Building Coordinator (BC): Person designated to handle and coordinate the different aspects that could affect QAO.

5.5 Ill Buildings: Buildings with design problems that may adversely affect the quality of air in offices and where any of its occupants is undergoing health problems.

6.0 GENERAL

6.1 All enclosed work areas under ACP responsibility shall comply with and keep at least the minimum requirements for quality of air in offices as established by the Safety and Industrial Hygiene Unit (RHSI), as well as the Guideline through which the prohibition to smoke in ACP offices, buildings and other areas is prohibited (Appendix A).

6.2 All ACP employees working, or who may in the future work in enclosed work areas shall receive training on Basic procedures to maintain good quality of air in offices, as well as the mechanisms provided by this regulation.

6.3 Use of products that may contaminate the quality of air in offices:

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6.3.1 Products that release fumes or smells that may significantly bother office occupants shall not be used.

4.1.1 Whenever it is necessary to use products that may become a nuisance to occupants, they shall be used after working hours.

4.1.2 It shall be the responsibility of the person using such products to guarantee that the work area is properly ventilated while and after using the product.

4.1.3 Cleaning products and other chemicals:

4.1.3.1 All cleaning products used in enclosed working areas shall be approved by RSHS and cleared for use in these areas.

4.1.3.2 Chemical products such as solvents, epoxies, paints and others, which could release fumes or smells, shall be approved by RSHS for use in these areas.

4.1.3.3 Workstations that require the use of chemical products that release fumes or smells that may become a nuisance shall be located outdoors or provided with local ventilation systems.

4.1.3.4 Whenever possible, only environmentally-friendly products which are not harmful to health shall be used for pest control purposes in enclosed working areas. These activities shall be coordinated through the Sanitation, Control of Vectors and Vegetation Unit (OPEM-S), Locks and Maintenance of Facilities Division (OPE).

4.2 Furniture, carpets, partitions and similar:

4.2.1 The installation or replacement of carpeting in office hallways is not recommended since carpeting tends to accumulate dust and humidity (See Appendix B).

4.2.2 In offices where carpeting already exists or where it would be installed for the first time, the BC shall conduct a survey among the employees to identify those employees who are sensitive or susceptible to problems that may be caused by carpeting.

4.2.2.1 Sensitive employees shall be referred to the Health, Wellness and Labor Welfare Unit (RHSS) for evaluation, identification of specific allergies and recommendations regarding how to accommodate such employees in offices with carpeting.

4.2.2.2 Wherever there may be employees who suffer from allergies, it is recommended to refrain from installing new carpeting and to eliminate the existing. If it were not feasible to remove the existing carpeting, RSHS would recommend a proper cleaning regime as well as its frequency.

4.2.3 When installing carpeting, proper ventilation shall be guaranteed to reduce the release of chemical products.

4.2.3.1 Opening doors and windows is recommended to increase the amount of fresh air circulating in the space to reduce concentrations of chemicals released by the newly installed carpet.

4.2.3.2 During the installation and once finished, use fans, exhaust fans with extensions or vents and set window air conditioning units in extraction mode to eliminate potential smells or chemical concentrations released by the materials. This should be done during 48 to 72 hours as a minimum.

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4.2.3.3 The installer shall use solvent-free or low-emission epoxies.

4.2.4 All office furniture that may release contaminants that may affect the quality of air in offices shall be previously approved by RSHS for use in such areas.

4.3 Remodeling, construction or refurbishing work in enclosed working areas:

4.3.1 Any construction or remodeling work (including, but not limited to demolishing, masonry, upholstery, carpeting, painting, carpentry or electrical jobs) conducted in enclosed working areas which may cause the release of contaminants and affect the quality of office air shall be coordinated among the responsible units for the work (including contractors and subcontractors) and the BC.

4.3.1.1 The person in charge of conducting the remodeling or construction activities shall be responsible for taking all necessary preventive and corrective actions to minimize the effect of contaminants on building occupants.

4.3.1.2 The person in charge of conducting the remodeling or construction activities shall submit in writing all control plans applicable to the potential contaminants anticipated by the work.

4.3.2 Remodeling, construction or refurbishing activities shall be conducted after regular hours of operation whenever possible.

4.3.3 Whenever possible, the central air system shall be shut down while conducting demolishing and remodeling activities.

4.3.4 The central air system shall be isolated from the surrounding environment to keep contaminants from entering the system.

4.3.5 All system air return vents in or immediately adjacent to the construction area shall be sealed with plastic.

4.3.6 If the system must be kept operating during construction, additional filters shall be used temporarily where necessary. These filters shall be given frequent maintenance and shall be replaced once the construction is finished.

