



U.S. DEPARTMENT OF ENERGY
Commercial Buildings Energy Consumption Survey For 1992
BUILDING QUESTIONNAIRE

ID:	_____
BUILDING NAME:	_____
ADDRESS:	_____
	STREET

	CITY STATE ZIP
COMMENTS:	_____

INITIAL CONTACT TO DETERMINE RESPONDENT

I'm _____ from Westat, Inc., a social science research firm. We are conducting a study for the U.S. Department of Energy about energy consumption in nonresidential buildings. May I speak with the building manager or a person knowledgeable about the types of energy coming into the building? May I have that person's name, title and address at which he or she might be located?

NAME: _____

TITLE: _____

LOCATION: _____ PHONE () _____

FAX # () _____

INTRODUCTION TO INTERVIEW

Hello, I'm _____ from Westat, Inc., a social science research firm. We are conducting a study for the U.S. Department of Energy about energy consumption in nonresidential buildings (HAND LETTER). Although your response is voluntary, we hope you will participate in this important study of energy use.

IF ASKED ABOUT CONFIDENTIALITY, READ:

Any information we collect that would permit identification of respondents or their buildings will be confidential and used only for statistical purposes. Data that can be identified with individual respondents will not be disclosed or released to anyone, including the Department of Energy, for any other purpose, except as required by law.

INTERVIEWER NAME: _____ ID NO. _____

BOX 1

INTERVIEWER OBSERVATION OF BUILDING

1-1. IS BUILDING A SHOPPING CENTER/MALL, SERIES OF ATTACHED STORAGE UNITS,
A BLOCK OF CLASSROOMS OR MOTEL ROOMS?

YES 1 (BOX 3 AND CIRCLE 1)
NO 2

1-2. CAN YOU DETERMINE FROM THE LISTING, THE BUILDING TO INTERVIEW?

YES, THE LISTED STRUCTURE IS CLEARLY IDENTIFIABLE
AND SEPARATE FROM ANY OTHER STRUCTURE 1 (BOX 3 AND CIRCLE 1)
NO 2

1-3. FROM YOUR OBSERVATION, THE LISTED STRUCTURE,

APPEARS TO BE ATTACHED TO ANOTHER LISTED STRUCTURE(S)
(RECORD ADDRESS OF OBSERVED ATTACHED STRUCTURE):
..... 1 (A-2)

APPEARS TO BE ATTACHED TO ANOTHER UNLISTED STRUCTURE(S)
(RECORD ADDRESS OF OBSERVED ATTACHED STRUCTURE):
..... 2 (A-2)

APPEARS TO BE TWO OR MORE ATTACHED STRUCTURES
DESCRIBED BY A SINGLE LISTING LINE (RECORD ADDRESSES OR
DESCRIPTIONS OF OBSERVED ATTACHED STRUCTURES):
..... 3 (A-1)

IS THREE OR FEWER FREESTANDING STRUCTURES (CONDUCT AN
INTERVIEW FOR EACH STRUCTURE). 4 (BOX 3 AND CIRCLE 2)

IS FOUR OR MORE FREESTANDING STRUCTURES (CALL SAMPLING
HOTLINE FOR INSTRUCTIONS) 5

COULD BE ONE OF SEVERAL STRUCTURES, CANNOT DETERMINE
WHICH ONE (CALL SUPERVISOR FOR INSTRUCTIONS) 6

TIME BEGAN: _____

A. BUILDING IDENTIFICATION QUESTIONS

A-1. First, I need to make sure we have correctly described the building we want you to answer questions about. Our records list the structure as (ADDRESS OR DESCRIPTION FROM LABEL OR LISTING). Is the entire structure owned by the same person or organization?

YES 1
NO 2 (A-1B)

A-1A. Are there permanent walls that extend from the ground level to the roof that subdivide (ADDRESS OR DESCRIPTION FROM LABEL OR LISTING) into totally separate structures such as (READ DESCRIPTION FROM 1-3)?

YES 1
NO 2 (BOX 3 AND CIRCLE 5)

A-1B. What are the addresses of the (separate/separately owned) parts of this structure? IF PARTS OF STRUCTURE DO NOT HAVE ADDRESSES, OBTAIN DISTINGUISHING DESCRIPTIONS. ONLY RECORD PARTS OF STRUCTURE DESCRIBED BY SAMPLED LISTING LINE.

(1) _____
 (2) _____
 (3) _____
 (4) _____

} (BOX 3 AND CIRCLE 6)

A-2. First, I need to make sure we have correctly described the building we want you to answer questions about. Our records list the structure as (ADDRESS OR DESCRIPTION FROM LABEL OR LISTING). Is that attached or connected to any other structure, such as (READ THE DESCRIPTION(S) FROM 1-3)?

YES 1
 NO 2 (BOX 3 AND CIRCLE 1)

What is(are) the attached address(es)? (RECORD ADDITIONAL ADDRESS(ES)):

(1) _____
 (2) _____
 (3) _____
 (4) _____

A-3A. Is (READ A-2 LINE (1), REPEAT FOR LINE (2) ETC.) also owned by the same person or organization that owns (ADDRESS OR DESCRIPTION FROM LABEL OR LISTING)?		A-3B. FOR EACH "YES" IN A-3A ASK: Are there permanent walls that extend from the ground level to the roof of the structure described by (LABEL OR LISTING LINE DESCRIPTION) which totally separate it from the structure described by (A-2(1), A-2(2) ETC. DESCRIPTION)?	
		YES	NO
A-2 LINE (1)	YES 1 NO 2	1	2
A-2 LINE (2)	YES 1 NO 2	1	2
A-2 LINE (3)	YES 1 NO 2	1	2
A-2 LINE (4)	YES 1 NO 2	1	2
IF ALL ABOVE ARE "NO" GO TO BOX 3 AND CIRCLE 3.			

BOX 2
ARE ALL A-3B ANSWERS YES?

ALL "YES" 1 (BOX 3 AND CIRCLE 1)
 ALL "NO" 2 (BOX 3 AND CIRCLE 5)
 SOME "YES"; SOME "NO" 3 (BOX 3 AND CIRCLE 4)

BOX 3

INTERVIEW WILL BE FOR:

SAMPLED LISTED BUILDING 1

EACH SEPARATE FREE STANDING STRUCTURE 2

*THE SEPARATELY OWNED STRUCTURE DESCRIBED BY THE
SAMPLED LISTED LINE. CONDUCT ONE INTERVIEW FOR THE
SAMPLED BUILDING ONLY 3*

*THE STRUCTURE DESCRIBED BY THE SAMPLED LISTING LINE,
INCLUDING EACH STRUCTURE THAT IS NOT SEPARATED FROM
IT BY A PERMANENT WALL. CONDUCT ONE INTERVIEW FOR
ALL PARTS OF THE BUILDING 4*

*STRUCTURE CONSIDERED TO BE ONE BUILDING. INCLUDE ALL
PARTS OF THE BUILDING 5*

*EACH SEPARATE OR SEPARATELY OWNED STRUCTURE
DESCRIBED BY THE SAMPLED LISTING LINE 6*

A-4. The questions I will be asking you will be about the building at (READ ALL ADDRESSES THAT DESCRIBE THE BUILDING).

Does this building, as we have described it, have any other addresses associated with it?

- YES 1
NO 2 (A-5)

RECORD VERIFIED STREET ADDRESS(ES): _____

A-5. What is the name of the building? (IF BUILDING HAS NO NAME, ASK NAME OF (LARGEST) ESTABLISHMENT THAT OCCUPIES BUILDING OR OTHER GENERAL DESCRIPTION)

VERIFIED NAME: _____ (BOX 4)

BOX 4

VERIFIED BUILDING NAME IS: (CIRCLE ONE)

NAME OF BUILDING OR ONLY ESTABLISHMENT IN BUILDING . . . 1

NAME OF LARGEST ESTABLISHMENT IN BUILDING 2

NAME OF ESTABLISHMENT BUT NOT LARGEST 3

OTHER 4

A-6. What is the building's ZIP Code? (RECORD NINE DIGIT ZIP CODE IF AVAILABLE)

ZIP Code

BOX 5

IF AREA SAMPLE: CHECK TO SEE IF THE FIRST FIVE DIGITS OF BUILDING'S ZIP CODE MATCH ZIP CODE ON THE LABEL (CHECK ONE BOX)

BUILDING ZIP MATCHES LABEL: CONTINUE WITH INTERVIEW 1

BUILDING ZIP DOES NOT MATCH LABEL. VERIFY THAT YOU ARE AT THE CORRECT ADDRESS AND WITHIN THE SEGMENT BOUNDARIES.

IF YOU ARE, CONTINUE WITH INTERVIEW 2

IF YOU ARE NOT, DISCONTINUE AND CALL SUPERVISOR 3

A-7. What is the gross or total square feet of all the space, both finished and unfinished, enclosed within the exterior walls of this building, including: basements, indoor parking facilities, hallways, lobbies, stairways, and elevator shafts?

TOTAL SQUARE FEET (BOX 6)

RECORD ON FOLD-OUT PAGE

DONT' KNOW 9-8

A-8. Here is a card that has categories of gross total square feet. HAND CARD A-8. Which category in your estimation best describes the total gross square feet in this building including all the areas just mentioned? CIRCLE CODE BELOW AND ENTER RANGE ON FOLD-OUT PAGE.

HAND CARD A-8

- 1,000 SQUARE FEET OR LESS 01
- 1,001 TO 5,000 SQUARE FEET 02
- 5,001 TO 10,000 SQUARE FEET 03
- 10,001 TO 25,000 SQUARE FEET 04
- 25,001 TO 50,000 SQUARE FEET 05
- 50,001 TO 100,000 SQUARE FEET 06
- 100,001 TO 200,000 SQUARE FEET 07
- 200,001 TO 500,000 SQUARE FEET 08
- 500,001 TO 1 MILLION SQUARE FEET 09
- OVER 1 MILLION SQUARE FEET 10
- DONT' KNOW 98

INTERVIEWER:
REMEMBER THAT 1,000
SQUARE FEET IS
APPROXIMATELY TWICE
THE SIZE OF A
TWO CAR GARAGE.

BOX 6

IS A-7/A-8 GREATER THAN 1,000?

YES 1 (A-9)

NO 2 (TERMINATE)

This completes the interview. Thank you for your time and help.

TIME ENDED: _____

A-9. Including basements, floors that may be used as a parking garage, or any other floors below ground level, how many floors are in the tallest section of the building?

_____ →
OF FLOORS

DON'T KNOW 998 (A-12)

RECORD ON FOLD-OUT PAGE, THEN:
IF ONE FLOOR, A-10.

IF MORE THAN ONE FLOOR, A-11.

A-10. ASK IF ONLY ONE FLOOR: Is any portion of this floor below ground level?

YES 1 (A-12)

NO 2 (A-12)

A-11. ASK IF MORE THAN ONE FLOOR: How many of these floors are below ground level? Please include any floors that are partially below ground level.

_____ →
FLOORS BELOW GROUND

DON'T KNOW 998

A-12. When was the construction of the major or largest portion of the (A-7/A-8 SQUARE FEET) square feet completed?

_____ →
YEAR

DON'T KNOW 9-8 (A-14)

RECORD ON FOLD-OUT PAGE THEN:
IF COMPLETED IN 1992, ASK A-13
IF COMPLETED 1987 TO 1991, ASK B-1
IF COMPLETED BEFORE 1987, ASK A-15

A-13. In what month of 1992 was the building first open for occupancy?

_____ (B-1)
MONTH

DON'T KNOW 9-8 (B-1)

A-14. Here is a card with categories of years. In your estimation, which category contains the year the largest portion of the building was completed?

RECORD ON
FOLD-OUT PAGE

HAND
CARD
A-14

1899 or before	01	1970 - 1979	06
1900 - 1919	02	1980 - 1986	07
1920 - 1945	03	1987 - 1989	08 (B-1)
1946 - 1959	04	1990 - 1992	09 (B-1)
1960 - 1969	05	DON'T KNOW	98

A-15. Has there been an expansion (addition) or reduction (deletion) to the gross total square feet of this building since December 31, 1986? CIRCLE ONE.

YES, AN EXPANSION (ADDITION)	1
YES, A REDUCTION (DELETION)	2
NO	3 (BOX 7)

A-16. How large, in square feet, was this (expansion/reduction)?

SQUARE FEET

DON'T KNOW 9-8

BOX 7

LOOK AT THE LABEL ON THE FOLDOUT PAGE.

IS THE BUILDING FROM THE 1986 SAMPLE?

YES	1 (BOX 8)
NO	2 (B-1)

BOX 8

CHECK QUESTIONS A-7/A-8, A-9, AND A-12/A-14 ON THE FOLD-OUT PAGE, ARE THEY THE SAME AS 1986 ON FOLD-OUT PAGE FOR THE FOLLOWING?

	<u>YES</u>	<u>NO</u>	<u>UNABLE TO COMPARE</u>
SQUARE FEET	1	2	8
NUMBER OF FLOORS	1	2	8
YEAR CONSTRUCTED	1	2	8

ARE THE SQUARE FEET/NUMBER OF FLOORS/YEAR CONSTRUCTED:

ALL ANSWERED YES OR UNABLE TO COMPARE 1 (B-1)

ONE OR MORE NO 2

A-17. An interview was conducted for (ADDRESS OR DESCRIPTION FROM LABEL OR LISTING) in 1986. At that time, the (square feet/number of floors/year constructed) was (READ 1986 VALUE FROM THE FOLD-OUT PAGE). Could you please explain the difference? (RECORD EXPLANATION VERBATIM)

BOX 9

ARE YOU AT THE SAME ADDRESS AS DESCRIPTION FROM LABEL OR LISTING?

YES. 1
(CONTINUE INTERVIEW)

NO. 2
(DISCONTINUE INTERVIEW AND CALL SUPERVISOR.)

