

**U.S. EPA BASE STUDY
STANDARD OPERATING PROCEDURE
FOR THE DISTRIBUTION OF
OCCUPANT QUESTIONNAIRES**

Previously submitted date: January 1997

Prepared By:

**Environmental Health & Engineering, Inc.
60 Wells Avenue
Newton, MA 02459-3210**

EH&E Report #11663
September 2000

N:\SOP\2000\QUESTNRE.DOC

©2000 by Environmental Health & Engineering, Inc.
All rights reserved

TABLE OF CONTENTS

1.0 OBJECTIVE	1
2.0 DISTRIBUTION OF QUESTIONNAIRES	2
2.1 LABELING OF QUESTIONNAIRES	2
2.2 TIMING OF DISTRIBUTION OF QUESTIONNAIRES	2
2.3 METHODS OF QUESTIONNAIRE DISTRIBUTION	2
2.4 CONTENT OF QUESTIONNAIRE ADMINISTRATION TO OCCUPANTS	4
3.0 QUESTIONNAIRE RETRIEVAL.....	5
3.1 COLLECTION OF QUESTIONNAIRES.....	5
3.2 FOLLOW-UP FOR LATE QUESTIONNAIRES:.....	5
4.0 DOCUMENTATION.....	6

LIST OF APPENDICES

Appendix A	Questionnaire
Appendix B	Questionnaire Script

1.0 OBJECTIVE

The questionnaire was developed by EPA and the National Institute of Occupational Safety and Health (NIOSH) for building air quality research studies. Special attention has been given to carefully and sensitively develop “non-alarmist” language in the questionnaire. Prior to BASE, the questionnaire has been administered at the “NIOSH 150 Building Study” buildings and for sick building studies at the Library of Congress and EPA’s headquarters in Washington, D.C.

The BASE questionnaires are used to obtain information on occupants’ perceptions of their workplace, health and well being, workplace conditions, and characteristics of their job. This data, when compared with the HVAC and environmental data, can be used to determine whether there are any correlations between the environmental data and occupants’ responses. The 10 page questionnaire contains 32 questions and has multiple sections addressing workplace information, health and well-being, workplace conditions, and job characteristics. A copy of the questionnaire is attached as Appendix A. The questionnaire is distributed by BASE field team members and takes between 15 and 30 minutes for occupants to complete.

2.0 DISTRIBUTION OF QUESTIONNAIRES

2.1 LABELING OF QUESTIONNAIRES

Questionnaires are initially numbered sequentially on the cover page. This labeling system is used to track response rates and to target those occupants who have yet to hand in their questionnaires. Once the final group of questionnaires has been brought back from the field, an IADCS-generated ID label is affixed to each one.

2.2 TIMING OF DISTRIBUTION OF QUESTIONNAIRES

During the optional Monday morning meeting with the test space occupants, or a representative of the test space, arrangements may be made with a contact person in the test area to assist in the distribution of questionnaires on Thursday morning. The goal is to administer a questionnaire to every person who has spent more than 20 hours during the study week in the test area. Individuals present in the office on Thursday and/or Friday (the days when the questionnaire is administered) will be eligible to fill out the questionnaire if they have spent more than 20 hours in the test space during the week of the study. Questionnaires should be passed out to these people on Thursday morning, preferably right after the time required for them to “settle in”.

As many questionnaires as possible should be administered and collected on Thursday. For people away from their workspace the questionnaire should be administered early Friday morning.

2.3 METHODS OF QUESTIONNAIRE DISTRIBUTION

Because each office is different in terms of employee availability and “memo response” habits, the test space contact person must be consulted to define how to best administer the questionnaires. Ideally, the field team member responsible for administering questionnaires will pass out a single questionnaire to every occupant in the area, log the ID number of each questionnaire and its location (as a reminder to facilitate subsequent

collection), and follow up with personal reminders to the persons who have not returned the questionnaires.

Various questionnaire deployment strategies that have been used previously are listed below with the office/occupant characteristics requiring such a procedure.

