

Connecticut Department of Labor

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*Division of Occupational Safety and Health
Occupational Safety and Health Statistics
Occupational Health Clinics*

August 31, 1999

Mr. Mark Thibedeau
Business Manager
State of Connecticut
Department of Revenue Services
25 Sigourney Street
Hartford, CT 06106

Visit #: 500947288

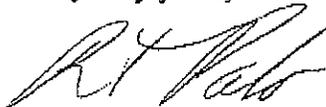
Dear Mr. Thibedeau:

In response to your request on May 18, 1999, Richard Crans conducted an industrial hygiene survey at State of Connecticut, Department of Revenue Services.

The enclosed report details the findings of the survey.

Thank you for seeking our assistance. If you wish any additional information or service, we encourage you to contact us.

Very truly yours,



Richard T. Palo
Industrial Hygiene Supervisor

rtp/cfj

Enc.



CONSULTATION REPORT

for

State of Connecticut
Department of Revenue Services
25 Sigourney Street
Hartford, CT 06106

SITE VISITED

25 Sigourney Street
Hartford, CT 06106

Submitted By:

Richard Crans, Occupational Hygienist
State of Connecticut Department of Labor
Division of Occupational Safety and Health
38 Wolcott Hill Road
Wethersfield, CT 06109

TABLE OF CONTENTS

SUMMARY	1
PURPOSE	1
CONCLUSIONS	1
RECOMMENDATIONS	1
DISCUSSION	2
Notice of Obligation	3
 Attachments	
A - Training Provided by Consultant	1
B - Additional Information	1

SUMMARY

PURPOSE

An industrial hygiene consultation visit was made in response to a request from Mr. Mark Thibedeau of the Connecticut Department of Revenue Services (CT-DRS) to review indoor air quality surveys previously conducted and meet with staff to discuss potential issues and relevant regulations enforced by the State of Connecticut Department of Labor-Division of Occupational Safety and Health (CONN-OSHA).

An opening conference was held on with Mr. Thibedeau to discuss the scope of the survey and to reiterate the employer's rights and responsibilities, especially to correct imminent danger or serious hazards.

Following the opening conference, the consultant was given copies of previous air quality surveys conducted by Tunxis Management Company, Connecticut Department of Public Works and private industrial hygiene consultants. After reviewing this information a meeting was scheduled with all interested staff members.

Discussion with staff members revealed concerns and symptoms have existed for several years. Employee complaints have included stuffiness, odors, dirty air handling system diffusers, temperature fluctuations, and recurrent water leaks throughout the building. Symptoms such as burning eyes, coughing, sneezing, sinus related problems, nausea, and skin irritation/rashes were expressed by individuals.

DISCUSSION - Facility Walk-through

The CT-DRS partially occupies a building at 25 Sigourney Street which has 20 floors. Most of the office work areas consisted of open areas with cubicle style offices. Each floor had some private offices and conference rooms. The facility's heating, ventilation and air-conditioning (HVAC) system consisted of a forced air system. The heating system utilized steam from the energy plant and a water tower was on the roof for cooling. Thermostats for each zone were located throughout the work areas which were monitored and controlled by Tunxis Management Company.

The building has had recurrent water leaks for several years. Following a rain, water frequently saturated carpeting around the interior perimeter of the building. As a result a renovation project to remove the roof coping and some courses of brick was in progress. The areas will then be repaired and rebuilt. This project is anticipated to correct the primary cause of water leaks. Work areas have been identified on the exterior of the building on floors 5, 17, 19 and 20.

The project was coordinated by the State of Connecticut Department of Public Works who has hired a contractor, C&D Waterproofing from Bloomfield, PA, to conduct the work. The coping and brick were being removed by drilling and jack hammering the mortar joints. The project began early April 1999 and was scheduled to be completed in October 1999.

A lot of data has been gathered regarding the office air quality during the period of February 1995 to March 1999. Quarterly sampling of select DRS spaces has been initiated. A private consultant has been conducting quarterly site visits to evaluate areas of particular concern. Sampling strategies typically included CO₂, carbon monoxide, hydrogen sulfide, oxygen, total hydrocarbons, temperature, relative humidity, respirable particulate, combustible vapors and bioaerosols.

CONCLUSIONS and RECOMMENDATIONS

- Moisture: Water saturated carpeting, applied in 2' x 2' removable squares, were reportedly removed from work areas as soon as possible. The concrete sub-floor was then left exposed to dry. Wet carpeting squares were reportedly dried and then replaced in the building. Inadequate cleaning and drying of the concrete floor or carpeting may create conditions ideal for microbial growth. It is important to note, wet concrete flooring can produce a very slippery surface and employee access should be restricted until thoroughly dry.

All potential sources of microbial contamination require prompt and complete cleanup. Water damaged materials, porous/organic materials in particular, often support microbial growth long after they appear dry, and dead materials (spores, irritants) can remain in such material for years according to the American Conference of Governmental Industrial Hygienists (ACGIH). All water damaged soft material should be removed from areas where complaints are occurring. Carpet cleaning is rarely effective in removing microbial contamination. Furthermore, excessive use of disinfectants on carpets can cause additional problems and steam cleaning of carpets in place adds water to the environment which may result in microbial growth.

Nonporous surfaces where microbial growth has occurred can generally be cleaned and disinfected with detergents, chlorine generating disinfectants, or other biocides ensuring that these chemicals have been used in accordance with the manufacturer's directions.

- Ventilation: Carbon dioxide (CO₂) is often monitored to assist in a determination of whether the HVAC system is operating effectively relative to a building's actual (not designed) use and occupancy levels. In this type of work area this evaluation of CO₂ typically is not related to a health concern specific for exposure to CO₂.

The CONN-OSHA Permissible Exposure Limit (PEL) for carbon dioxide has been set at an eight hour time weighted average of 10,000 parts per million parts of air (ppm).

When assessing indoor air quality CONN-OSHA recommends building owners and managers follow the American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) and the National Institute for Occupational Safety and Health (NIOSH) recommendation to target maintaining a carbon dioxide level less than 1,000 ppm.

Historical monitoring data provided for the consultant, covered a period from February 1995 to March 1999. Results of the CO₂ evaluations appeared to all be less than 1,000 ppm indicating fresh air to the work areas evaluated was not likely a problem.

- Temperature: CONN-OSHA regulations have not specified building temperatures. The range recommended for relative humidity in the work area is 30-60% and the recommended temperature range is 68°-76°F.
- Additional Monitoring: Review of the existing data and employee concerns appeared to warrant further microbial sampling, particularly in the areas of recurrent water leaks. Sampling for dust mites may also be beneficial in areas where employees noted rashes on their legs.

Notice of Obligation

In the event of a CONN-OSHA enforcement inspection, it is important to remember that the Compliance Officer is not legally bound by the consultant's advice or by the consultant's failure to point out a specific hazard. You may, but are not required to, furnish a copy of this report to the Compliance Officer, who may use it to determine your good faith efforts toward safety and health and reduce any proposed penalties. You are, however, required to furnish any employee exposure data from this report as required by 31-372-101-1910.20.



Richard Crans

Attachments

A - Training Provided by Consultant

Indoor Air Quality

The consultant provided informal training for management and staff regarding indoor air quality. The CONN-OSHA Air Contaminants Standard, 1910.1000, the guideline developed by the American Society of Heating Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE) entitled "Ventilation for Acceptable Indoor Air Quality, ASHRAE 62-1989" and the guideline produced by the National Institute for Occupational Safety and Health (NIOSH) entitled "Guidance for Indoor Air Quality Investigations" were discussed. The guidelines discuss methods used to evaluate general ventilation in a workplace, detail the recommended quantity of fresh air which should be supplied to various facilities and identify recommended concentrations of airborne chemicals potentially found in indoor air quality surveys.

Visit #: 500947288

CSHO #: C3294

CONNECTICUT DEPARTMENT OF LABOR
DIVISION OF OCCUPATIONAL SAFETY & HEALTH



Questionnaire

The mission of the Connecticut Division of Occupational Safety & Health (CONN-OSHA) Consultative Services is to provide timely, courteous and professional consultative services to Connecticut employers and their employees so they may recognize and control workplace hazards and prevent occupational injuries, illnesses and fatalities. In a continuing effort to improve our services, we ask that you complete the following questionnaire. Your responses will tell us if the program is working and how we can improve. Your opinion is important to us.

PLEASE CHECK THE APPROPRIATE RESPONSE:



1. In what way did you learn about CONN-OSHA's Consultative Services?

<input type="checkbox"/> Previous Consultation	<input type="checkbox"/> Insurance Company Referral
<input type="checkbox"/> Public Presentation/Speech	<input type="checkbox"/> Publications/Flyers
<input type="checkbox"/> Personal Contact	<input type="checkbox"/> US/DOL-OSHA Referral
<input type="checkbox"/> Conference/Trade Show	<input type="checkbox"/> CONN-OSHA Staff Referral
<input type="checkbox"/> Business Acquaintance	<input type="checkbox"/> Other: _____

2. Did you receive a prompt response to your request for assistance?

Yes No

How long did you have to wait for a consultation? _____ weeks

3. Was the consultant friendly, courteous and knowledgeable about the machinery and/or processes associated with your business? Yes No

Please explain:

4. Would you recommend our services to other businesses? Yes No

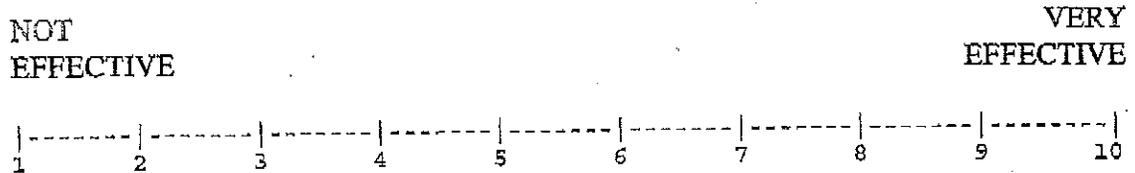
Please explain:

5. Did the report address all issues of interest to you? Yes No
 Was it written in such a manner to be easily followed and understood? Yes No
 Please explain:

6. Check the applicable statement(s) below:
- We have implemented the recommendations made by the consultant.
 - We are in the process of implementing the recommendations.
 - We plan to implement all the recommendations.
 - We plan to implement only part of the recommendations.
 - We do not plan to implement your recommendations.
 - We plan to request additional services in the future.

7. List any suggestions you feel would improve our program and services:

8. Please rate the overall effectiveness of this consultation in solving your safety and health problems:



We appreciate the courtesy extended by your company during this consultation. Should your company need additional assistance with workplace safety and health problems or issues, please call CONN-OSHA's consultants at any time.

Steven R. Wheeler, CIH, CSP
 Director, CONN-OSHA

(860) 566-4550

Connecticut Labor Department
 Division of Occupational Safety & Health
 38 Wolcott Hill Road
 Wethersfield, CT 06109

Firm Name: _____

Consultation Date: _____

Consultant: _____

Visit Number: _____

Contact Person: _____

Phone: _____