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B. PRINCIPAL BUILDING ACTIVITIES

B-1. **INTERVIEWER: BEFORE ASKING QUESTION B-2, CODE BEST DESCRIPTION BASED ON YOUR OBSERVATION. (CIRCLE ONE)**

B-2. In the next few questions, we are trying to define the principal activity in this building. By activity, we mean what the building is used for. Here is a card that shows how building activities are categorized for this study. Considering all of the (A-7/A-8 SQUARE FEET) square feet in this building, would you estimate that 75 percent or more of this space (is used for/is) (INTERVIEWER OBSERVATION)?

HAND CARD B-2

<u>ACTIVITY</u>		<u>CIRCLE ONE</u>	<u>YES</u>	<u>NO</u>
a.	VACANT	01	1 (B-5e)	2 (B-3)
b.	OFFICE/PROFESSIONAL	02	1 (B-7)	2 (B-3)
c.	SHOPPING CENTER/MALL/RETAIL/SERVICE	03	1 (B-7)	2 (B-3)
d.	LABORATORY	04	1 (B-7)	2 (B-3)
e.	NON-REFRIGERATED WAREHOUSE OR STORAGE	05	1 (B-7)	2 (B-3)
f.	FOOD SALES (SUCH AS GROCERY STORES)	06	1 (B-7)	2 (B-3)
g.	PUBLIC ORDER AND SAFETY	07	1 (B-7)	2 (B-3)
h.	OUTPATIENT HEALTH SERVICES/CLINIC	08	1 (B-7)	2 (B-3)
i.	INDUSTRIAL PROCESSING AND MANUFACTURING (IF ANY RETAIL ACTIVITY, CODE AS OTHER AND DESCRIBE)	09	1 (B-6)	2 (B-3)
j.	AGRICULTURAL PURPOSES (IF ANY RETAIL ACTIVITY, CODE AS OTHER AND DESCRIBE)	10	1 (B-6)	2 (B-3)
k.	REFRIGERATED WAREHOUSE OR STORAGE	11	1 (B-7)	2 (B-3)
l.	RELIGIOUS WORSHIP (E.G. CHURCH, SYNAGOGUE, OR MOSQUE)	12	1 (B-5l)	2 (B-3)
m.	PUBLIC ASSEMBLY	13	1 (B-5m)	2 (B-3)
n.	EDUCATION (CLASSROOM BUILDING)	14	1 (B-5n)	2 (B-3)
o.	FOOD SERVICES (RESTAURANTS)	15	1 (B-5o)	2 (B-3)
p.	HOSPITAL/INPATIENT HEALTH SERVICES	16	1 (B-5p)	2 (B-3)
q.	SKILLED NURSING/OTHER RESIDENTIAL CARE (NURSING HOME)	17	1 (B-5q)	2 (B-3)
r.	HOTEL/MOTEL/DORM, ETC.	18	1 (B-5r)	2 (B-3)
s.	RESIDENTIAL (LIVING QUARTERS WITH KITCHEN)	19	1 (B-6)	2 (B-3)
t.	INDOOR ENCLOSED PARKING GARAGE	20	1 (B-7)	2 (B-3)
u.	OTHER (SPECIFY): _____ (E.G. "RETAIL STORE IN A PRINT SHOP" OR "AIRCRAFT HANGAR")	21	1 (B-7)	2 (B-3)

B-3.

Please tell me which activities occupy space in this building.

CIRCLE ALL ACTIVITIES MENTIONED		B-4. Of the (A-7/A-8 SQUARE FEET) square feet in this building, approximately what percentage of space does this activity occupy? TOTAL SHOULD EQUAL 100%		
a.	01	%	---	B-5. a. IF 50% OR MORE VACANT, ASK: What was this vacant space previously used for?
b.	02	%		
c.	03	%		
d.	04	%		
e.	05	%		
f.	06	%		
g.	07	%		
h.	08	%		
i.	09	%	IF 50% OR MORE, GO TO B-6.	
j.	10	%	IF 50% OR MORE, GO TO B-6.	
k.	11	%		
l.	12	%	----	B-5. l. What is the total seating capacity of religious worship areas of the building? SEATS
m.	13	%	----	m. What is the fixed seating capacity of public assembly areas of the building? SEATS
n.	14	%	----	n. How many students can be seated in all of the classrooms in the building at one time? STUDENTS
o.	15	%	----	o. What is the total seating capacity of the food service areas of the building? SEATS
p.	16	%	----	p. What is the licensed bed capacity of the building? BEDS
q.	17	%	----	q. What is the licensed bed capacity of the building? BEDS
r.	18	%	----	r. How many guest rooms are there in the building? ROOMS
s.	19	%	IF 50% OR MORE, GO TO B-6.	AFTER COMPLETING ALL B-4 AND B-5 QUESTIONS GO TO B-7
t.	20	%		
u.	21	%		

OR IF NEVER USED: What was this space intended to be used for?

(GO TO B-7)

IF INELIGIBLE TERMINATE:

B-6. This completes the interview. Thank you very much for your time and help. TIME END: _____

COLUMN A		COLUMN B
<p>B-7. Now I am going to ask you some questions about some of the ways that space may be used in this building. Previously you told me that this building contains (INSERT A-7/A-8 SQUARE FEET) square feet.</p> <p>Thinking about all the square footage in this building, please tell me if any space in this building is used:</p> <p style="text-align: center;">FEATURE</p> <p>a. for commercial food preparation and serving such as kitchens, steam tables and warming areas? <u>Do not include seating areas.</u></p> <p> YES 1 -----></p> <p> NO 2</p> <p> DON'T KNOW 8</p> <p>b. as computer room(s) with separate air conditioning system(s)?</p> <p> YES 1 -----></p> <p> NO 2</p> <p> DON'T KNOW 8</p> <p>c. any use that requires special ventilation equipment, such as laboratories or "clean rooms"?</p> <p> YES 1 -----></p> <p> NO 2</p> <p> DON'T KNOW 8</p> <p>d. any activities requiring large amounts of hot water such as a commercial laundry room, heated pool, spa, sauna, steam room?</p> <p> YES 1 -----></p> <p> NO 2</p> <p> DON'T KNOW 8</p> <p>e. any other function that requires large amounts of energy, such as an ice-skating rink?</p> <p> YES 1 -----></p> <p> NO 2</p> <p> DON'T KNOW 8</p> <p>IF YES, SPECIFY: _____</p> <p>_____</p>	<p>HAND CARD B-7</p> <p>IF "YES" IN COLUMN A: What is your best estimate of the percent of the floorspace used for (FEATURE)</p> <p>_____ %</p> <p>_____ %</p> <p>_____ %</p> <p>_____ %</p> <p>_____ %</p>	

B-8. Are there any personal computers and/or computer terminals in this building? (Personal Computers are also known as PCs.)

- YES 1
- NO 2 (C-1)
- DON'T KNOW 8 (C-1)

B-9. Which category in your estimation best describes the number of PCs and/or computer terminals in this building? CIRCLE ONLY ONE.

HAND
CARD
B-9

- 1-4 01
- 5-9 02
- 10-19 03
- 20-49 04
- 50-99 05
- 100-249 06
- 250-499 07
- 500-999 08
- 1,000-2,499 09
- 2,500-4,999 10
- 5,000 or more 11
- DON'T KNOW 98

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C. ENERGY SOURCES AND END USES

C-1. Here is a list of various types of fuels or energy sources. During calendar year 1992 which of these fuels or energy sources will have been used to supply energy to this building?

**HAND
CARD
C-1**

- | | |
|--|--|
| ELECTRICITY | DISTRICT CHILLED WATER PIPED INTO THE BUILDING FROM A CENTRAL PLANT OR UTILITY |
| NATURAL GAS | WOOD |
| FUEL OIL, DIESEL OR KEROSENE | COAL |
| BOTTLED GAS, LPG OR PROPANE | PHOTOVOLTAIC CELLS (PVCs) THAT CONVERT SUNLIGHT DIRECTLY INTO ENERGY |
| DISTRICT STEAM PIPED INTO THE BUILDING FROM A CENTRAL PLANT OR UTILITY | SOLAR THERMAL PANELS THAT USE SUNLIGHT TO HEAT FLUIDS |
| DISTRICT HOT WATER PIPED INTO THE BUILDING FROM A CENTRAL PLANT OR UTILITY | |

FOR EACH ENERGY SOURCE MENTIONED, PLACE A CHECK (✓) IN COLUMN C-1 ON THE FOLD-OUT PAGE

C-2. In addition to (NAMES OF ENERGY SOURCES IN C-1), are there any other energy sources used in this building?

YES 1
NO 2

**RECORD ON
FOLD-OUT PAGE**

C-3. Of the energy sources you just mentioned:

a. Which is used as the main energy source for heating: that is, the energy source used to heat most of the square footage in this building most of the time?

b. Which other energy sources, if any, are used for heating?

Which, if any, of the energy sources you just mentioned are used:

- c. For air-conditioning?
- d. For domestic hot water heating?
- e. For commercial or institutional cooking or food serving?
- f. For manufacturing or any other type of industrial activity?
- g. To generate electricity?

(CHECK ALL THAT APPLY)

BOX 10
SCAN THE FOLD-OUT PAGE. DOES EACH REPORTED ENERGY SOURCE, OTHER THAN ELECTRICITY, HAVE AT LEAST ONE END-USE REPORTED?
YES 1 (BOX 11)
NO 2 (C-4)

C-4. How is (ENERGY SOURCE WITHOUT END-USE) used in the building (during calendar year 1992)? IF OTHER END-USE APPEARS ON THE FOLD-OUT PAGE, RECORD ON FOLD-OUT PAGE, IF NOT, SPECIFY HERE, AND GO TO BOX 11.

RECORD ON
FOLD-OUT PAGE
AND GO TO BOX 11.

BOX 11
SCAN THE FOLD-OUT PAGE. HAS AT LEAST ONE BOX BEEN CHECKED IN EACH C-3 COLUMN?

YES 1 (BOX 12)
NO 2 (C-5)

C-5. What energy source is used for (END-USE) (during calendar year 1992)?

RECORD ON
FOLD-OUT PAGE
AND GO TO BOX 12.

BOX 12
SCAN THE FOLD-OUT PAGE. DOES THE BUILDING HAVE AT LEAST ONE FUEL FOR HEATING?

YES 1 (C-6)
NO 2 (C-8)

C-6. Could this building switch to a different main heating fuel within one week's time without substantially reducing the area heated or the temperature maintained in the heated area?

YES 1
NO 2 (C-8)
DON'T KNOW 8 (C-8)

C-7. If the building did have to switch the main heating fuel within one week's time, what fuels would be used instead of (ENERGY SOURCE FROM C-3 column a)? CIRCLE ALL THAT APPLY.

- ELECTRICITY 01
 - NATURAL GAS 02
 - FUEL OIL/KEROSENE/DIESEL 03
 - PROPANE 04
 - DISTRICT STEAM 05
 - DISTRICT HOT WATER 06
 - WOOD 07
 - OTHER (SPECIFY) 08
-
-

C-8. Here is a card which lists some special energy technologies which only a few buildings have currently. Are any of these technologies used at present in this building? CIRCLE ALL THAT APPLY.

HAND CARD C-8

- a. THERMAL ENERGY STORAGE (TES) OR PUMP STORAGE .. 01
 - b. PASSIVE SOLAR FEATURES 02
 - c. GEOTHERMAL ENERGY 03
 - d. WELL WATER FOR COOLING 04
 - e. WASTE INCINERATION TO PRODUCE ENERGY 05
 - f. WIND GENERATION 06
 - g. ANY OTHER TECHNOLOGY (SPECIFY) 07
-
-
- h. NONE 08

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D. EQUIPMENT

BOX 13	
<i>SCAN COLUMN A OF C-3 ON THE FOLDOUT PAGE. DOES THIS BUILDING HAVE AN ENERGY SOURCE FOR HEATING CHECKED?</i>	
YES	1 (D-1)
NO	2 (SKIP TO BOX 14 ON PAGE 20)

D-1. What percentage of the (A-7/A-8 SQUARE FEET) square feet in this building is heated to at least 50° Fahrenheit during calendar year 1992? Be sure to include basements and enclosed garages if they are heated to at least 50 degrees.

_____ %	(D-3)
HEATED BUT LESS THAN 50 DEGREES	995 (BOX 14 ON PAGE 20)
DON'T KNOW	998

D-2. Here is a list of ranges. What is your best estimate of the percent of heated square feet in this building (to at least 50° Fahrenheit during calendar year 1992)?

HAND CARD BLUE

- a. 25 PERCENT OR LESS 1
- b. 26 TO 50 PERCENT 2
- c. 51 TO 75 PERCENT 3
- d. 76 TO 100 PERCENT 4
- e. DON'T KNOW 8

<p>INTERVIEWER:</p> <p style="text-align: center;">INTENT IS TO DETERMINE THE PERCENTAGE HEATED FOR HUMAN OCCUPANCY.</p> <p style="text-align: center;">INCLUDE ALL PARTS OF THE BUILDING HEATED TO AT LEAST 50 DEGREES.</p>

D-3. Now I am going to ask you some questions about how this building is heated and cooled. First, I will ask about the overall heating and cooling system. Then, I will ask a few questions about specific types of heating and cooling equipment.

Briefly, please describe the overall system that is used to heat and/or cool this building.