Procedure	Office/occupant characteristics
Questionnaires were hand delivered to every occupant with a brief explanation of the purpose of the questionnaire and its confidential nature.	Occupants remained in the test space for most of the day and worked at a reasonable pace.
*Questionnaires were given to the office manager who passed the questionnaires out to the occupants. The office manager made a list of the ID numbers and the location or name of the recipient of the questionnaire.	This strategy was used because many of the occupants conducted telemarketing and were busy on the telephone for much of the day. The group was motivated for the study and little follow-up was required.

*This is not the preferred method of distribution. Use only if the situation does not permit unaccompanied distribution. If the situation is unavoidable, a note must accompany the building summary describing the conditions under which the questionnaire was administered.

When questionnaires are not delivered personally by field team member, a brief written description explaining the purpose of the questionnaire must be attached, together with a reminder about the deadline (on colored paper). See appendix B for an example of such a description. This written description may also be used as a script to ensure a consistent verbal administration technique.

Ideally, the number of questionnaires distributed should equal the number of permanent employees and/or the number of workstations in the study area. The actual value will vary due to absences for various reasons. Ultimately, the number of questionnaires passed out should be recorded in the "OCCUPANCY COUNTS" section of IADCS and in the final "Building Summary".

2.4 CONTENT OF QUESTIONNAIRE ADMINISTRATION TO OCCUPANTS

Certain aspects of the questionnaire must be highlighted to each occupant to increase the final response rate. Specifically, the field team member distributing the questionnaire must mention the following issues while giving his or her “sales pitch” to an occupant:

1) **Purpose of the questionnaire:** Although the questionnaire is optional, the questionnaire distributor must stress the importance of its completion. Specifically, the distributor must explain that an occupant’s perception of indoor air quality is an important part of the measurements taken during the study.

2) **Confidentiality:** It is important to explain that no one from management or unions will have access to information contained in the questionnaire and that answers will not be traceable to individuals. Although each questionnaire is handed out with an ID number, the identity of a respondent cannot be tracked after the questionnaire is handed in: the front page with the ID number is separated from the questionnaire prior to turning it in.

3) **Nature of the Questions:** The field team member must explain that the questionnaire takes 15 to 20 minutes to complete and that there are several different sections. There must be an explanation that questions relating to job satisfaction and personal stress are included because these factors also affect the perception of the office environment. The field team member must also point out that any question that the occupant does not feel comfortable answering should be left blank.

4) **Logistics for Drop-Off:** The field team member must stress the importance of completing the questionnaire by the end of the day, and clearly identify the location(s) of the drop box stations.

3.0 QUESTIONNAIRE RETRIEVAL

3.1 COLLECTION OF QUESTIONNAIRES

“Ballot boxes” for occupants to drop off the completed questionnaires are left at all probable exits from the test space (by stairways and elevators). Two boxes must be placed at each drop box station: one for the cover sheets with ID number, and the other for the questionnaire responses. The boxes must be labeled as questionnaire boxes and should include brief instructions about detaching the top sheet. The drop boxes should also be fixed closed; either with a lock or a wire tie. Care should be taken to provide a neat box, but one that does not appear so valuable as to invite theft.

Periodically throughout Thursday and Friday, questionnaires are retrieved from these boxes and logged to keep track of questionnaires still unreturned. The date of completion of each questionnaire is also recorded. Completed questionnaires should be placed in a single secure location that will not be disturbed by other field activities; in essence they should be treated in the same manner as all other sample media.

3.2 FOLLOW-UP FOR LATE QUESTIONNAIRES:

The questionnaire return rate after lunch on Thursday will help determine the intensity of the follow-up required. In conducting the follow-ups, it must be remembered that different persons will react differently to persistent reminders. A general procedure to follow is to distribute reminder notes by mid-afternoon on Thursday and again early on Friday morning; persons found sitting at their workstation may be politely reminded about the deadline for completing the questionnaire.

