Indoor Environmental Quality During Construction Projects

Summary: This document is intended to provide project managers with guidance on how to minimize the negative impact of construction projects on indoor environmental quality (IEQ).

1. Program Description

The purpose of the document is to provide project managers with guidance on how to minimize the negative impact of construction projects on indoor environmental quality (IEQ).

2. Scope

Construction projects can have a significant impact on indoor environmental quality (IEQ) through the introduction of pollutants such as particulates, offensive odors, toxic chemical vapors, microbials, and combustion products. Pre-planning efforts that anticipate these issues and specify adequate pollutant control methods prior to commencing work can be an essential step to “on-time”, “within budget”, project completion. Planning efforts should also include a commissioning procedure that specifies re-occupancy criteria at project completion. The following components of project management should be considered to minimize negative impacts of construction on IEQ:

1. Pre-Planning
2. Occupant Notification
3. Methods for Pollutant Control
4. Re-occupancy Criteria/Commissioning

3. Definitions

- IEQ – Indoor Environmental Quality
- Project support personnel- workforce engaged in the construction project. These may include, but are not limited to, Facilities Management staff, Contractors acting on behalf of UC Irvine, and others tasked with construction activities.

4. Responsibilities

4.1 The project personnel shall be responsible for maintaining acceptable indoor environmental quality within the space or contiguous spaces where the construction project is occurring.

4.2 The EH&S Industrial Hygienist reserves the right to issue a “Stop Work” order in the event that the indoor environmental quality of the project space or contiguous spaces is adversely affected by the construction project.

5. Specific Program Components

5.1 Pre-Planning

During pre-planning, some key factors to assess include:

5.1.1 Types of dusts or odors produced from:
- Material being demolished
- Products used in construction
- Equipment used in construction

5.1.2 Presence of pollutants that are a recognized hazard, as evidenced by the Safety Data Sheet (SDS).

5.1.3 Times and locations where occupants are most likely to encounter airborne pollutants.

5.1.4 The expected amount and duration of exposure occupants may have to the pollutants.

5.1.5 General safety and hygiene; for example, keeping hallways and exits unobstructed.

The following “Assessment Checklist” may assist in pre-planning the project.

<table>
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<th>ASSESSMENT CHECKLIST</th>
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<td>Identify chemical and physical sources of odor and dust.</td>
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<td>Clearly identify occupied areas potentially affected by the project.</td>
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<tr>
<td>Identify specific construction activities likely to produce dust/odors.</td>
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<td>Identify control options and assess available control measures.</td>
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As specific details of the project become clear, pollutant control methods can be tailored to the project. Specific control measures may involve:

- Protection of the heating, ventilating, and air conditioning (HVAC) system
- Control of the pollutant source
- Interruption of the pollutant pathway (plastic sheeting barriers, etc.)
- Housekeeping
- Scheduling considerations

5.2 Occupant Notification

Notifying area occupants of the proposed work, work schedule, and a description of the type of inconvenience it may cause is critical to the success of most projects. Specifically occupants should be advised of potential odors, noise, dust...
Please be advised that on July 24-26, my favorite campus building will be painted and re-carpeted. The work will take place from 7:00 a.m. to 4:30 p.m. all three days. This process involves activities that may generate unpleasant odors, noise, or dust in your workspace. Even with these precautions, we cannot guarantee that fugitive emissions will not have a short term and transient effect on some employees, especially persons with preexisting medical conditions or unusual sensitivities.

Subject: Possible Indoor Air Quality Impact - Painting and Carpet Installation at My Favorite Campus Building

From: Frank Lloyd Wright, Project Manager

Purpose: To inform affected area occupants about the planned improvements to the campus building and to provide information on how to minimize the impact of the work on their workspace.

Occupants

Sample Letter that can be distributed to affected area occupants.

(Note: It is good practice to smoke test the enclosure to ensure it is under negative pressure. EH&S may be contacted to provide this service.)

Adequate exhaust ventilation equipment should be installed to maintain a negative pressure differential between the work area and adjacent areas of the building. As far as practicable, negative pressure ventilation units should be exhausted to the outside of the building. Careful installation and daily inspections should be performed to ensure ducting does not leak and becomes negatively pressurized. Building occupants should not be allowed to remain in the area where construction activities are in progress.

Projects that generate malodorous or toxic air contaminants may create special scheduling needs if the sampling methods and information available to Industrial Hygienists precludes making immediate assessments of employee exposures. For example, contaminants that require submitting samples to a lab and waiting for results before employees can be advised whether exposures are acceptable pursuant to recognized occupational exposure limits require special scheduling considerations.

5. Reporting Requirements

There are no reporting requirements; however, EH&S may be contacted for a copy of this procedure.

6. Information and external references

Sample Letter that can be distributed to affected area occupants.

(Needed for actual letter)

To: Unit Managers

Occupants

From: Frank Lloyd Wright, Project Manager

Subject: Possible Indoor Air Quality Impact - Painting and Carpet Installation at My Favorite Campus Building

Please be advised that on July 24-26, my favorite campus building will be painted and re-carpeted. The work will take place from 7:00 a.m. to 4:30 p.m. all three days. This process involves activities that may generate unpleasant odors, noise, or dust in your workspace. Specifically, we anticipate dust from surface preparation and odors from both the paint application and the carpet installation.

We will take steps to ensure the work is done in accordance with occupational safety and health standards and use controls where feasible to minimize the impact this project will have on your workspace. Even with these precautions, we cannot guarantee that fugitive emissions will not have a short term and transient effect on some employees, especially persons with preexisting medical conditions or unusual sensitivities.
sensitivities. Therefore I encourage you to take whatever measures you feel are necessary to deal with this temporary inconvenience. If you have any questions about the project or the materials involved, please feel free to contact me. Thank you very much for your cooperation.

Sincerely,

I.B. Projectmanager

cc: