

A PLAN FOR COMPREHENSIVE IAQ MANAGEMENT

Our experience in conducting numerous IAQ assessments for various clients, both proactively and in response to occupant concerns, strongly suggests that satisfactory resolutions are most often realized when the assessment of “monitoring parameters” is combined with a management process. A holistic approach to problem solving that considers all aspects of the indoor environment should be pursued.

Indoor Air Quality Management involves many components and includes:

- Baseline Monitoring;
- Periodic Monitoring;
- Investigation and Complaint Response;
- Occupant Perceptions and Psychosocial Factors;
- Information, Training and Risk Communication;
- Construction Management;
- Risk Management; and
- Emergency Management.

Each proactive plan is unique to the building that it is developed for. We understand that individual Morgan Stanley facilities vary with respect to internal resources available to design, implement, and maintain IAQ programs. We are prepared to offer assistance to those facilities that seek program development consultation. In addition to our proposed periodic monitoring plan presented in Section ____ of this proposal, we are presenting this brief overview of a proactive management plan that can be tailored to each Morgan Stanley building currently involved with the existing Monitoring Program:

Baseline Monitoring

ATC would utilize existing baseline monitoring data to make comparisons to current conditions and assess how IAQ has changed over time. We can prepare comparative graphs, tables and charts that can be used in communications efforts as described below.

Periodic Monitoring

ATC is presenting a plan for periodic monitoring in Section ____ of this proposal.

Investigation and Complaint Response

When occupants do have concerns, an IAQ investigation may be warranted. ATC can assist Morgan Stanley to complete the following:

- Identify current activities related to managing and or investigating indoor air quality;
- Identify the types of complaints, symptoms or concerns raised by occupants;

- Identify timing patterns (time of day, seasons, operational activities), location patterns (floors, specific work areas, departments);
- Identify the basic design of the ventilation system, building layout and other potential factors; and
- Identify the likelihood that the causative factors of reported health and comfort complaints are building related, formulate hypothesis and identify, or rule out, potential causes of indoor air quality problems.
- Identify potential sources of indoor contaminants;
- Evaluate the ability of the heating, ventilation, and air-conditioning (HVAC) system to effectively remove airborne contaminants before they enter the breathing zone of the occupants;
- Determine the potential for adverse health impacts resulting from current indoor air quality conditions;
- Formulate hypothesis and identify, or rule out, potential causes of indoor air quality problems; and
- Develop recommendations for remedial controls.

Occupant Perceptions and Psychosocial Factors

As part of an on-going proactive program, management should periodically solicit the input of the affected parties; the building occupants. Occupant perceptions of IAQ can vary widely and may be influenced by more than just air contaminants or physical discomfort. Through the use of questionnaires and interviews, ATC can help Morgan Stanley develop a profile of occupant issues that can help pinpoint current or future problem areas.

Information, Training and Risk Communication

During the course of IAQ projects, communication of technical and other types of critical information to various, sensitive constituencies will be required. We offer our experience as facilitators and liaisons to stakeholders (e.g., management, employees, local community, and media) to Morgan Stanley, so that effective communications will enhance IAQ management at every level. As requested, we will assist in such activities as:

- conducting meetings;
- addressing the media;
- preparing written materials; and
- devising communications strategies and policies.

Our experience repeatedly demonstrates that effective communications are crucial to properly investigating and managing IAQ issues.

Additionally, some may benefit from more in-depth understanding of IAQ issues. To that

contingent of Morgan Stanley, ATC is prepared to offer formal training and instruction on pertinent IAQ issues. Such training and instruction can include:

- Classroom instruction,
- Facility inspection techniques
- Phases of an investigation
- Overview of measurement instrumentation and equipment for contaminants and ventilation systems
- Case studies
- "People side" diagnostic techniques
 - Employee involvement at early stages;
 - Use of IAQ logs and diaries;
 - Listening for solutions;
 - Interviewing; and
 - Questionnaires and forms.

Construction Management

Without question, renovation, alteration and major construction activities have been linked with many IAQ problems. However, construction impacts can be managed, if properly planned, scheduled and communicated. Among the issues to be considered are:

- Initial Communications to occupants
- Selection and use of products
- Work schedules
- Isolation of occupants from work areas
- Minimization of migration potential
- Final installations (Wall and floor coverings, paint and furnishings)

Solutions Management

This aspect deals with how facility owners and managers deal with installation and maintenance of systems and programs that are designed to reduce or prevent IAQ problems. This can include:

- purchasing and design specifications for equipment
- routine preventive maintenance programs for mechanical systems;
- housekeeping and cleanliness programs
- Cleaning schedules
- Selection, handling and storage of cleaning products
- Temperature regulation criteria

Risk Management

This aspect deals with how facility owners and managers deal with IAQ risk issues once identified. In general, risk management is a process that encompasses:

- Anticipation of hazards;
- Recognition of hazardous conditions;
- Evaluation of hazards;
- Control of hazards; and
- Follow-up and periodic reevaluation.

Emergency Management

The first decision that must be made in dealing with an IAQ problem is whether the problem requires an emergency response. Most IAQ problems can be diagnosed and resolved on a short-term, and in some cases even a long-term, basis without the need to undertake “emergency actions.” But some IAQ incidents require an immediate response. Some examples might include:

- High carbon monoxide levels due to a malfunctioning heating system;
- A toxic chemical spill; or
- Biological contamination such as *Legionella* or *Stachybotrus*.

The challenge is to know how to recognize just such a situation and take the appropriate level of response. In recent years, there has been a trend toward evacuations when non-specific odors or illnesses are reported. Such over reactions only lead to greater occupant fear, distrust of management when problems are not identified or solutions not found and misunderstanding. Risk communication activities can be compromised. The key is to have a plan that lays out the specific criteria for various levels of response up to and including evacuation. Such a plan should be actively communicated to occupants and reviewed and revised regularly.