4.3.7 Machinery rooms shall never be used as storage for construction materials or debris.

4.3.8 RSHS shall be notified before the beginning of the work so it can provide the corresponding recommendations and instructions.

4.3.9 All external activities which may otherwise affect the quality of air in an occupied enclosed working area shall be coordinated with the BC.

4.4 New enclosed working areas:

4.4.1 Inspection of any enclosed working area shall be coordinated with RSHS prior to occupation to determine its inhabitability.

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4.4.1.1 The above-mentioned item applies to unoccupied areas that would be occupied again, as well as to areas to be occupied for a different type of activity (for example, changing from storage to office space).

4.4.1.2 The inspection shall include, as a minimum, assessment to detect the presence of contaminants such as asbestos, fiberglass, lead, dust and temperature and air conditioning systems relative humidity measurements.

4.4.2 Whenever the distribution of the areas is designed for new occupation, the design of the ventilation and air conditioning system shall be taken into consideration for the location and maintenance of office furniture, partitions and equipment.

4.5 Air conditioning and ventilation systems maintenance:

4.5.1 All air conditioning units shall be included in a preventive maintenance program that includes cleaning of ducts, filters and diffusers.

4.5.2 Air conditioning evaporator rooms shall be kept clean and free of excessive humidity.

4.5.3 All air entries and intakes shall be kept clean and free of any obstacles.

4.5.4 Cooking, and storing or depositing any materials or substances that could affect the quality of air in an enclosed working area shall not be permitted less than two (2) meters from air entries or intakes.

4.5.5 It is prohibited to park vehicles or use internal combustion equipment near air intakes.

4.5.6 Whenever there are changes in the type, content or size of the occupation, analyses to the air conditioning systems shall be conducted regarding air speed in diffusers, average temperatures and temperature fluctuations throughout the day, relative humidity and make the necessary adjustments to optimize conditions for occupants.

4.5.6.1 These studies shall also be used when responding to reports on QAO deficiency reports.

4.6 Documentation:

4.6.1 The air conditioning system maintenance program shall be documented and kept by the section that owns the air conditioning unit.

4.6.2 The BC shall keep records on QAO deficiencies.

4.6.3 RSHS shall keep copies of the studies, analyses and all other related documentation.

4.6.4 The files shall be made available to employees in compliance with applicable ACP regulations.

5.0 RESPONSIBILITIES

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5.1 The responsibilities to guarantee compliance with this regulation are described in the Occupational Health and Safety Management Standard 2600SEG101. Also:

5.2 Division managers are responsible for ensuring that all enclosed working areas are assessed and that at least the minimum levels of air quality required in offices are maintained.

5.3 Division managers shall designate individuals who would be responsible for each installation, who shall act as BC; and,

5.3.1 Each manager shall establish the number of coordinators and their areas of responsibility.

5.3.2 Each manager shall keep an updated list of coordinators and send it to the Industrial Hygiene Section at the beginning of each calendar year.

5.4 All occupants of enclosed working areas under ACP responsibility shall:

5.4.1 Report to the BC whenever they suspect that the quality of air in their enclosed office area is deficient.

5.4.2 Actively participate in keeping good quality of air in their working areas.

5.4.3 Report non-compliance with the guideline that reiterates the prohibition to smoke in offices, buildings and other ACP areas (Appendix A).

5.5 The Safety and Industrial Hygiene Unit is responsible for answering to claims regarding potential ill building conditions and identifying the corresponding corrective measures.

5.6 The Engineering Division Mechanical and Electrical Engineering Section (IAIM) shall define the criteria for the design of central air conditioning systems.

6.0 INQUIRIES

Any information or clarification regarding the contents of this Standard shall be requested in writing to the Safety and Industrial Hygiene Unit (RSHS).

7.0 EXCEPTIONS

Requests for temporary deviation or exceptions from compliance with this regulation shall be requested in writing to the RSHS.

8.0 TERM

This Standard shall remain in force until amended or revised.

9.0 REFERENCES

9.1 Memorandum by the former PCC Maintenance Division dated January 25, 1991 on procedures for painting and repair work and similar in occupied buildings.

9.2 Memorandum by the former PCC Electrical Division dated February 26, 1998 on electrical work conducted in occupied buildings.



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9.3 Memorandum issued by the Occupational Health (HRH) and Safety (ESS) divisions on carpeting in ACP buildings dated August 22, 2001.

9.4 Panama Canal Authority, Hazardous Materials Information Standard 2600SEG201

9.5 QAO Guidelines for Occupied Buildings Under Construction. First Edition. SMACNA (Sheet Metal and Air Conditioning Contractors' National Association, INC)