COLUMN A			
<p>D-4. Here is a card listing different types of specific equipment that may be part of the building's heating system and that you may or may not have mentioned in your description. Does this building use:</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin-bottom: 10px;"> <p>HAND CARD D-4</p> </div> <p style="text-align: center; margin-top: 10px;">ASK ABOUT EACH FEATURE IN THIS COLUMN BEFORE GOING TO COLUMN B.</p>			
FEATURE	YES	NO	DK
<p>a. Heat pumps? <i>(These are devices that heat the interior of a building by absorbing heat from the outside air. They may stand alone or be combined with another type of equipment. In warmer weather, they can also be used to cool a building.)</i></p>	1	2	8
<p>b. Furnaces that heat air directly, without using steam or hot water? <i>(Similar to a residential furnace.)</i></p>	1	2	8
<p>c. Individual space heaters, free standing or mounted in walls, ceilings, or windows? <i>(This includes portable heaters, hanging unit heaters, heating panels, electric baseboards, perimeter heaters that contain heating elements, wood stoves, and fireplaces.)</i></p>	1	2	8
<p>d. District steam or hot water piped in from outside the building? Hot water does not include domestic hot water used for cooking and cleaning.</p>	1	2	8
<p>e. Boilers inside the building that produce steam or hot water? <i>(Also include boilers just outside the building that are primarily associated with it.)</i></p>	1	2	8
<p>f. Packaged heating units, often mounted on the roof or on a slab beside the building? <i>(These are known as self-contained units. They contain heating equipment as well as fans, and may or may not include air conditioning equipment.)</i></p>	1	2	8
<p>g. Some other heating equipment? (SPECIFY):</p> <p>_____</p> <p>_____</p>	1	2	8
<p><input type="checkbox"/> BUILDING IS HEATED BUT RESPONDENT DOESN'T KNOW ANY EQUIPMENT TYPE. CHECK THIS BOX AND SKIP TO BOX 14 ON PAGE 20; OTHERWISE GO TO COLUMN B)</p>			

BE SURE THAT AT LEAST ONE HEATING SYSTEM IN ROWS "a" THROUGH "g" IS MARKED IN COLUMN A BEFORE GOING TO COLUMN B.

COLUMN B	COLUMN C				
<p>D-5. ASK ABOUT ALL FEATURES WITH A "YES" IN COLUMN A BEFORE GOING TO COLUMN C:</p> <p>Thinking of the heated floorspace in the building, what percent is heated by the (FEATURE)?</p>	<p>D-6. FOR EACH FEATURE WITH A "YES" IN COLUMN A, ASK:</p> <p>Please select the method or methods that best describe how the heat from the (FEATURE) is distributed throughout the building. CIRCLE ALL THAT APPLY</p> <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 10px auto;"> <p>HAND CARD D-6</p> </div>				
	STEAM OR HOT WATER RADIATORS OR BASEBOARDS	FORCED AIR THROUGH VENTS (DUCTS) OR AIR HANDLING UNITS	FAN-COIL UNITS WITHOUT VENTS (DUCT)	OTHER	DON'T KNOW
a. _____ %		2	3	4	8
b. _____ %		2		4	8
c. _____ %					
d. _____ %	1	2	3	4	8
e. _____ %	1	2	3	4	8
f. _____ %		2		4	8
g. _____ %	1	2	3	4	8
TOTAL _____ %					
<p>TOTAL SHOULD ADD UP TO AT LEAST 100%</p>					

INTERVIEWER: IF DISTRICT STEAM OR HOT WATER IS PIPED IN FROM OUTSIDE THE BUILDING THERE IS PROBABLY NO BOILER IN THE BUILDING.

MANY PEOPLE USE THE WORDS "BOILER" AND "FURNACE" INTERCHANGEABLY. BE CAREFUL THAT THE DEFINITION IS HEARD.

BOX 14

SCAN COLUMN C OF C-3 ON THE FOLDOUT PAGE. DOES THIS BUILDING HAVE AT LEAST ONE ENERGY SOURCE FOR AIR CONDITIONING CHECKED?

YES..... 1 (D-7)
 NO..... 2 (SKIP TO D-12 ON PAGE 24)

D-7. What percentage of the (A-7/A-8 SQUARE FEET) square feet in the building is cooled by air-conditioning equipment (during calendar year 1992)?

_____ % (D-9)

DONT KNOW 998

D-8. Here is a list of ranges. What is your best estimate of the percent of the square feet in this building that is cooled by air-conditioning equipment (during calendar year 1992)?

- | | | |
|----------------------|-----------------------------|---|
| HAND
CARD
BLUE | a. 25 PERCENT OR LESS | 1 |
| | b. 26 TO 50 PERCENT | 2 |
| | c. 51 TO 75 PERCENT | 3 |
| | d. 76 TO 100 PERCENT | 4 |
| | e. DONT KNOW | 8 |

INTERVIEWER:
 THE TERM AIR CONDITIONING REFERS TO THE REMOVAL OF HEAT FROM THE AIR THROUGH THE USE OF REFRIGERATION EQUIPMENT. THE CIRCULATION OF AIR BY FANS IS NOT CONSIDERED AIR-CONDITIONING.

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COLUMN A			
<p>D-9. Here is a card listing different types of specific equipment that may be part of a building's cooling system and which you may or may not have mentioned in your earlier description.</p>			
<div style="border: 1px solid black; padding: 2px; display: inline-block; margin-bottom: 10px;"> <p>HAND CARD D-9</p> </div> <p>Does this building use:</p> <p>ASK ABOUT EACH FEATURE IN THIS COLUMN BEFORE GOING TO COLUMN B.</p>			
FEATURE	YES	NO	DK
a. Residential type central air conditioners, other than heat pumps, that cool air directly and circulate it without using chilled water? <i>(They may be found either alone or in combination with a boiler or furnace.)</i>	1	2	8
b. Heat pumps for cooling? <i>(These are devices that can also be used for heating in cooler weather by absorbing heat from the outside air. They may stand alone or be combined with another type of equipment.)</i>	1	2	8
c. Individual room air-conditioners mounted in a window or wall?	1	2	8
d. District chilled water piped in from outside the building?	1	2	8
e. Central chillers inside the building that chill water for air conditioning? <i>(Also include chillers just outside the building that are primarily associated with it.)</i>	1	2	8
f. Packaged air conditioning units, often mounted on the roof or on a slab beside the building? <i>(These are known as self-contained units, or Direct Expansion (DX). They contain air conditioning equipment as well as fans, and may or may not include heating equipment.)</i>	1	2	8
g. "Swamp" coolers (Evaporative Coolers)?	1	2	8
h. Some other cooling equipment? SPECIFY: _____ _____	1	2	8
<input type="checkbox"/> BUILDING AIR-CONDITIONED BUT RESPONDENT DOES NOT KNOW EQUIPMENT TYPE. CHECK THIS BOX AND SKIP TO D-12. OTHERWISE GO TO D-10, COLUMN B.			

BE SURE THAT AT LEAST ONE COOLING SYSTEM IN ROWS "a" THROUGH "h" IS MARKED IN COLUMN A BEFORE GOING TO COLUMN B

COLUMN B		COLUMN C			
<p>D-10. ASK ABOUT ALL FEATURES WITH A "YES" IN COLUMN A BEFORE GOING TO COLUMN C: Thinking of the cooled floorspace in the building, what percent is air-conditioned by (FEATURE)?</p>		<p>D-11. FOR EACH FEATURE WITH A "YES" IN COLUMN A, ASK: Please select the method(s) that best describes how the air-conditioning from the (FEATURE) is distributed throughout the building. CIRCLE ALL THAT APPLY.</p>			
		<div style="border: 1px solid black; display: inline-block; padding: 2px;">HAND CARD D-11</div>			
		FAN-COIL UNITS WITHOUT VENTS (DUCTS)	FORCED AIR THROUGH VENTS (DUCTS) OR AIR HANDLING UNITS	OTHER	DON'T KNOW
a.	_____ %		2	3	8
b.	_____ %		2	3	8
c.	_____ %				
d.	_____ %	1	2	3	8
e.	_____ %	1	2	3	8
f.	_____ %		2	3	8
g.	_____ %	1	2	3	8
h.	_____ %	1	2	3	8
TOTAL _____					
TOTAL SHOULD ADD UP TO AT LEAST 100%					

INTERVIEWER: IF DISTRICT CHILLED WATER IS PIPED IN FROM OUTSIDE THE BUILDING THERE IS PROBABLY NO CHILLER IN THE BUILDING.

D-12. Is there any commercial refrigeration or freezer equipment present in this building?

YES 1
 NO 2 (BOX 15)
 DON'T KNOW 8 (BOX 15)

INTERVIEWER: THIS INCLUDES EQUIPMENT OUTSIDE, IF ADJACENT TO THE BUILDING.

D-13. Are there any refrigerated and/or freezer walk-in units in this building?

YES 1
 NO 2 (D-15)
 DON'T KNOW 8 (D-15)

D-14. How many of these walk-in units are there?

_____ UNITS

DON'T KNOW 98

D-15. In this building, are there any refrigeration and/or freezer cases or cabinets other than walk-ins for the sale, display or storage of perishable materials, such as food or medical supplies?

YES 1
 NO 2 (BOX 15)
 DON'T KNOW 8 (BOX 15)

COLUMN A	COLUMN B	COLUMN C
<p>D-16. Other than walk-in units, are any of these commercial sales, display or storage cases or cabinets:</p> <p style="text-align: center;">READ ACROSS EACH ROW, THEN DOWN</p>	<p>D-17. IF "YES" IN COLUMN A, ASK: How many units are there?</p>	<p>D-18. IF "YES" IN COLUMN A, ASK: Approximately how many linear feet of (D-16 EQUIPMENT TYPE) cases or cabinets are there in this building?</p>
<p>a. Open (without doors or with only flexible covers)?</p> <p>YES 1 ----></p> <p>NO 2</p> <p>DON'T KNOW 8</p> <p>b. Closed (with doors)?</p> <p>YES 1 ----></p> <p>NO 2</p> <p>DON'T KNOW 8</p>	<p>a. _____ UNITS</p> <p>DON'T KNOW .. 9-8</p> <p>b. _____ UNITS</p> <p>DON'T KNOW .. 9-8</p>	<p>a. _____ LINEAR FEET</p> <p>DON'T KNOW 9-8</p> <p>b. _____ LINEAR FEET</p> <p>DON'T KNOW 9-8</p>

BOX 15

SCAN COLUMN D OF C-3 ON THE FOLDOUT PAGE. DOES THIS BUILDING HAVE AT LEAST ONE ENERGY SOURCE FOR WATER HEATING CHECKED?

YES 1 (D-19)
 NO 2 (SKIP TO SECTION E)

D-19 Here is a listing of types of water heating systems. How would you best describe this building's water heating system? (CIRCLE ALL THAT APPLY)

HAND
 CARD
 D-19

a. A CENTRALIZED SYSTEM (WHERE ALL WATER HEATING IS PERFORMED IN ONE PLACE):

- 1. WITH A STORAGE TANK THAT GENERATES ITS OWN HEAT 1
 - 2. WHICH DRAWS HEAT FROM THE SPACE HEATING EQUIPMENT 2
 - 3. OTHER TYPE OF CENTRALIZED SYSTEM 3
- SPECIFY _____

b. A DISTRIBUTED/POINT OF USE SYSTEM (WHICH HAS MORE THAN ONE WATER HEATING UNIT LOCATED AT, OR CLOSE BY, THE POINT OF USE):

- 4. WITH RESIDENTIAL-TYPE STORAGE WATER HEATERS 4
 - 5. WITH INSTANTANEOUS HEATERS AT POINT OF USE (NO HOT WATER STORAGE TANKS) 5
 - 6. OTHER TYPE OF DISTRIBUTED SYSTEM 6
- SPECIFY _____

c. DON'T KNOW 8

E. BUILDING OWNERSHIP AND OCCUPANCY CHARACTERISTICS

The next few questions are about the ownership and occupancy of the building.

E-1. Is this building owned by: CIRCLE ONLY ONE.

HAND
CARD
E-1

- a. a federal government agency? 1
- b. a state government agency? 2
- c. a local government agency? 3
- d. one of the following types of privately-owned utility companies: railroad, oil pipeline, electric, gas, telephone, or TV cable? 4
- e. a church, synagogue, or other religious organization or group? 5
- f. any other type of individual or group? (such as a private business or non-profit organization)? 6

E-2. By "occupancy", we mean to hold or lease space on a full-time basis. Is any part of this building occupied by: CIRCLE ONE RESPONSE ON EACH LINE.

HAND
CARD
E-2

- | | <u>YES</u> | <u>NO</u> | <u>DK</u> |
|--|------------|-----------|-----------|
| a. a federal government agency? | 1 | 2 | 8 |
| b. a state government agency? | 1 | 2 | 8 |
| c. a local government agency? | 1 | 2 | 8 |
| d. one of the following types of privately-owned utility companies: railroad, oil pipeline, electric, gas, telephone, or TV cable? | 1 | 2 | 8 |
| e. a church, synagogue, or other religious organization or group? | 1 | 2 | 8 |
| f. any other type of individual or group (such as a private business or non-profit organization)? | 1 | 2 | 8 |
| g. building is completely vacant? | 1 | 2 | 8 |

E-3. Is the building part of a multibuilding facility or complex? By a multibuilding facility or complex, we mean a group of two or more buildings on the same site owned or operated by a single organization, business or individual.

YES 1 ———>
 NO 2 (E-5)

RECORD ON
 FOLD-OUT PAGE

E-4. What is the primary business, commerce, or function carried on in this multibuilding facility or complex? CIRCLE ONLY ONE.

HAND
 CARD
 E-4

SCHOOLS:

- PRIMARY OR SECONDARY SCHOOL
 (GRADES K-12) 01
- COLLEGE, UNIVERSITY OR JUNIOR
 COLLEGE 02
- OTHER SCHOOLS 03

RETAIL SALES AND SERVICES:

- SHOPPING CENTER/MALL 04
- AUTOMOTIVE SALES AND SERVICE 05
- OTHER RETAIL SALES AND SERVICE 06

OTHER FUNCTIONS:

- OFFICE 07
- WAREHOUSE 08
- INDUSTRIAL/MANUFACTURING 09
- HOSPITAL OR OTHER HEALTH SERVICE 10
- RELIGIOUS ACTIVITIES (OTHER THAN
 SCHOOLS) 11
- HOTEL/MOTEL 12
- AMUSEMENT OR RECREATION (SUCH AS
 A COUNTRY CLUB OR CONCERT HALL) 13
- TRANSPORTATION (SUCH AS TERMINALS,
 DEPOTS, AIRPORTS) 14
- RESIDENTIAL 15
- AGRICULTURAL 16
- OTHER (SPECIFY) _____ .. 17

E-5. Here is a card that lists different ways businesses or organizations can occupy a building. (By "occupy", we mean to hold or lease space on a full-time basis.) Please tell me which category best applies to this building.