4.0 DOCUMENTATION

A brief summary about the questionnaire distribution must be incorporated into the final “Building Summary” for the building. The following information must be included:

- Estimated number of employees who are working in the study area more than 20 hours per week
- Number of questionnaires distributed
- Number of questionnaires returned by Thursday p.m.
- Number of questionnaires returned on Friday
- Any special issues relating to the questionnaire process for the building

APPENDIX A
QUESTIONNAIRE

U.S. ENVIRONMENTAL PROTECTION AGENCY

INDOOR ENVIRONMENTAL QUALITY SURVEY

The U.S. Environmental Protection Agency (EPA) is conducting this survey as part of an information gathering effort to establish baseline information regarding indoor air quality in your building. Measurements of a variety of environmental conditions are being taken in your building throughout the week.

To help determine how these measurements relate to your comfort and health, please complete the attached questionnaire. Your participation in this part of the evaluation of this building is voluntary, but very important. Your completed questionnaire will be collected and analyzed by EPA and your responses **WILL NOT BE SEEN BY MANAGEMENT OR UNION REPRESENTATIVES.**

"BY COMPLETING THIS QUESTIONNAIRE, I INDICATE MY CONSENT TO PARTICIPATE IN THIS STUDY. I UNDERSTAND CONFIDENTIALITY WILL BE MAINTAINED."

THANK YOU FOR YOUR PARTICIPATION IN THIS STUDY.

U. S. ENVIRONMENTAL PROTECTION AGENCY'S

INDOOR ENVIRONMENTAL QUALITY SURVEY

EPA INDOOR ENVIRONMENTAL QUALITY SURVEY

(OMB NO. 2060-0244)

This survey is being conducted to determine the environmental quality of your building. This questionnaire asks about how you think your building environment and your work affect you. Please answer the questions as accurately and completely as you can, regardless of how satisfied or dissatisfied you are with conditions in the building.

ALL OF YOUR ANSWERS WILL BE TREATED IN THE STRICTEST CONFIDENCE.

I. WORKPLACE INFORMATION

<p>1. How long have you worked <i>in this building</i>, to the nearest year?</p> <p>___ years</p> <p><i>If less than one year, how many months have you worked in this building?</i></p> <p>___ months</p>	<p>4. Which best describes the space in which your current workstation* is located?</p> <p><small>*For this questionnaire, your "workstation" is the place (desk, cubicle, office, etc.) where you do the majority of your work</small></p> <p>___ Single person private office (1) ___ Shared private office (2) ___ Open space with partitions (3) ___ Open space without partitions (4) ___ Other (specify) _____(5)</p> <hr/> <p>4a. How many people work in the room in which your workstation is located (including yourself)?</p> <p>___ 1 ___ 2-3 ___ 4-7 ___ 8 or more</p>
<p>2. On average, how many hours a week do you work <i>in this building</i>?</p> <p>___ hours per week</p>	<p>5. Is there carpet on most or all of the floor at your workstation?</p> <p>___ Yes(1) ___ No(2)</p>
<p>3. During <i>THIS WEEK</i>, including today, how many days did you work in this building?</p> <p>___ days</p>	<p>6. In general, how clean is your workspace* area?</p> <p><small>*For this questionnaire, your "workspace" is the immediate area surrounding your workstation</small></p> <p>___ Very clean (1) ___ Reasonably clean (2) ___ Somewhat dusty or dirty (3) ___ Very dusty or dirty (4)</p>

