# Problem Solving Checklist

Use this checklist with the IAQ Problem Solving Wheel to resolve a single IAQ complaint or several complaints occurring at the same time that seem related. Mark a copy of the fire escape floorplan or use other means of recording and reviewing information. Since this checklist becomes a record of your activities in resolving IAQ complaint(s), date it and file if for future reference. Involve additional staff, such as engineers, during the problem-solving process.

IAQ Coordinator

School

## Reports of IAQ Problems

Record complaints below at the beginning of your problem-solving process. Interview the complainant(s) to get a complete and accurate description of any symptoms, times, and locations.

| Complainant Name | Date Received | Description of Complaint (symptoms or explanation) | Location(s) or Room Number(s) | Is Problem Ongoing? | Occurrence Date(s) & Time(s) |
|---|---|---|---|---|---|
| | | | | ❑ Yes ❑ No | |
| | | | | ❑ Yes ❑ No | |
| | | | | ❑ Yes ❑ No | |
| | | | | ❑ Yes ❑ No | |
| | | | | ❑ Yes ❑ No | |
| | | | | ❑ Yes ❑ No | |
| | | | | ❑ Yes ❑ No | |
| | | | | ❑ Yes ❑ No | |
| | | | | ❑ Yes ❑ No | |
| | | | | ❑ Yes ❑ No | |

## Problem Solving Steps

Follow the directions on the IAQ Problem Solving Wheel to investigate potential causes of the symptoms recorded above. Use the step below to help keep your investigation organized and documented.

| Step | Date Completed | Notes |
|---|---|---|
| 1. Relate the symptoms from the complaint data box to a group of symptoms in the Notes column to the right. | | ❑ Odors<br>❑ Temperature or humidity problems (occupant discomfort)<br>❑ Headaches, lethargy, nausea, drowsiness, and dizziness<br>❑ Swelling, itching, or irritated eyes, nose, or throat; congestion<br>❑ Cough, chest tightness, shortness of breath, fever, chills, fatigue<br>❑ Diagnosed infection or clusters of serious health problems |

| Step | Date Completed | Notes |
|---|---|---|
| **2.** Is this an emergency? ❑ Yes ❑ No<br>See the Problem Solving Wheel's sectors "Identifying an emergency" and "What to do in an emergency." | | Actions Taken: ❑ Evacuation ❑ Notification<br>❑ Other: |
| **3.** Place a checkmark next to the potential causes in Step 4 below that are shown at 2 on the Wheel. | | |

**4.** Each section below corresponds to a section of the IAQ Problem Solving Wheel. Use this area to record diagnostics you perform. Three spaces are provided below for each diagnostic step to allow you to record information for more than one location or piece of equipment. Make extra copies of this form as necessary. Please note that some of the steps may not apply to your building.

| Step | Date Completed (for each location if more than one location or piece of equipment is involved) | | | Notes |
|---|---|---|---|---|
| | 1 | 2 | 3 | |
| ❑ **Temperature & Humidity**<br>■ Is thermostat properly set?<br>■ Is air flowing from the vent warm (for heat) or cool (for air conditioning)?<br>■ Are drafts or direct sunlight causing discomfort?<br>■ Is humidity between 30-60% relative humidity (recommended)?<br>■ Is condensation often present on windows or other cold surfaces?<br>■ Is there an objectionable odor? | | | | |
| ❑ **Outdoor Air Supply**<br>■ Is the ventilation system turned on?<br>■ Is the outdoor intake blocked?<br>■ Are supply vent(s) blocked?<br>■ Is air flowing from supply vent(s)?<br>■ Is air flowing into outdoor intake?<br>■ Are outdoor air or supply ducts blocked?<br>■ Is outdoor air supply at least 15 cfm per occupant?<br>■ Is $CO_2$ in the area higher than 1000 ppm? | | | | |
| ❑ **Air Handling Unit**<br>■ Is the system turned on?<br>■ Is the air flowing from vent(s)?<br>■ Is the fan operating?<br>■ Is the filter(s) clean & properly installed?<br>■ Are dampers operating properly?<br>■ Is there moisture, debris or microbial growth in or around the unit?<br>■ Is the drain pan clean & draining?<br>■ Are the coils clean?<br>■ Is combustion equipment properly vented (no flue leaks, spillage, or backdrafting)? | | | | |

| Step | Date Completed (for each location if more than one location or piece of equipment is involved) | | | Notes |
|---|---|---|---|---|
| | 1 | 2 | 3 | |
| ❑ **Local Exhaust**<br>■ Does the exhaust system turn on?<br>■ Is the exhaust used consistently?<br>■ Is air flowing from the exhaust vent?<br>■ Is exhaust duct work blocked?<br>■ Is a sufficient amount of air being exhausted?<br>■ If everything works, but not enough air is being exhaused, can make-up air easily enter the room (e.g., through spaces under doors)? | | | | |
| ❑ **Biological Sources**<br>■ Are animals or fungi (mold) present?<br>■ Is there an odor of mold or mildew?<br>■ Are supply vent(s) blocked?<br>■ Is there standing water near the complaint area or in the air handling unit?<br>■ Is condensation often present on windows or cold surfaces?<br>■ Is indoor relative humidity above 60%?<br>■ Are contagious occupants present? | | | | |
| ❑ **Housekeeping Sources**<br>■ Do complaints occur during or just after housekeeping activities?<br>■ Do housekeeping activities take place near the complainants?<br>■ Are any new products in use?<br>■ Are housekeeping products being used according to directions?<br>■ Are products stored in sealed containers or in a vented room(s)? | | | | |
| ❑ **Outdoor Sources**<br>■ Are sources of odor or pollutants (e.g., vehicles, stored chemicals, trash, plumbing vents) located near outdoor air intakes?<br>■ Are there sources nearby or upwind:<br>• Combustion byproducts from traffic, loading docks or flue exhausts?<br>• Industrial, agricultural or lawn care activity?<br>• Construction activity?<br>■ Are pollen levels high? | | | | |
| ❑ **Building Sources**<br>■ Has there been recent painting, roofing, or other remodeling or construction?<br>■ Were pesticides applied recently near the complaint area?<br>■ Are new furnishing or equipment in place?<br>■ Are drain traps dry?<br>■ Are chemicals stored in properly sealed containers?<br>■ Is the building overly dusty? | | | | |

| Step | Date Completed | Notes |
|---|---|---|
| **5.** Repeat all diagnostics for each potential cause in all affected locations. | | |
| **6.** If the diagnostics for the recommended potential causes did not identify the problem(s), investigate remaining potential causes in Step 4 until the cause(s) of the complaint(s) are identified and corrected. | | |
| **7.** If problem remains unidentified or uncorrected, obtain professional assistance. | | Company:<br>Person:<br>Phone: |
| **8.** Provide notice if problem is not quickly resolved. | | ❑ Notice to occupants<br>❑ Notice to parents of minors |
| **9.** Problem resolved and preventive measures taken. | | Describe solution:<br><br>❑ Preventive measures taken: |
| **10.** Provide a final report. | | |
| **11.** To prevent future problems, implement an IAQ Management Plan. | | |
| **12.** File this Checklist and related information. | | |