RECORD ON
FOLD-OUT PAGE

HAND
CARD
E-5

- a. ONE BUSINESS OR ORGANIZATION AND THE OCCUPANT IS:
 - 1. THE OWNER OR OWNER'S REPRESENTATIVE 1 (E-8)
 - 2. NOT THE OWNER OR OWNER'S REPRESENTATIVE 2 (E-8)
- b. MORE THAN ONE BUSINESS OR ORGANIZATION AND THE OCCUPANT(S):
 - 3. INCLUDE THE OWNER OR OWNER'S REPRESENTATIVE 3
 - 4. DO NOT INCLUDE THE OWNER OR OWNER'S REPRESENTATIVE 4
- c. CURRENTLY UNOCCUPIED 5 (E-8)

E-6. (Including the owner or owner's representative), how many businesses or organizations currently occupy the building?

RECORD ON
FOLD-OUT PAGE

- _____ (E-8) NUMBER OF BUSINESSES OR ORGANIZATIONS
- DON'T KNOW 9-8

E-7. Which category on this card gives your best estimate of the number of businesses or organizations currently occupying the building?

HAND
CARD
E-7

- 2 - 5 1
- 6 - 10 2
- 11 - 20 3
- 21 - 49 4
- 50 - 99 5
- 100 OR MORE 6
- DON'T KNOW 8

E-8. Has any space in the building been vacant or unoccupied for at least 3 consecutive months during calendar year 1992? Please include your expectations for the rest of the year.

- YES 1
- NO 2 (E-12)
- DON'T KNOW 8 (E-12)

COLUMN A	COLUMN B	COLUMN C				
<p>E-9. Please indicate which months during 1992 that this building or part of this building was vacant. Please include your expectations for the rest of the year. CIRCLE ALL THAT APPLY.</p> <p>MONTH</p>	<p>ASK FOR EACH MONTH CIRCLED IN COLUMN A</p> <p>E-10 What is your best estimate of the percent of (A-7/A-8 SQUARE FEET) that was vacant during (MONTH)?</p>	<p>ASK ONLY IF THE ANSWER TO COLUMN B IS "DON'T KNOW".</p> <div style="border: 1px solid black; padding: 2px; display: inline-block;">HAND CARD BLUE</div> <p>E-11. Please indicate the range that best describes the vacant floorspace during (MONTH).</p>				
		0-25%	26-50%	51-75%	76-100%	DON'T KNOW
JANUARY 01	_____ % DON'T KNOW . . . 998 --->	1	2	3	4	8
FEBRUARY 02	_____ % DON'T KNOW . . . 998 --->	1	2	3	4	8
MARCH 03	_____ % DON'T KNOW . . . 998 --->	1	2	3	4	8
APRIL 04	_____ % DON'T KNOW . . . 998 --->	1	2	3	4	8
MAY 05	_____ % DON'T KNOW . . . 998 --->	1	2	3	4	8
JUNE 06	_____ % DON'T KNOW . . . 998 --->	1	2	3	4	8
JULY 07	_____ % DON'T KNOW . . . 998 --->	1	2	3	4	8
AUGUST 08	_____ % DON'T KNOW . . . 998 --->	1	2	3	4	8
SEPTEMBER 09	_____ % DON'T KNOW . . . 998 --->	1	2	3	4	8
OCTOBER 10	_____ % DON'T KNOW . . . 998 --->	1	2	3	4	8
NOVEMBER 11	_____ % DON'T KNOW . . . 998 --->	1	2	3	4	8
DECEMBER 12	_____ % DON'T KNOW . . . 998 --->	1	2	3	4	8

E-12. How many months out of the past 12 months was this building in use?

NUMBER OF MONTHS

NOT IN USE DURING PAST

12 MONTHS 00 (F-1)

DON'T KNOW 98 (E-14)

E-13. When the building is in use, what are the normal operating hours on: READ EACH DAY OF THE WEEK AND RECORD THE OPERATING HOURS. BE SURE TO CIRCLE AM OR PM.

(Except for buildings that are open 24 hours a day, operating hours refer to the arrival and departure times of most of the occupants of the building.)

DAY	OPERATING HOURS		OPEN 24 HRS. (✓)	NOT OPEN (✓)	HOURS VARY (✓)	--OR-->	HOURS VARY BY SEASON
							<input type="checkbox"/>
Monday?	AM _____ to _____ PM	AM _____ to _____ PM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/> (E-14)
Tuesday?	AM _____ to _____ PM	AM _____ to _____ PM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Wednesday?	AM _____ to _____ PM	AM _____ to _____ PM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Thursday?	AM _____ to _____ PM	AM _____ to _____ PM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Friday?	AM _____ to _____ PM	AM _____ to _____ PM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Saturday?	AM _____ to _____ PM	AM _____ to _____ PM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Sunday?	AM _____ to _____ PM	AM _____ to _____ PM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

INTERVIEWER REMEMBER:

NOON = 12:00 PM
MIDNIGHT = 12:00 AM

E-14. During the months it is in use, what is the total number of operating hours per week for most of the building?

(E-16)

_____ HOURS

DON'T KNOW 9-8

E-15. Which category on the card best describes the number of operating hours per week for most of the building when it is in use?

HAND
CARD
E-15

- 1-39 HOURS 1
- 40-48 HOURS 2
- 49-60 HOURS 3
- 61-84 HOURS 4
- 85-167 HOURS 5
- OPEN CONTINUOUSLY 6 (E-18)
- DON'T KNOW 8

BOX 16

ARE ALL "OPEN 24 HOURS A DAY" BOXES CHECKED IN E-13?

YES 1 (RECORD ON FOLDOUT, THEN GO TO E-18)

NO 2 (E-16)

COLUMN A	COLUMN B
<p>ASK ABOUT EACH FEATURE IN THIS COLUMN BEFORE GOING TO E-17 COLUMN B.</p> <p>E-16. Are there additional hours during the week when most of the:</p>	<p>FOR EACH FEATURE WITH A "YES" IN COLUMN A, ASK:</p> <p>E-17. Approximately how many additional hours per week is the (INSERT FEATURE) in use?</p>
<p>a. heating and/or cooling equipment is in use?</p> <p style="padding-left: 40px;">YES 1</p> <p style="padding-left: 40px;">NO 2</p> <p style="padding-left: 40px;">DON'T KNOW 8</p>	<p style="text-align: center;">_____ ADDITIONAL HOURS/WEEK</p> <p>DON'T KNOW 9-8</p>
<p>b. lighting is in use?</p> <p style="padding-left: 40px;">YES 1</p> <p style="padding-left: 40px;">NO 2</p> <p style="padding-left: 40px;">DON'T KNOW 8</p>	<p style="text-align: center;">_____ ADDITIONAL HOURS/WEEK</p> <p>DON'T KNOW 9-8</p>

E-18. My next few questions are about the number of people who work in this building.

When the building is in use, approximately how many people work in the building? Do not include employees who work out of the building such as drivers with delivery routes, customers, patients, or students. Do include volunteer workers. If there are multiple shifts, so that the number of people in the building varies at different times of the day, please give us the total number of employees across all shifts.

HAND
CARD
E-18

_____ (E-20)
NUMBER OF PEOPLE
DON'T KNOW 9-8

E-19. Here is a card which shows categories. Which category in your estimation best applies to the number of people who work in the building (when the building is in use) across all shifts?

HAND
CARD
PINK

NONE 00
1-4 01
5-9 02
10-19 03
20-49 04
50-99 05
100-249 06
250-499 07
500-999 08
1,000-2,499 09
2,500-4,999 10
5,000 OR MORE 11
DON'T KNOW 98

E-20. (When the building is in use) how many people work in the building during its main shift? By main shift, we mean the shift when most people are in the building.

_____ (F-1)
NUMBER OF PEOPLE
DON'T KNOW 9-8

E-21. Which category on this card best describes the number of people who normally work in the building during its main shift?

HAND
CARD
PINK

NONE	00
1-4	01
5-9	02
10-19	03
20-49	04
50-99	05
100-249	06
250-499	07
500-999	08
1,000-2,499	09
2,500-4,999	10
5,000 OR MORE	11
DON'T KNOW	98

F. BUILDING ENVELOPE CHARACTERISTICS:

F-1. Here is a card that shows different types of construction materials. Which best describes the major type of exterior wall construction material used on this building? CIRCLE ONLY ONE.

HAND CARD F-1

- WINDOW OR VISION GLASS (GLASS THAT CAN BE SEEN THROUGH) 01
- DECORATIVE OR CONSTRUCTION GLASS 02
- SHEET METAL PANELS 03
- PRE-CAST CONCRETE PANELS 04
- BRICK, STONE, STUCCO, CONCRETE OR OTHER MASONRY 05
- ALUMINUM, ASBESTOS, PLASTIC OR WOOD SIDING, SHINGLES, TILES OR SHAKES 06
- OTHER (SPECIFY) _____ 07
- DON'T KNOW 98

F-2. Here is a card with different types of roofing materials. Which category best describes the building's major type of exterior roof surface? CIRCLE ONLY ONE.

HAND CARD F-2

- WOOD SHINGLES, SHAKES OR OTHER WOODEN MATERIALS 01
- SLATE OR TILE SHINGLES 02
- ASPHALT, FIBERGLASS, OR OTHER SHINGLES 03
- BUILT-UP (TAR, FELTS OR FIBERGLASS AND A BALLAST, SUCH AS STONE) 04
- METAL SURFACING 05
- PLASTIC, RUBBER, OR SYNTHETIC SHEETING (SINGLE OR MULTIPLE PLY) 06
- CONCRETE 07
- OTHER (SPECIFY) _____ 08
- DON'T KNOW 98

F-3. Here is a card that shows some common building shapes. Please tell me which one most nearly resembles the floorplan of this building at ground level. This is sometimes called the "footprint" of the building. CIRCLE ONLY ONE.



- SQUARE 01
- RECTANGLE 02
- RECTANGLE OR SQUARE WITH AN INTERIOR COURTYARD 03
- "H" SHAPED 04 (F-6)
- "U" SHAPED 05 (F-6)
- "E" SHAPED 06 (F-6)
- "T" SHAPED 07 (F-6)
- "L" OR RIGHT ANGLE SHAPED 08 (F-6)
- "+" OR "CROSS" SHAPED 09 (F-6)
- OTHER: (SPECIFY OR DRAW IN SPACE BELOW) _____ 10 (F-6)

F-4. What is your best estimate of the:

a. length of this building at ground level?

_____ FEET
 DON'T KNOW 9-8

b. width of this building at ground level?

_____ FEET
 DON'T KNOW 9-8

F-5. Now please think about all the exterior walls of this building that are above ground. How many of the walls touch or are attached to another structure? Would you say it is: CIRCLE ONLY ONE.

- None, the building is freestanding? 0
- One? 1
- Two? 2
- Three? 3
- Four? 4
- DON'T KNOW 8

F-6. Which of the ranges on this card best describes the percent of the exterior wall surface of this building that is covered with glass doors or window glass?

HAND
CARD
F-6

- 10 PERCENT OR LESS 1
- 11 TO 25 PERCENT 2
- 26 TO 50 PERCENT 3
- 51 TO 75 PERCENT 4
- 76 TO 100 PERCENT 5
- DON'T KNOW 8

G. THE LIGHTING SYSTEM

G-1. The next set of questions pertains to the electric lighting system used in this building.

What percentage of the (A-7/A-8 SQUARE FEET) square feet of the interior of this building is lit electrically during operating hours?

_____ % (G-3)
 BUILDING HAS NO OPERATING HOURS (E-12 = 00) 991 (G-3)
 DON'T KNOW 998

INTERVIEWER: REMEMBER, IF A BUILDING HAS NO OPERATING HOURS, BY DEFINITION, ALL BUILDING HOURS ARE CONSIDERED "OFF HOURS"

G-2. Here is a list of ranges. What is your best estimate of the percent of the square feet in this building that is lit electrically?

HAND
CARD
BLUE

25 PERCENT OR LESS 1
 26 TO 50 PERCENT 2
 51 TO 75 PERCENT 3
 76 TO 100 PERCENT 4
 DON'T KNOW 8

G-3. What percentage of the (A-7/A-8 SQUARE FEET) square feet of the interior of this building is lit during off hours? By off hours, we mean on weekends and holidays, during the off-season and any extended periods when the whole building is not in use. Do not include the space lit by emergency lighting.

_____ % (BOX 17)
 NO OFF-HOURS (OPEN 24 HOURS A DAY) 991 (BOX 17)
 DON'T KNOW 998

G-4. Which of the ranges on the card best describes the percent of the square feet in the building lit during off-hours?

HAND
CARD
BLUE

25 PERCENT OR LESS 1
 26 TO 50 PERCENT 2
 51 TO 75 PERCENT 3
 76 TO 100 PERCENT 4
 DON'T KNOW 8

BOX 17

LOOK AT THE ANSWERS TO G-1 AND G-3. IS ANY PERCENTAGE OF THE BUILDING REPORTED LIT IN EITHER G-1 OR G-3?