<p>7. Please rate the lighting at your workstation.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Much too dim (1) <input type="checkbox"/> A little too dim (2) <input type="checkbox"/> Just right (3) <input type="checkbox"/> A little too bright (4) <input type="checkbox"/> Much too bright (5) 	<p>10. How comfortable is the current set-up of your desk or work table (i.e., height and general arrangement of the table, chair, and equipment you work with)?</p> <ul style="list-style-type: none"> <input type="checkbox"/> Very comfortable (1) <input type="checkbox"/> Reasonably comfortable (2) <input type="checkbox"/> Somewhat uncomfortable (3) <input type="checkbox"/> Very uncomfortable (4) <input type="checkbox"/> Don't have one specific desk or work table (5)
<p>8. Do you experience a reflection or "glare" in your field of vision when at your workstation?</p> <ul style="list-style-type: none"> <input type="checkbox"/> Rarely (1) <input type="checkbox"/> Occasionally (2) <input type="checkbox"/> Sometimes (3) <input type="checkbox"/> Fairly often (4) <input type="checkbox"/> Very often (5) 	<p>11. Do you work with a computer or word processor? <input type="checkbox"/> yes(1) <input type="checkbox"/> no(2)(skip to #12)</p> <p>11a. About how many hours a day do you work with a computer or word processor, to the nearest hour? <input type="checkbox"/> hours per day</p> <p>11b. If you use a computer or word processor, do you usually wear glasses when you use these machines? <input type="checkbox"/> Yes (1) <input type="checkbox"/> No (2)</p> <p>11c. Do you use a glare screen on your computer? <input type="checkbox"/> Yes (1) <input type="checkbox"/> No (2)</p>
<p>9. How comfortable is the chair at your workstation?</p> <ul style="list-style-type: none"> <input type="checkbox"/> Very comfortable (1) <input type="checkbox"/> Reasonably comfortable (2) <input type="checkbox"/> Somewhat uncomfortable (3) <input type="checkbox"/> Very uncomfortable (4) <input type="checkbox"/> Don't have one specific chair (5) 	<p>12. Which one of the following statements best describes the windows in your work area?</p> <ul style="list-style-type: none"> <input type="checkbox"/> There are no windows in my personal workspace and none in the general area visible from my workspace (when I am either standing or seated). (1) <input type="checkbox"/> There are no windows in my personal workspace, but I can see one or more windows in the general area. (2) <input type="checkbox"/> There are one or more windows in my personal workspace. (3)

13. If there is a window visible from your workspace, how far (in feet) is the closest window from your desk chair?

feet

No window

14. During the **PAST THREE MONTHS**, have the following changes taken place within 15 feet of your current workstation?

	YES (1)	NO (2)
New carpeting		
Walls painted		
New furniture		
New partitions		
New wall covering		
Water damage		

15. How often do you use the following at work? (Check the appropriate box for each item.)

	Several times a day (1)	About once a day (2)	3-4 times a week (3)	Less than 3 times/week (4)	Never (5)
Photocopier					
Laser printer					
Facsimile (FAX) machine					
Self-copying (carbonless) copy paper					
Cleanser, glue, correction fluid, or other odorous chemicals					

II. INFORMATION ABOUT HEALTH AND WELL-BEING

1. Have you ever been told by a doctor that you have or had any of the following?

	YES(1)	NO(2)
Migraine		
Asthma		
Eczema		
Hay fever		
Allergy to dust		
Allergy to molds		

<p>2. What is your tobacco smoking status?</p> <p><input type="checkbox"/> never smoked (1) <input type="checkbox"/> former smoker (2) <input type="checkbox"/> current smoker (3)</p>	<p>5. What type of corrective lenses do you usually wear at work?</p> <p><input type="checkbox"/> none (1) <input type="checkbox"/> glasses (2) <input type="checkbox"/> bifocals(3) <input type="checkbox"/> contact lenses (4)</p>
<p>3. Do you consider yourself especially sensitive to the presence of tobacco smoke in your workspace?</p> <p><input type="checkbox"/> Yes (1) <input type="checkbox"/> No (2)</p>	<p>6. How old were you on your last birthday?</p> <p>under 20(1) 20-29 years(2) 30-39 years(3) <input type="checkbox"/> 40-49 years(4) 50-59 years(5) <input type="checkbox"/> over 59 years(6)</p>
<p>4. Do you consider yourself especially sensitive to the presence of other chemicals in the air of your workspace?</p> <p><input type="checkbox"/> Yes (1) <input type="checkbox"/> No (2)</p>	<p>7. Are you:</p> <p>male (1) female (2)</p>

II. (Cont.) **EXAMPLE -- HOW TO ANSWER THE QUESTIONS ON THE NEXT PAGE.**

The next page contains questions regarding symptoms you may have experienced while at work during the last 4 weeks. The following **EXAMPLE** shows how an employee might fill out this type of questionnaire.