YES 1 (GO TO G-5)
 NO 2 (GO TO H-1)

COLUMN A	COLUMN B	COLUMN C
<p>READ ALL OF COLUMN A BEFORE COLUMN B.</p> <p>G-5. Is any of the square footage inside this building served by:</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">HAND CARD G-5</div> <p style="text-align: center;">FEATURE</p>	<p>IF "YES" IN COLUMN A, ASK:</p> <p>G-6. Thinking about the amount of building space that is lighted, what percent of the lighted space is lit by (FEATURE)?</p>	<p>IF "DON'T KNOW" IN COLUMN B, ASK:</p> <p>G-7. Which of these ranges best represents the percent of the inside of this building lit by (FEATURE)?</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">HAND CARD BLUE</div>
<p>a. Incandescent light bulbs, including regular or energy efficient light bulbs?</p> <p>YES 1</p> <p>NO 2</p> <p>DON'T KNOW 8</p> <p>b. Fluorescent Lighting other than compact fluorescent bulbs?</p> <p>YES 1</p> <p>NO 2</p> <p>DON'T KNOW 8</p> <p>c. Compact Fluorescent bulbs?</p> <p>YES 1</p> <p>NO 2</p> <p>DON'T KNOW 8</p> <p>d. High Intensity Discharge (HID) Lights such as high pressure sodium, metal halide or mercury vapor?</p> <p>YES 1</p> <p>NO 2</p> <p>DON'T KNOW 8</p> <p>e. Some other type of lighting?</p> <p>YES (SPECIFY) _____ 1</p> <p>NO 2</p> <p>DON'T KNOW 8</p>	<p>_____ %</p> <p>DON'T KNOW ... 9-8 --></p> <p>_____ %</p> <p>DON'T KNOW ... 9-8 --></p> <p>_____ %</p> <p>DON'T KNOW ... 9-8 --></p> <p>_____ %</p> <p>DON'T KNOW ... 9-8 --></p> <p>_____ %</p> <p>DON'T KNOW ... 9-8 --></p> <p style="text-align: center;">TOTAL MUST BE AT LEAST 100%</p>	<p>25% OR LESS 1</p> <p>26 to 50% 2</p> <p>51 to 75% 3</p> <p>76 to 100% 4</p> <p>DON'T KNOW 8</p> <p>25% OR LESS 1</p> <p>26 to 50% 2</p> <p>51 to 75% 3</p> <p>76 to 100% 4</p> <p>DON'T KNOW 8</p> <p>25% OR LESS 1</p> <p>26 to 50% 2</p> <p>51 to 75% 3</p> <p>76 to 100% 4</p> <p>DON'T KNOW 8</p> <p>25% OR LESS 1</p> <p>26 to 50% 2</p> <p>51 to 75% 3</p> <p>76 to 100% 4</p> <p>DON'T KNOW 8</p> <p>25% OR LESS 1</p> <p>26 to 50% 2</p> <p>51 to 75% 3</p> <p>76 to 100% 4</p> <p>DON'T KNOW 8</p>

COLUMN A	COLUMN B	COLUMN C
<p>READ ALL OF COLUMN A BEFORE COLUMN B.</p> <p>G-8. Here is a list of some features that may be part of this building's interior lighting system. Does your lighting system use any:</p> <p style="text-align: center;">HAND CARD G-8</p> <p style="text-align: center;">FEATURE</p>	<p>IF "YES" IN COLUMN A:</p> <p>G-9. Thinking about the amount of building space that is lighted, what percent of the lighted inside of this building is served by (FEATURE)?</p>	<p>IF DON'T KNOW IN COLUMN B, ASK:</p> <p>G-10. Which of the following ranges best represents the percentage of the inside of this building served by (FEATURE)?</p> <p style="text-align: center;">HAND CARD BLUE</p>
<p>a. Reflectors specifically designed to increase the amount of light from the fixture? (These are known as Specular Reflectors.)</p> <p>YES 1</p> <p>NO 2</p> <p>DON'T KNOW 8</p> <p>b. Daylighting controls that detect natural light and turn lights off when there is sufficient natural light?</p> <p>YES 1</p> <p>NO 2</p> <p>DON'T KNOW 8</p> <p>c. Occupancy sensors that shut lights off when no motion is detected?</p> <p>YES 1</p> <p>NO 2</p> <p>DON'T KNOW 8</p> <p>d. Time clocks or timed switches which turn interior lights on or off according to predetermined schedule?</p> <p>YES 1</p> <p>NO 2</p> <p>DON'T KNOW 8</p> <p>e. Manual dimmer switches?</p> <p>YES 1</p> <p>NO 2</p> <p>DON'T KNOW 8</p> <p>f. Some other lighting conservation equipment?</p> <p>YES (SPECIFY) _____ 1</p> <p>NO 2</p> <p>DON'T KNOW 8</p>	<p>_____ %</p> <p>DON'T KNOW 9-8 --></p> <p>_____ %</p> <p>DON'T KNOW 9-8 --></p> <p>_____ %</p> <p>DON'T KNOW 9-8 --></p> <p>_____ %</p> <p>DON'T KNOW 9-8 --></p> <p>_____ %</p> <p>DON'T KNOW 9-8 --></p> <p>_____ %</p> <p>DON'T KNOW 9-8 --></p> <p>_____ %</p> <p>DON'T KNOW 9-8 --></p>	<p>25% OR LESS 1</p> <p>26 to 50% 2</p> <p>51 to 75% 3</p> <p>76 to 100% 4</p> <p>DON'T KNOW 8</p> <p>25% OR LESS 1</p> <p>26 to 50% 2</p> <p>51 to 75% 3</p> <p>76 to 100% 4</p> <p>DON'T KNOW 8</p> <p>25% OR LESS 1</p> <p>26 to 50% 2</p> <p>51 to 75% 3</p> <p>76 to 100% 4</p> <p>DON'T KNOW 8</p> <p>25% OR LESS 1</p> <p>26 to 50% 2</p> <p>51 to 75% 3</p> <p>76 to 100% 4</p> <p>DON'T KNOW 8</p> <p>25% OR LESS 1</p> <p>26 to 50% 2</p> <p>51 to 75% 3</p> <p>76 to 100% 4</p> <p>DON'T KNOW 8</p>

H. ENERGY MANAGEMENT FEATURES OR PRACTICES

COLUMN A	
<p>H-1. This next section deals with energy management features or practices. Are any of the following present in this building: FOR EACH "YES" IN COLUMN "A", IMMEDIATELY FOLLOW THE ARROW TO COLUMN "B" AND "C". WHEN THERE IS NO ARROW, RETURN TO COLUMN "A" AND ASK ABOUT THE NEXT FEATURE.</p>	
<p>HAND CARD H-1</p>	
FEATURE	
a. A variable air volume (VAV) system on the heating or cooling system?	
YES	1 ---->
NO	2
DON'T KNOW	8
b. Equipment that uses outside air for cooling (Economizer Cycle)?	
YES	1 ---->
NO	2
DON'T KNOW	8
c. Roof or ceiling insulation?	
YES	1 ---->
NO	2
DON'T KNOW	8
d. Insulation in exterior walls?	
YES	1 ---->
NO	2
DON'T KNOW	8
e. Storm windows, storm doors, thermal pane or double or triple paned glass?	
YES	1 ---->
NO	2
DON'T KNOW	8
f. Tinted or reflective glass or shading films?	
YES	1 ---->
NO	2
DON'T KNOW	8
g. Exterior awnings or interior horizontal or vertical shades or mini blinds?	
YES	1 ---->
NO	2
DON'T KNOW	8

COLUMN B				COLUMN C			
IF "YES" IN COLUMN A ASK: (Was/Were) the (FEATURE) installed during building construction or added afterwards?				IF "ADDED" IN COLUMN B ASK: When (was/were) the (FEATURE) most recently added? Was it in 1992, between 1987 and 1991, or before 1987?			
DON'T KNOW	INSTALLED	ADDED		1992	1987-1991	BEFORE 1987	DON'T KNOW
a. 8	1	2 -->		1	2	3	8
b. 8	1	2 --->		1	2	3	8
c. 8	1	2 --->		1	2	3	8
d. 8	1	2 --->		1	2	3	8
e. 8	1	2 --->		1	2	3	8
f. 8	1	2 --->		1	2	3	8
g. 8	1	2 -->		1	2	3	8

H-2. Can you open and close most of the windows (including door panels) in this building?

- YES 1
- NO 2
- NO WINDOWS 3
- DONT KNOW 8

H-3. The next group of questions concern programs specifically targeted and designed to improve energy efficiency, reduce energy costs, or promote the use of a different energy source. Such programs are often called Demand-Side Management (DSM) programs.

During the past 3 years, has your electric or natural gas utility sponsored demand-side management programs which you may or may not have participated in? CIRCLE ONE.

- YES 1
- NO 2
- BUILDING DID NOT PURCHASE
ELECTRICITY OR NATURAL
GAS FROM A UTILITY 3
- DONT KNOW 8

H-4. During the past 3 years, has this building participated in any demand-side management programs, either in-house, utility, or third-party sponsored?

- YES 1 (H-7)
- NO 2
- DONT KNOW 8

<p><i>BOX 18</i></p> <p><i>IS E-3 ON THE FOLD-OUT PAGE CHECKED?</i></p> <p><i>YES 1 (H-5)</i></p> <p><i>NO 2 (H-6)</i></p>
--

H-5. During the past 3 years, has the facility participated in any demand-side management programs, either in-house, utility or third-party sponsored?

- YES 1
- NO 2
- DONT KNOW 8

H-6 Are there plans for this building to participate in a demand side management program in the future?

YES 1 (H-10)
NO 2 (H-10)
DONT KNOW 8 (H-10)

COLUMN A		COLUMN B						
<p>H-7. Here is a card listing potential areas for demand-side management programs. In which of the following has this building participated during the past 3 years? (CIRCLE ALL THAT APPLY)</p> <p>HAND CARD H-7</p> <p>READ ALL OF COLUMN A BEFORE COLUMN B.</p>		<p>H-8. FOR EACH H-7 CIRCLED, ASK H-8 AND H-9 BEFORE GOING TO NEXT CIRCLED H-7 POTENTIAL AREA.</p> <p>HAND CARD H-8</p> <p>Who was the (H-7 POTENTIAL AREA) program sponsored by?</p> <p>EU = Electric Utility, GU = Gas Utility, IH = In-house, TP = Third Party, O = Other, DK = DON'T KNOW (CIRCLE ALL THAT APPLY)</p>						
POTENTIAL AREA			EU	GU	IH	TP	O	DK
a. Lighting?	01	1	2	3	4	5	8	
b. Building envelope or shell?	02	1	2	3	4	5	8	
c. Heating, ventilation and air conditioning (HVAC) equipment installation or retrofit?	03	1	2	3	4	5	8	
d. Energy efficient motor(s) including adjustable speed drives or variable speed motors?	04	1	2	3	4	5	8	
e. Water heating?	05	1	2	3	4	5	8	
f. Direct electricity load control?	06	1	2	3	4	5	8	
g. Thermal storage?	07	1	2	3	4	5	8	
h. Standby electricity generation?	08	1	2	3	4	5	8	
i. Process heating or cooling, such as waste heat recovery?	09	1	2	3	4	5	8	
j. Any other type of program?	10	1	2	3	4	5	8	
SPECIFY _____								

COLUMN C

H-9. (Here is a card with types of assistance which can be provided through demand-side management programs.) What type of assistance was received for (H-7 POTENTIAL AREA)? CIRCLE ALL THAT APPLY FOR EACH H-7 POTENTIAL AREA.

HAND
CARD
H-9

	GENERAL INFORMATION	SITE-SPECIFIC INFORMATION	INCENTIVES	ALTERNATIVE RATES	FUEL SWITCHING	OTHER PROGRAM	DON'T KNOW
a.	1	2	3	4	5	6	8
b.	1	2	3	4	5	6	8
c.	1	2	3	4	5	6	8
d.	1	2	3	4	5	6	8
e.	1	2	3	4	5	6	8
f.	1	2	3	4	5	6	8
g.	1	2	3	4	5	6	8
h.	1	2	3	4	5	6	8
i.	1	2	3	4	5	6	8
j.	1	2	3	4	5	6	8

H-10. Since December 31, 1986, has an energy audit been performed on this building?

- YES 1
- NO 2 (H-12)
- DON'T KNOW 8 (H-12)

H-11. Was the most recent energy-audit: CIRCLE ONE.

HAND
CARD
H-11

- a. sponsored or performed by a local utility? 1
- b. sponsored or performed as a part of a Federal, State, or local government program? 2
- c. initiated by the building or business owner and performed by in-house personnel or a private contractor? 3
- d. sponsored and performed by some other group? (SPECIFY) _____ 4
- e. DON'T KNOW 8

H-12. Is there a regularly scheduled maintenance and repair program for the heating and cooling system in the building?

- YES 1
- NO 2
- DON'T KNOW 8

CHECK HERE IF BUILDING ALWAYS IN FULL USE/ALWAYS OPEN 24 HOURS (I.E., BOX 16 ON FOLDOUT CHECKED) AND GO TO H-14.

H-13. When the building is not in full use, is there a change in temperature setting or a reduction in the use of any of the following equipment: CIRCLE ONE ON EACH LINE.

- | | <u>YES</u> | <u>NO</u> | <u>DK</u> |
|--------------------------------------|------------|-----------|-----------|
| a. heating? | 1 | 2 | 8 |
| b. cooling? | 1 | 2 | 8 |
| c. domestic hot water heating? | 1 | 2 | 8 |
| d. lighting? | 1 | 2 | 8 |
| e. any other equipment? | 1 | 2 | 8 |

SPECIFY: _____

H-14. Does this building have a computerized energy management and control system or EMCS?

YES 1
 NO 2 (H-16)
 DON'T KNOW 8 (H-16)

H-15. Does the energy management system routinely control the following equipment:

	<u>YES</u>	<u>NO</u>	<u>DK</u>
a. heating?	1	2	8
b. cooling?	1	2	8
c. domestic hot water heating?	1	2	8
d. lighting?	1	2	8
e. any other equipment such as elevator banks and escalators? ...	1	2	8

SPECIFY: _____

H-16. Does this building have any other features which are specifically designed to help conserve energy?

YES 1
 NO 2 (H-18)
 DON'T KNOW 8 (H-18)

H-17. Briefly, please describe those features. RECORD VERBATIM.

H-18. Which of the following best describes the person who has day-to-day responsibility for physically operating and maintaining the building's heating and/or cooling equipment? Is this person: CIRCLE ONE.

- | | | | |
|----------------------|----|--|---------|
| HAND
CARD
H-18 | a. | the building owner/manager
(including office/store/branch site managers)? | 1 |
| | b. | the custodian or maintenance engineer? | 2 |
| | c. | a dedicated energy manager, whose chief
responsibility is to manage energy use and energy
using equipment? | 3 |
| | d. | a cleaning or maintenance contractor? | 4 |
| | e. | someone else?
(SPECIFY): _____ | 5 |
| | f. | No one, a repair service is called when something happens? | 6 (I-1) |
| | g. | NOT APPLICABLE: BUILDING NOT HEATED OR COOLED | 7 (I-1) |
| | h. | DON'T KNOW | 8 (I-1) |

H-19. How long has this person had this responsibility for this building: CIRCLE ONE.

- | | |
|-----------------------------|---|
| Less than 1 year? | 1 |
| 1 to 3 years? | 2 |
| 4 to 6 years? | 3 |
| over 6 years? | 4 |
| DON'T KNOW | 8 |

H-20. In a typical week, how much of this person's time is devoted to operating and maintaining the heating and/or cooling equipment in this building?

- | | | |
|----------------------|------------------------------|---|
| HAND
CARD
H-20 | 10 PERCENT OR LESS | 1 |
| | 11 TO 25 PERCENT | 2 |
| | 26 TO 50 PERCENT | 3 |
| | 51 TO 75 PERCENT | 4 |
| | 76 TO 100 PERCENT | 5 |
| DON'T KNOW | 8 | |

I. ELECTRICITY GENERATION OR COGENERATION

I-1. Does this building have the ability to generate electric power?

- YES 1
- NO 2 (BOX 19)
- DON'T KNOW 8 (BOX 19)

I-2. Please indicate the primary use of the generators in the building as listed on this card. CIRCLE ONE.

HAND
CARD
I-2

- EMERGENCY BACK-UP GENERATION, FOR USE ONLY WHEN THERE IS AN INTERRUPTION OF NORMAL SERVICE FROM YOUR UTILITY 1 (BOX 19)
- GENERATORS USED ONLY DURING PERIODS OF HIGH ELECTRIC POWER DEMAND 2
- GENERATORS OPERATING CONTINUOUSLY FOR MOST OF THE YEAR 3
- OTHER (SPECIFY) _____ 4
- DONT KNOW 8

I-3. Is the electric power generating system in this building also a cogeneration system? That is, in addition to producing electric power, does the same system simultaneously produce heat which is used in this or another building for space heating, water heating, air cooling, industrial processes, and so on?

- YES 1
- NO 2
- DON'T KNOW 8

I-4. Is the building's cogeneration or generation system electrically interconnected with an electric utility? That is, is it able to deliver electricity to the grid as well as receive electricity?

- YES 1
- NO 2
- DON'T KNOW 8

I-5. Using this card, indicate what happens to the electric power which is generated onsite. Is it: CIRCLE ALL THAT APPLY.

HAND
CARD
I-5

- a. Totally consumed within the building? 1
- b. Partially or totally delivered to the local electric utility? 2
- c. Partially or totally delivered to another building or buildings? ... 3
- d. DID NOT USE GENERATORS DURING CALENDAR YEAR 1992 . 4
- e. DON'T KNOW 8

J. CENTRAL PHYSICAL PLANT/MULTIBUILDING FACILITIES

<p>BOX 19 LOOK AT E-3 ON THE FOLD-OUT PAGE. IS THE BUILDING PART OF A MULTIBUILDING FACILITY?</p> <p>YES 1</p> <p>NO 2 (SECTION K)</p>

J-1. Does this multibuilding facility have a central physical plant that produces district hot water, district steam, district chilled water or electricity?

YES 1
 NO 2 (SECTION K)
 DON'T KNOW 8 (SECTION K)

J-2. Does the central physical plant on the multibuilding facility produce:

	<u>YES</u>	<u>NO</u>	<u>DK</u>
a. district hot water? ...	1	2	8
b. district steam?	1	2	8
c. district chilled water? .	1	2	8
d. electricity?	1	2	8

J-3. Is the central physical plant for this multibuilding facility located in the building we have been talking about?

YES 1 (SECTION K)
 NO 2
 DON'T KNOW 8 (J-5)

J-4. What is the full name of the building containing the central plant?

BUILDING NAME

BUILDING STREET ADDRESS

CITY, STATE, ZIP

J-5. What is the name, phone number, and FAX number of a contact person for this central physical plant?

_____ () ()

CONTACT NAME PHONE NUMBER FAX NUMBER

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K. ELECTRICITY PAGE

LOOK AT THE FOLD-OUT PAGE, IF NO ELECTRICITY USED IN BUILDING DURING CALENDAR YEAR 1992 CHECK HERE AND GO TO NATURAL GAS PAGE (SECTION L).

K-1a. Is all the electricity used in this building generated in this building?

YES 1 (SECTION L)
NO 2

K-1. What is the name and address of the supplier that provided (or may yet provide) electricity to the building during calendar year 1992?

Does this building have any other electricity suppliers? ASK K-1 UNTIL THE RESPONDENT ANSWERS "NO" AND CHECK THE "NO OTHER SUPPLIERS" BOX. IF MORE THAN THREE SUPPLIERS, GO TO ADDITIONAL SUPPLIER PAGE (SECTION O).

K-2. Is there a single bill or statement, or are there separate bills or statements, from (SUPPLIER) for this building?

K-3. Please tell me the name of each business or organization that received a bill or statement from (SUPPLIER) for electricity during calendar year 1992.

IF LIST IS NOT PROVIDED,
COMPLETE A CUSTOMER SHEET.

K-4. (Does the bill or statement/Do the bills or statements) from (SUPPLIER) cover just this building or are other buildings covered as well?

K-5. What is the approximate square footage of the other buildings that are included (on this bill or statement/on these bills or statements)?

K-6. (Does the bill or statement/Do any of the bills or statements) include charges for any other major electrical usage outside the building, such as parking lot lights, exterior lights, signs or billboards, large pumps or, swimming pools?

K-7. What are the other major electrical uses? SPECIFY:

SUPPLIER NO. 1 ID:	SUPPLIER NO. 2 ID:	SUPPLIER NO. 3 ID:
K-1. NAME _____ _____ ST. ADDR. _____ PO BOX _____ CITY _____ STATE/ZIP _____ <input type="checkbox"/> NO OTHER SUPPLIERS	NAME _____ _____ ST. ADDR. _____ PO BOX _____ CITY _____ STATE/ZIP _____ <input type="checkbox"/> NO OTHER SUPPLIERS	NAME _____ _____ ST. ADDR. _____ PO BOX _____ CITY _____ STATE/ZIP _____ <input type="checkbox"/> NO OTHER SUPPLIERS
K-2. SINGLE BILL 1 (K-4) SEPARATE BILLS 2 (K-3)	SINGLE BILL 1 (K-4) SEPARATE BILLS 2 (K-3)	SINGLE BILL 1 (K-4) SEPARATE BILLS 2 (K-3)
K-3. LIST PROVIDED 1 NOT PROVIDED 2	LIST PROVIDED 1 NOT PROVIDED 2	LIST PROVIDED 1 NOT PROVIDED 2
K-4. JUST THIS BUILDING . . 1 (K-6) OTHER BUILDING(S) . . . 2 DON'T KNOW 8 (K-6)	JUST THIS BUILDING . . 1 (K-6) OTHER BUILDING(S) . . . 2 DON'T KNOW 8 (K-6)	JUST THIS BUILDING . . 1 (K-6) OTHER BUILDING(S) . . . 2 DON'T KNOW 8 (K-6)
K-5. _____ SQUARE FOOTAGE DON'T KNOW 8	_____ SQUARE FOOTAGE DON'T KNOW 8	_____ SQUARE FOOTAGE DON'T KNOW 8
K-6 YES 1 (K-7) NO 2 (BOX 20) DON'T KNOW 8 (BOX 20)	YES 1 (K-7) NO 2 (BOX 20) DON'T KNOW 8 (BOX 20)	YES 1 (K-7) NO 2 (BOX 20) DON'T KNOW 8 (BOX 20)
K-7. _____ <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 0 auto;">GO TO BOX 20</div>	_____ <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 0 auto;">GO TO BOX 20</div>	_____ <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 0 auto;">GO TO BOX 20</div>

BOX 20

ASK K-2 THROUGH K-7 ABOUT NEXT ELECTRICITY SUPPLIER. IF NO ADDITIONAL SUPPLIERS, GO TO NATURAL GAS PAGE (SECTION L).

L. NATURAL GAS PAGE

<input type="checkbox"/>	LOOK AT THE FOLD-OUT PAGE, IF NO NATURAL GAS USED IN BUILDING DURING CALENDAR YEAR 1992 CHECK HERE AND GO TO FUEL OIL/DIESEL/KEROSENE PAGE (SECTION M).
--------------------------	---

L-1. What is the name and address of the supplier that has provided (or may yet provide) natural gas to this building during calendar year 1992?

Does this building have any other natural gas suppliers? ASK L-1 UNTIL THE RESPONDENT ANSWERS "NO" AND CHECK THE "NO OTHER SUPPLIERS" BOX. IF MORE THAN THREE SUPPLIERS, GO TO ADDITIONAL SUPPLIER PAGE (SECTION O).

L-2.	Is there a single bill or statement, or are there separate bills or statements, from (SUPPLIER) for this building?
------	--

L-3.	Please tell me the name of each business or organization that received a bill from (SUPPLIER) for natural gas during calendar year 1992.	
<table border="1"><tr><td>IF LIST NOT PROVIDED COMPLETE A CUSTOMER SHEET</td></tr></table>		IF LIST NOT PROVIDED COMPLETE A CUSTOMER SHEET
IF LIST NOT PROVIDED COMPLETE A CUSTOMER SHEET		

L-4.	(Does the bill or statement/Do the bills or statements) from (SUPPLIER) cover just this building or are other buildings covered as well?
------	--

L-5.	What is the approximate square footage of the <u>other</u> buildings that are included (on this bill or statement/on these bills or statements)?
------	--

L-6.	(Does the bill or statement/Do any of the bills or statements) include charges for any <u>other</u> major natural gas usage outside the building, such as for kilns, gas space heaters, exterior or decorative lighting, compressed natural gas vehicles, or pumps not used in this building?
------	---

L-7.	What are the other major natural gas uses? SPECIFY:
------	---

SUPPLIER NO. 1 ID:	SUPPLIER NO. 2 ID:	SUPPLIER NO. 3 ID:
L-1. NAME _____ ST. ADD. _____ PO BOX _____ CITY _____ STATE/ZIP _____ <input type="checkbox"/> NO OTHER SUPPLIERS	NAME _____ ST. ADD. _____ PO BOX _____ CITY _____ STATE/ZIP _____ <input type="checkbox"/> NO OTHER SUPPLIERS	NAME _____ ST. ADD. _____ PO BOX _____ CITY _____ STATE/ZIP _____ <input type="checkbox"/> NO OTHER SUPPLIERS
L-2. SINGLE BILL 1 (L-4) SEPARATE BILLS 2 (L-3)	SINGLE BILL 1 (L-4) SEPARATE BILLS 2 (L-3)	SINGLE BILL 1 (L-4) SEPARATE BILLS 2 (L-3)
L-3. LIST PROVIDED 1 NOT PROVIDED 2	LIST PROVIDED 1 NOT PROVIDED 2	LIST PROVIDED 1 NOT PROVIDED 2
L-4. JUST THIS BUILDING . . 1 (L-6) OTHER BUILDING(S) . . . 2 DON'T KNOW 8 (L-6)	JUST THIS BUILDING . . 1 (L-6) OTHER BUILDING(S) . . . 2 DON'T KNOW 8 (L-6)	JUST THIS BUILDING . . 1 (L-6) OTHER BUILDING(S) . . . 2 DON'T KNOW 8 (L-6)
L-5. _____ SQUARE FOOTAGE DON'T KNOW 8	_____ SQUARE FOOTAGE DON'T KNOW 8	_____ SQUARE FOOTAGE DON'T KNOW 8
L-6. YES 1 (L-7) NO 2 (BOX 21) DON'T KNOW . . . 8 (BOX 21)	YES 1 (L-7) NO 2 (BOX 21) DON'T KNOW . . . 8 (BOX 21)	YES 1 (L-7) NO 2 (BOX 21) DON'T KNOW 8 (BOX 21)
L-7. <div style="border: 1px solid black; padding: 2px; display: inline-block;">GO TO BOX 21</div>	 <div style="border: 1px solid black; padding: 2px; display: inline-block;">GO TO BOX 21</div>	 <div style="border: 1px solid black; padding: 2px; display: inline-block;">GO TO BOX 21</div>

BOX 21

ASK L-2 THROUGH L-7 ABOUT NEXT NATURAL GAS SUPPLIER. IF NO ADDITIONAL SUPPLIERS, GO TO FUEL OIL/DIESEL/KEROSENE PAGE (SECTION M).

M. FUEL OIL/DIESEL/KEROSENE PAGE

LOOK AT THE FOLD-OUT PAGE. IF NO FUEL OIL/DIESEL/KEROSENE HAS BEEN OR WILL BE DELIVERED DURING CALENDAR YEAR 1992, CHECK HERE AND GO TO STEAM/HOT WATER/CHILLED WATER PAGE (SECTION N).

M-1. What is the name and address of the supplier that has provided (or may yet provide) fuel, oil, deisel or kerosene to the building during calendar year 1992?

M-1a. Does this supplier deliver diesel, residual or some other type of fuel oil? CHECK BOX IN M-1a SUPPLIER COLUMN ON NEXT PAGE FOR EACH TYPE USED.

Does this building have any other fuel oil, deisel or kerosene suppliers? ASK M-1 UNTIL THE RESPONDENT ANSWERS "NO" AND CHECK THE "NO OTHER SUPPLIERS" BOX. IF MORE THAN THREE SUPPLIERS GO TO ADDITIONAL SUPPLIER PAGE (SECTION O)

M-2. Is there a single bill or statement or are there separte bills or statements from (SUPPLIER) for this building?

M-3. Please tell me the name of each business or organization that received a bill from (SUPPLIER) for fuel oil, diesel or kerosene during calendar year 1992.

IF LIST NOT PROVIDED,
COMPLETE A "CUSTOMER SHEET"

M-4. (Does the bill or statement/Do the bills or statements) from (SUPPLIER) cover just this building or are other buildings covered as well?

M-5. What is the approximate square footage of the other buildings that are included (on this bill or statement/on these bills or statements)?

M-6. (Does the bill or statement/Do any of the bills or statements) include charges for any other major fuel oil, diesel, or kerosene usage outside the building, such as for kilns, welding, pumps or motors?