8. During the LAST FOUR WEEKS YOU WERE AT WORK , how often have you experienced each of the following symptoms while working in this building? If you answer "Not in Last 4 Weeks" for a symptom, please move down the page to the next symptom.					8a. During the LAST FOUR WEEKS YOU WERE AT WORK , what happened to this symptom at times when you were away from work? (eg, holidays, weekends)			8b. During THIS WEEK , on how many days did you experience this symptom?
SYMPTOMS	Not in Last 4 Weeks (1)	1-3 days in last 4 weeks (2)	1-3 days per wk in last 4 wks (3)	Every or Almost Every Workday (4)	Got Worse (1)	Stayed Same (2)	Got Better (3)	Number of Days This Week
earache	X							
hiccups	X							
toothache		X				X		0
leg cramps				X	X			3
9a. In the LAST FOUR WEEKS how often have any of the symptoms listed above reduced your ability to work? _6_ days					9b. In the LAST FOUR WEEKS how often have any of the symptoms listed caused you to leave work? _3_ days			

The above responses show that during the last 4 weeks while at work, **THIS EMPLOYEE**:

1. Did not experience EARACHE or HICCUPS.
2. Experienced TOOTHACHE 1-3 days. Toothache stayed same when away from work. No toothache this week.
3. Experienced LEG CRAMPS almost every day. Leg cramps got worse when away from work. Had leg cramps three days this week.

One or more of the symptoms reduced their ability to work 6 days in the last four weeks. One or more of the symptoms caused them to stay home or leave work 3 days.

(NOTE that the symptoms in this example are for illustration only and are not the same as those on the following page.)

8. During the LAST FOUR WEEKS YOU WERE AT WORK, how often have you experienced each of the following symptoms while working in this building?
 · If you check column 1 "Not in Last 4 Weeks" for a symptom-- move DOWN the page to the next symptom. If you check column 2,3, or 4 move across the page.

8a. During the LAST FOUR WEEKS YOU WERE AT WORK, what happened to this symptom at times when you were away from work? (eg, holidays, weekends)

8b. During THE WEEK, on how many days did you experience this symptom?

SYMPTOMS	Not in Last 4 Weeks	1-3 days in last 4 weeks	1-3 days per wk in last 4 wks	Every or Almost Every Workday	Got Worse	Stayed Same	Got Better	Number of Days This Week
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	
dry, itching, or irritated eyes								
wheezing								
headache								
sore or dry throat								
unusual tiredness, fatigue, or drowsiness								
chest tightness								
stuffy or runny nose, or sinus congestion								
cough								
tired or strained eyes								
tension, irritability, or nervousness								
pain or stiffness in back, shoulders, or neck								
sneezing								
difficulty remembering things or concentrating								
dizziness or lightheadedness								
feeling depressed								
shortness of breath								
nausea or upset stomach								
dry or itchy skin								
numbness in hands or wrists								

9a. In the LAST FOUR WEEKS how often have any of the symptoms listed above reduced your ability to work?

_____ days

9b. In the LAST FOUR WEEKS how often have any of the symptoms listed above caused you to stay home or leave work?

_____ days

III. DESCRIPTION OF WORKPLACE CONDITIONS

<p>1. During the LAST FOUR WEEKS YOU WERE AT WORK, how often have you experienced each of the following environmental conditions while working in this building?</p> <p>· If you put a check in the column "Not in Last 4 Weeks" -- move down the page to the next condition.</p>					<p>1a. During THE WEEK, on how many days did you experience this environmental condition?</p>
CONDITIONS	Not in Last 4 Weeks (1)	1-3 days in last 4 weeks (2)	1-3 days per wk in last 4 wks (3)	Every or Almost Every Workday (4)	Number of Days This Week
too much air movement					
too little air movement					
temperature too hot					
temperature too cold					
air too humid					
air too dry					
tobacco smoke odors					
unpleasant chemical odors					
other unpleasant odors (e.g., body odor, food odor, perfume)					

How satisfied are you with the following aspects of your workstation?