M-7. What are the other major uses? SPECIFY:

SUPPLIER NO. 1 ID:	SUPPLIER NO. 2 ID:	SUPPLIER NO. 3 ID:
M-1. NAME _____ _____ ST. ADD. _____ PO BOX _____ CITY _____ STATE/ZIP _____ M-1a. <input type="checkbox"/> Diesel (No. 1, 2, or 4) <input type="checkbox"/> Residual (No. 5 or 6) <input type="checkbox"/> Other (SPECIFY) _____ <input type="checkbox"/> NO OTHER SUPPLIERS	NAME _____ _____ ST. ADD. _____ PO BOX _____ CITY _____ STATE/ZIP _____ <input type="checkbox"/> Diesel (No. 1, 2, or 4) <input type="checkbox"/> Residual (No. 5 or 6) <input type="checkbox"/> Other (SPECIFY) _____ <input type="checkbox"/> NO OTHER SUPPLIERS	NAME _____ _____ ST. ADD. _____ PO BOX _____ CITY _____ STATE/ZIP _____ <input type="checkbox"/> Diesel (No. 1, 2, or 4) <input type="checkbox"/> Residual (No. 5 or 6) <input type="checkbox"/> Other (SPECIFY) _____ <input type="checkbox"/> NO OTHER SUPPLIERS
M-2. SINGLE BILL 1 (M-4) SEPERATE BILLS 2 (M-3)	SINGLE BILL 1 (M-4) SEPERATE BILLS 2 (M-3)	SINGLE BILL 1 (M-4) SEPERATE BILLS 2 (M-3)
M-3. LIST PROVIDED 1 NOT PROVIDED 2	LIST PROVIDED 1 NOT PROVIDED 2	LIST PROVIDED 1 NOT PROVIDED 2
M-4. JUST THIS BUILDING . 1 (M-6) OTHER BUILDING(S) . . 2 DON'T KNOW 8 (M-6)	JUST THIS BUILDING . . 1 (M-6) OTHER BUILDING(S) . . 2 DON'T KNOW 8 (M-6)	JUST THIS BUILDING . 1 (M-6) OTHER BUILDING(S) . . 2 DON'T KNOW 8 (M-6)
M-5. _____ SQUARE FOOTAGE DON'T KNOW 8	_____ SQUARE FOOTAGE DON'T KNOW 8	_____ SQUARE FOOTAGE DON'T KNOW 8
M-6. YES 1 (M-7) NO 2 (BOX 22) DON'T KNOW . . 8 (BOX 22)	YES 1 (M-7) NO 2 (BOX 22) DON'T KNOW . . 8 (BOX 22)	YES 1 (M-7) NO 2 (BOX 22) DON'T KNOW . . 8 (BOX 22)
M-7. _____ <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">GO TO BOX 22</div>	_____ <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">GO TO BOX 22</div>	_____ <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">GO TO BOX 22</div>

BOX 22

ASK M-2 THROUGH M-7 ABOUT NEXT FUEL OIL, DIESEL OR KEROSENE SUPPLIER. IF NO ADDITIONAL SUPPLIERS, GO TO STEAM/HOT WATER/CHILLED WATER PAGE (SECTION N).

N. STEAM/HOT WATER/CHILLED WATER

LOOK AT THE FOLD-OUT PAGE. IF NO STEAM, HOT WATER, OR CHILLED WATER USED IN BUILDING DURING CALENDAR YEAR 1992, CHECK HERE AND GO TO SECTION O.
FOR EACH DISTRICT ENERGY SOURCE USED, WRITE "STEAM", "HOT WATER" OR "CHILLED WATER" ABOVE A COLUMN.

N-1. What is the name and address of the supplier or organization that has provided (or may yet provide) (steam/hot water/chilled water) to the building during calendar year 1992?

IF CENTRAL PLANT WITH NAME AND ADDRESS RECORDED IN SECTION J: ENTER "CP" IN COLUMN. IF NOT CENTRAL PLANT: RECORD NAME AND ADDRESS IN COLUMN.

Does this building have any other (steam/hot water/chilled water) suppliers? ASK N-1 UNTIL THE RESPONDENT ANSWERS "NO" FOR THIS DISTRICT ENERGY SOURCE. IF MORE THAN THREE SUPPLIERS GOT TO SECTION O.

N-2. Is there a single bill or statement or are there separate bills or statements from (SUPPLIER) for this building?

N-3. Please tell me the name of each business or organization that received a bill from (SUPPLIER) during the calendar year 1992.

IF LIST NOT PROVIDED,
COMPLETE A "CUSTOMER SHEET"

N-4. (Does the bill or statement/Do the bills or statements) from (SUPPLIER) cover just this building or are other buildings covered as well?

N-5. What is the approximate square footage of the other buildings that are included (on this bill or statement/on these bills or statements)?

N-6. What is the approximate square footage of the other buildings on the district loop that serves this building?

N. STEAM, HOT WATER, OR CHILLED WATER PAGE

ENERGY SOURCE	ENERGY SOURCE	ENERGY SOURCE
SUPPLIER ID: N-1. NAME _____ _____ ST. ADD. _____ PO BOX _____ CITY _____ STATE/ZIP _____	SUPPLIER ID: NAME _____ _____ ST. ADD. _____ PO BOX _____ CITY _____ STATE/ZIP _____	SUPPLIER ID: NAME _____ _____ ST. ADD. _____ PO BOX _____ CITY _____ STATE/ZIP _____
N-2. SINGLE BILL 1 (N-4) SEPARATE BILLS 2 (N-3) NO BILLS 3 (N-6)	SINGLE BILL 1 (N-4) SEPARATE BILLS 2 (N-3) NO BILLS 3 (N-6)	SINGLE BILL 1 (N-4) SEPARATE BILLS 2 (N-3) NO BILLS 3 (N-6)
N-3. LIST PROVIDED 1 NOT PROVIDED 2	LIST PROVIDED 1 NOT PROVIDED 2	LIST PROVIDED 1 NOT PROVIDED 2
N-4. JUST THIS BUILDING . . . 1 (BOX 23) OTHER BUILDING(S) 2 DON'T KNOW 8 (BOX 23)	JUST THIS BUILDING . . . 1 (BOX 23) OTHER BUILDING(S) 2 DON'T KNOW 8 (BOX 23)	JUST THIS BUILDING . . . 1 (BOX 23) OTHER BUILDING(S) 2 DON'T KNOW 8 (BOX 23)
N-5. _____ SQUARE FOOTAGE DON'T KNOW 8 <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 5px auto;">GO TO BOX 23</div>	_____ SQUARE FOOTAGE DON'T KNOW 8 <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 5px auto;">GO TO BOX 23</div>	_____ SQUARE FOOTAGE DON'T KNOW 8 <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 5px auto;">GO TO BOX 23</div>
N-6. _____ SQUARE FOOTAGE DON'T KNOW 8 <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 5px auto;">GO TO BOX 23</div>	_____ SQUARE FOOTAGE DON'T KNOW 8 <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 5px auto;">GO TO BOX 23</div>	_____ SQUARE FOOTAGE DON'T KNOW 8 <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 5px auto;">GO TO BOX 23</div>

BOX 23

ASK ABOUT NEXT DISTRICT ENERGY SOURCE. IF NO ADDITIONAL DISTRICT SOURCES, GO TO SECTION O.

ADDITIONAL SUPPLIER PAGE (FOR USE ONLY WHEN MORE THAN THREE SUPPLIERS FOR ANY ENERGY SOURCE)

NO ADDITIONAL SUPPLIERS. GO TO SECTION P.

O-1. **Is there any other supplier that has provided (or may yet provide) (ENERGY SOURCE) to the building? ASK O-1 UNTIL RESPONDENT ANSWERS "NO" AND CHECK THE "NO OTHER SUPPLIERS" BOX.**

O-2. Is there a single bill or statement, or are there separate bills or statements from (SUPPLIER) for this building?
O-3. Please tell me the name of each business or organization that received a bill or statement from (SUPPLIER) for energy during the calendar year 1992. <div style="border: 1px solid black; padding: 5px; text-align: center;">IF LIST NOT PROVIDED, COMPLETE A "CUSTOMER SHEET"</div>
O-4. (Does the bill or statement/Do the bills or statements) from (SUPPLIER) cover just this building or are other buildings covered as well?
O-5. What is the approximate square footage of the <u>other</u> buildings that are included (on this bill or statement/these bills or statements)?
O-6. (Does the bill or statement/Do any of the bills or statements) include charges for any <u>other</u> major use of this energy source besides the ones you have already told me about?
O-7. What are the (OTHER MAJOR ENERGY SOURCES) used for? SPECIFY:

ENERGY SOURCE	ENERGY SOURCE	ENERGY SOURCE
SUPPLIER ID: O-1. NAME _____ _____ ST. ADD. _____ PO BOX _____ CITY _____ STATE/ZIP _____ <input type="checkbox"/> NO OTHER SUPPLIERS	SUPPLIER ID: NAME _____ _____ ST. ADD. _____ PO BOX _____ CITY _____ STATE/ZIP _____ <input type="checkbox"/> NO OTHER SUPPLIERS	SUPPLIER ID: NAME _____ _____ ST. ADD. _____ PO BOX _____ CITY _____ STATE/ZIP _____ <input type="checkbox"/> NO OTHER SUPPLIERS
O-2. SINGLE BILL 1 (O-4) SEPARATE BILLS 2 (O-3)	SINGLE BILL 1 (O-4) SEPARATE BILLS 2 (O-3)	SINGLE BILL 1 (O-4) SEPARATE BILLS 2 (O-3)
O-3. LIST PROVIDED 1 NOT PROVIDED 2	LIST PROVIDED 1 NOT PROVIDED 2	LIST PROVIDED 1 NOT PROVIDED 2
O-4. JUST THIS BUILDING . . . 1 (O-6) OTHER BUILDING(S) 2 DON'T KNOW 8 (O-6)	JUST THIS BUILDING . . . 1 (O-6) OTHER BUILDING(S) 2 DON'T KNOW 8 (O-6)	JUST THIS BUILDING . . . 1 (O-6) OTHER BUILDING(S) 2 DON'T KNOW 8 (O-6)
O-5. _____ SQUARE FOOTAGE DON'T KNOW 8	_____ SQUARE FOOTAGE DON'T KNOW 8	_____ SQUARE FOOTAGE DON'T KNOW 8
O-6. YES 1 (O-7) NO 2 (BOX 24) DON'T KNOW 8 (BOX 24)	YES 1 (O-7) NO 2 (BOX 24) DON'T KNOW 8 (BOX 24)	YES 1 (O-7) NO 2 (BOX 24) DON'T KNOW 8 (BOX 24)
<input type="checkbox"/> GO TO BOX 24	<input type="checkbox"/> GO TO BOX 24	<input type="checkbox"/> GO TO BOX 24

BOX 24
 ASK ABOUT NEXT SUPPLIER. IF NO ADDITIONAL SUPPLIERS, RETURN TO APPROPRIATE ENERGY SOURCE PAGE.

P. ENERGY SOURCE DELIVERY

P-1. NO ELECTRICITY USED IN BUILDING. GO TO P-2.

Earlier you said that electricity was used in this building. Please give me the range on this card which will best describe the total expenditures during calendar year 1992 for the electricity used in this building.

HAND CARD GREEN

\$100 OR LESS	01
\$101 to \$500	02
\$501 to \$1,000	03
\$1,001 to \$2,000	04
\$2,001 to \$5,000	05
\$5,001 to \$10,000	06
\$10,001 to \$20,000	07
\$20,001 to \$50,000	08
\$50,001 to \$100,000	09
\$100,001 to \$200,000	10
\$200,001 to \$500,000	11
\$500,001 to \$1,000,000	12
OVER \$1,000,000	13
DON'T KNOW	98

P-2. NO NATURAL GAS USED IN BUILDING. GO TO P-8.

Earlier you said that natural gas is used in this building. Please give me the range on this card which will best describe the total expenditures during calendar year 1992 for the natural gas used in this building.

HAND CARD GREEN

\$100 OR LESS	01
\$101 to \$500	02
\$501 to \$1,000	03
\$1,001 to \$2,000	04
\$2,001 to \$5,000	05
\$5,001 to \$10,000	06
\$10,001 to \$20,000	07
\$20,001 to \$50,000	08
\$50,001 to \$100,000	09
\$100,001 to \$200,000	10
\$200,001 to \$500,000	11
\$500,001 to \$1,000,000	12
OVER \$1,000,000	13
DON'T KNOW	98

P-3. During the year, were any of the natural gas accounts in the building on an interruptible service rate? (This is a special rate offered to customers by gas companies, that allows the gas company to cut back on the amount of gas supplied to the building during periods of high demand.)

YES	1
NO	2
DON'T KNOW	8

P-4. Does this building buy or contract for its natural gas from someone other than the local distribution company (utility) and then have the utility deliver that gas? Gas bought this way is often called gas for the account of others, transported gas, spot market gas, or direct purchase gas.

- YES 1
- NO 2 (P-8)
- DONT KNOW 8 (P-7)

P-5. Can you give me the name of the company or broker that the direct purchase gas is bought or contracted from?

- YES 1 -->
- NO 2 (P-7)

RECORD BELOW AND THEN GO TO P-6

COMPANY NAME: _____

ADDRESS: _____

CITY/STATE/ZIP: _____

CONTACT PERSON: _____

TELEPHONE (INCLUDE AREA CODE): (_____) _____

FAX NUMBER: (_____) _____

P-6. Can you supply us with cost figures for the components of the direct purchase gas. That is:

- a. well head costs? ... \$ _____
- b. city gate costs? \$ _____
- c. local distributing company charges? .. \$ _____
- d. other costs? \$ _____
- e. DONT KNOW 8

- f. Prices quoted are per:
- Therm 1
 - Cubic foot (cf) 2
 - 100 Cu. ft. (Ccf) 3
 - 1000 Cu. ft. (Mcf) 4
 - Other (SPECIFY) 5

GO TO P-8

P-7. Can you give me the name of a person who can provide more information about natural gas purchases for this building?