<p>2. Conversational privacy</p> <p> <input type="checkbox"/> Very satisfied (1) <input type="checkbox"/> Somewhat satisfied (2) <input type="checkbox"/> Not too satisfied (3) <input type="checkbox"/> Not at all satisfied (4) </p>	<p>3. Freedom from distracting noise</p> <p> <input type="checkbox"/> Very satisfied (1) <input type="checkbox"/> Somewhat satisfied (2) <input type="checkbox"/> Not too satisfied (3) <input type="checkbox"/> Not at all satisfied (4) </p>
--	--

IV. CHARACTERISTICS OF YOUR JOB

<p>1. What is your job category?</p> <p><input type="checkbox"/> Managerial (1)</p> <p><input type="checkbox"/> Professional (2)</p> <p><input type="checkbox"/> Technical (3)</p> <p><input type="checkbox"/> Secretarial or Clerical (4)</p> <p><input type="checkbox"/> Other (specify) _____ (5)</p>	<p>2. All in all, how satisfied are you with your job?</p> <p><input type="checkbox"/> Very satisfied (1)</p> <p><input type="checkbox"/> Somewhat satisfied (2)</p> <p><input type="checkbox"/> Not too satisfied (3)</p> <p><input type="checkbox"/> Not at all satisfied (4)</p>	<p>3. What is the highest level you completed in school?</p> <p><input type="checkbox"/> 8th grade or less (1)</p> <p><input type="checkbox"/> Some high school (2)</p> <p><input type="checkbox"/> High school graduate (3)</p> <p><input type="checkbox"/> Some college (4)</p> <p><input type="checkbox"/> College degree (5)</p> <p><input type="checkbox"/> Graduate degree (6)</p>
---	--	---

4. Conflicts can occur in any job. For example, someone may ask you to do work in a way that is different from what you think best, or you may find that it is difficult to satisfy everyone.

HOW OFTEN do you face problems in your work like the ones listed below? *(Check the appropriate box for each statement.)*

	Rarely or Never (1)	Sometimes (2)	Fairly Often (3)	Very Often (4)
Persons equal in rank and authority over you ask you to do things which conflict				
People in a good position to see if you do what they ask give you things to do which conflict with one another				
People whose requests should be met give you things which conflict with other work you have to do				

5. The next series of questions asks **HOW OFTEN** certain things happen at your job. (Check the appropriate box for each question.)

	Rarely (1)	Occasionally (2)	Sometimes (3)	Fairly Often (4)	Very Often (5)
How often does your job require you to work very fast?					
How often does your job require you to work very hard?					
How often does your job leave you with little time to get things done?					
How often is there a great deal to be done?					
How often are you clear on what your job responsibilities are?					
How often can you predict what others will expect of you on the job?					
How much of the time are your work objectives well defined?					
How often are you clear about what others expect of you on the job?					

6. In order to better understand your responsibilities outside your normal working day, the next series of questions deals with other significant aspects of your life.

RESPONSIBILITY	YES (1)	NO (2)
Major responsibility for child care duties		
Major responsibility for housekeeping duties		
Major responsibility for care of an elderly or disabled person on a regular basis		
Regular commitment of five hours or more per week, paid or unpaid, outside of this job (include educational courses, volunteer work, second job, etc.)		

PLEASE USE THE REMAINING SPACE TO DISCUSS ANY ASPECTS OF THE BUILDING, ENVIRONMENT OR EMPLOYEE HEALTH THAT YOU FEEL APPROPRIATE

//////////

APPENDIX B
QUESTIONNAIRE SCRIPT

QUESTIONNAIRE SCRIPT

"We are completing our air quality study of your building. The last part of our study includes an occupant survey that helps us to get an idea about your perception of the indoor environment. The survey is extremely important to us because it allows us to understand possible relationships between your responses and the data we collect with our equipment. The questionnaire is completely confidential and takes about 10 – 15 minutes to complete. There are questions not only related to air quality, but job descriptions, health symptoms, and various types of other stressors that may impact how you feel at work. Although we would like you to answer all of the questions, if you feel uncomfortable answering any question you may leave it blank. There are confidential drop off boxes located at:

If you could complete the survey by the end of the day we'd appreciate it; if not, at the latest tomorrow morning. If you have any questions, feel free to stop one of the field investigators."