- YES 1
- NO 2

RECORD BELOW AND THEN GO TO P-8

CONTACT PERSON: _____

TELEPHONE (INCLUDE AREA CODE): (_____) _____

FAX NUMBER: (_____) _____

P-8. NO FUEL OIL OR DIESEL USED IN BUILDING. GO TO P-10.

Earlier you said that fuel oil, diesel or kerosene is used in this building. Which of the ranges on this card will best describe the total expenditures during calendar year 1992 for the fuel oil, diesel or kerosene used in this building?

HAND
CARD
GREEN

\$100 OR LESS	01
\$101 to \$500	02
\$501 to \$1,000	03
\$1,001 to \$2,000	04
\$2,001 to \$5,000	05
\$5,001 to \$10,000	06
\$10,001 to \$20,000	07
\$20,001 to \$50,000	08
\$50,001 to \$100,000	09
\$100,001 to \$200,000	10
\$200,001 to \$500,000	11
\$500,001 to \$1,000,000	12
OVER \$1,000,000	13
DON'T KNOW	98

P-9. Think about all the fuel oil storage tanks for this building. What is the total capacity, in gallons, of all the fuel oil storage tanks?

GALLONS

DON'T KNOW 9-8

P-10. NO BOTTLED GAS/LPG/PROPANE USED IN BUILDING. GO TO P-12.

Earlier you said that bottled gas is used in this building. HAND CARD P-10. Which of the ranges on this hand card will best describe the amount of bottled gas used in this building during calendar year 1992?

HAND
CARD
P-10

LESS THAN 100	01
100 TO 499	02
500 TO 999	03
1,000 OR MORE	04
DON'T KNOW	98

GALLONS 1
POUNDS 2

INTERVIEWER: YOU MUST CIRCLE EITHER POUNDS OR GALLONS

P-11. Which of the ranges on this card will best describe the total expenditures during calendar year 1992 for the bottled gas used in this building?

HAND
CARD
P-11

- \$100 OR LESS 01
- \$101 to \$500 02
- \$501 to \$1,000 03
- \$1,001 to \$2,000 04
- \$2,001 to \$5,000 05
- \$5,001 to \$10,000 06
- \$10,001 to \$20,000 07
- OVER \$20,000 08
- DON'T KNOW 98

P-12. NO WOOD USED IN BUILDING. GO TO SECTION Q.

Earlier you said that wood is used in this building. Which of the ranges on this card best describes how much wood will have been burned in this building by the end of calendar year 1992?

HAND
CARD
P-12

- LESS THAN 1 CORD 01
- 1 TO 9 CORDS 02
- 10 TO 20 CORDS 03
- MORE THAN 20 CORDS 04
- DON'T KNOW 98

P-13. Has this wood been purchased or has it been provided free of charge from some other source such as waste wood?

- PURCHASED 1
- PROVIDED FREE OF CHARGE
- FROM ANOTHER SOURCE 2 (SECTION Q)
- DON'T KNOW 8 (SECTION Q)

P-14. Which of the ranges on this card will best describe the total expenditures during calendar year 1992 for the wood used in this building?

HAND
CARD
P-14

- \$100 OR LESS 01
- \$101 to \$500 02
- \$501 to \$1,000 03
- \$1,001 to \$2,000 04
- \$2,001 to \$5,000 05
- \$5,001 to \$10,000 06
- \$10,001 to \$20,000 07
- OVER \$20,000 08
- DON'T KNOW 98

Q. AUTHORIZATION FORM

Q-1. As I mentioned, the purpose of the study is to relate building characteristics with energy consumption and expenditures. We are also interested in learning more about demand-side management and energy audit programs. This information can only be obtained by going directly to each energy supplier of the building. In order for the energy company to release this information to Westat, we need to have an authorization form from you, or some other representative of your company. We also need account numbers for the building.

a. Should the authorization form be signed by you or someone else?

RESPONDENT 1
 SOMEONE ELSE (SPECIFY) 2

NAME: _____
 TITLE: _____
 ADDRESS: _____
 CITY, STATE, ZIP: _____
 PHONE NUMBER: (_____) _____
 FAX NUMBER (_____) _____

b. Should the account number(s) be obtained from you or someone else?

RESPONDENT 1
 INDIVIDUAL LISTED ABOVE 2
 SOMEONE ELSE (SPECIFY BELOW) 3

NAME: _____
 TITLE: _____
 ADDRESS: _____
 CITY, STATE, ZIP: _____
 PHONE NUMBER: (_____) _____
 FAX NUMBER (_____) _____

BOX 25			
AFTER AUTHORIZATION OBTAINED, CODE STATUS OF ACCOUNT NUMBER EFFORT			
	OBTAINED	NOT OBTAINED	INAPPLICABLE
ELECTRICITY	1	2	3
NATURAL GAS	1	2	3

Q-2. RECORD TIME ENDED AND CONTINUE WITH SECTION R.

TIME ENDED: _____

R. CONSTRUCTION IMPROVEMENTS AND MAINTENANCE AND REPAIRS SUPPLEMENT

TIME BEGAN: _____

The final questions of the interview are about expenditures for construction improvements and maintenance and repairs to this building during calendar year 1992. This information will be used to measure the effect of these activities on the U.S. economy.

R-1. The first question is about the cost of construction improvements, including additions, alterations, and major replacements to the building. Approximately, what is the total amount of money that will be spent in calendar year 1992 by all persons and businesses for construction improvements to the building? Include expenditures to date plus estimated expenditures for the remainder of the year. Construction improvements are defined on this card.

**HAND
 CARD
 R-1**

\$ _____ (R-2)
 DOLLARS

NEEDS A FEW DAYS TO COMPILE DATA 9-6 (R-1a)
 DON'T KNOW 9-8 (R-1b)

R-1a. When can I call you back to get this information?

_____ (R-2)
 DATE TIME

R-1b. What is the name, address, and telephone number of the person who is most likely to know the total amount expected to be spent on construction improvements to this building during calendar year 1992?

NAME: _____ (R-2)
 ADDRESS: _____
 CITY, STATE, ZIP: _____
 PHONE NUMBER: () _____

NO ONE PERSON KNOWS THE TOTAL 6 (BOX 26)
 DON'T KNOW 8 (BOX 26)

BOX 26

LOOK AT QUESTIONS E-5 AND E-6 ON THE FOLDOUT PAGE AND CIRCLE ONE:

ONE OCCUPANT: THE OWNER (E-5 = 1) 1 (R-2)
 ONE OCCUPANT: NOT THE OWNER (E-5 = 2) 2 (R-1c)
 TWO OCCUPANTS: INCLUDING THE OWNER
 (E-5 = 3 AND E-6 = 2) 3 (R-1c)
 ALL OTHER SITUATIONS 4 (R-2)

R-1c. How much money will the owner spend on construction improvements to this building during calendar year 1992?

\$ _____ (R-1e)
DOLLARS

DONT KNOW 9-8 (R-1d)

R-1d. What is the name, address, telephone number, and FAX number of the person who is most likely to know how much the owner will spend on construction improvements to this building?

NAME: _____ (R-1e)

ADDRESS: _____

CITY, STATE, ZIP: _____

PHONE NUMBER: () _____

FAX NUMBER: () _____

DONT KNOW 8 (R-2)

R-1e. CHECK HERE IF CURRENTLY UNOCCUPIED AND SKIP TO R-2.

R-1f. How much (additional) money will the current occupant spend on construction improvements to this building during calendar year 1992?

\$ _____ (R-2)
DOLLARS

DONT KNOW 8 (R-1g)

R-1g. What is the name, address, telephone number, and FAX number of the current tenant in this building?

NAME: _____ (R-2)

ADDRESS: _____

CITY, STATE, ZIP: _____

PHONE NUMBER: () _____

FAX NUMBER: () _____

R-2. The next question is about expenditures for maintenance and repairs to the building. This refers to the cost for the upkeep of the building rather than additional investment in it and is described in more detail on this card.

Approximately, what is the total amount of money that will be spent in calendar year 1992 by all persons and businesses for maintenance and repairs to the building? Including expenditures to date plus estimated expenditures for the remainder of the year.

**HAND
CARD
R-2**

\$ _____ (R-2e)
DOLLARS

NEEDS A FEW DAYS TO COMPILE DATA 9-6 (R-2a)

DON'T KNOW OR NO ONE PERSON
KNOWS 9-8 (BOX 27)

R-2a. When can I call you back to get this information?

_____ (R-2e)
DATE TIME

BOX 27

LOOK AT QUESTIONS E-5 AND E-6 ON THE FOLDOUT PAGE AND CIRCLE ONE:

ONE OCCUPANT: THE OWNER (E-5 = 1) 1 (R-2e)

ONE OCCUPANT: NOT THE OWNER (E-5 = 2) 2 (R-2b)

TWO OCCUPANTS: INCLUDING THE OWNER
(E-5 = 3 AND E-6 = 2) 3 (R-2b)

ALL OTHER SITUATIONS 4 (R-2e)

R-2b. How much money will the owner spend on maintenance and repairs to this building during calendar year 1992?

\$ _____ (R-2c)
DOLLARS

DON'T KNOW 9-8 (R-2e)

R-2c. CHECK HERE IF CURRENTLY UNOCCUPIED AND SKIP TO R-2e.

R-2d. How much (additional) money will the current tenant spend on maintenance and repairs for this building during calendar year 1992?

\$ _____ (R-2e)
DOLLARS

DON'T KNOW 9-8 (R-2e)

R-2e. END: This completes the interview. Thank you very much for your time and help.

TIME ENDED: _____

BOX 28		
<i>INDICATE WHO PROVIDED THE EXPENDITURE INFORMATION FOR CONSTRUCTION IMPROVEMENTS AND MAINTENANCE AND REPAIRS:</i>		
	<i>R-3 CONSTRUCTION IMPROVEMENTS (CIRCLE ONE)</i>	<i>R-4 MAINTENANCE AND REPAIRS (CIRCLE ONE)</i>
a. OWNER	1	1
b. REPRESENTATIVE OF OWNER'S BUSINESS	2	2
c. OCCUPANT	3	3
d. OCCUPANT REPRESENTATIVE	4	4
e. OTHER (SPECIFY)	5	5

RESPONDENT NAME: _____		
TELEPHONE: (_____) _____		
FAX NUMBER: (_____) _____		

INTERVIEWER OBSERVATIONS

FILL THIS OUT IF YOU COMPLETE THE BUILDING INTERVIEW.

1. Building is, or is part of a facility that is, a (CIRCLE ONE):

- Hospital 1
- College/University 2
- Elementary/Middle/High School 3
- Post Office 4
- Other 5

2. Does the interview's definition of the building agree with the listing sheet (CIRCLE ONE)?

- YES, BOX 3 = "SAMPLED LISTED BUILDING" 1 (4)
- NO 2

3. A Please indicate the name and address(es) of the building from the listing sheet.

NAME: _____

ADDRESS: _____

B Please indicate the name and address(es) of the building as defined for the interview.

(A-5) NAME: _____

(A-4) ADDRESS: _____

C Please explain the circumstances of the above difference between listing and interview definition of the building

4. The individual who completed all or most of the questionnaire should be recorded on the front cover. Did any other person respond to the questionnaire?

- YES 1
- NO 2 (6)

5. Please list all other respondents.

NAME: _____
TITLE: _____
LOCATION: _____
PHONE NO. () _____

NAME: _____
TITLE: _____
LOCATION: _____
PHONE NO. () _____

6. What is your observation of the type of building or kind of business that occurs within the building? Please be thorough in your description.

7. Is this building, as defined for the interview, freestanding or attached to another building?

FREESTANDING 1
ATTACHED 2

8. Please describe any unusual circumstances you may have encountered in obtaining the energy consumption authorization form. (If you did not obtain the authorization form or account numbers, explain why.)

9. Is this a strip shopping center or enclosed mall?

- STRIP SHOPPING CENTER 1
- ENCLOSED MALL 2
- NOT A STRIP CENTER/MALL 3 (END)

10. Approximately how many establishments are in this shopping center/mall?

- 2-5 1
- 6-10 2
- 11-20 3
- 21-49 4
- 50-99 5
- 100 OR MORE 6

THIS PAGE INTENTIONALLY BLANK

NONINTERVIEW REPORT

**FILL THIS OUT IF YOU DID NOT COMPLETE
THE BUILDING INTERVIEW.**

1. Why were you unable to complete the interview?

- REFUSAL/BREAKOFF 1
- INELIGIBLE BUILDING 2 (4)
- RESPONDENT COULD NOT BE
CONTACTED 3

2. IF NOT RECORDED ON FRONT COVER: What is the name, title, and telephone number of the individual who refused, broke off, or could not be contacted for the interview?

NAME: _____
TITLE: _____
TELEPHONE NO.: () _____

3. Why did the respondent refuse? (RECORD VERBATIM) OR: Why were there problems contacting the respondent?

SKIP TO 5

4. Please explain in detail why the building was ineligible for the interview.

5. What is your observation of the type of building or kind of business that occurs within the building?

6. How many floors does the building have, ground level and above?

_____ # OF FLOORS

IF INELIGIBLE BUILDING: END.

7. IF INDUSTRIAL, AGRICULTURAL, OR RESIDENTIAL MENTIONED IN 5: Would you estimate that 50% or more of the space in this building is used for (industrial/agricultural/residential) activities?

- YES 1
- NO 2
- DON'T KNOW 8

8. Which category in your estimation best applies to the total square feet in this building?

- 1,000 square feet or less 1
- 1,001 to 50,000 square feet 2
- Over 50,000 square feet 3
- DON'T KNOW 8

SUPPLIER CUSTOMER SHEET

ENERGY SOURCE: _____

SUPPLIER'S NAME: _____

LIST OF RECIPIENTS OF SEPARATE BILLS	ADDITIONAL INFORMATION TO EXPLAIN BILLING
1. Name _____ Address _____	_____ _____
2. Name _____ Address _____	_____ _____
3. Name _____ Address _____	_____ _____
4. Name _____ Address _____	_____ _____
5. Name _____ Address _____	_____ _____
6. Name _____ Address _____	_____ _____
7. Name _____ Address _____	_____ _____
8. Name _____ Address _____	_____ _____
9. Name _____ Address _____	_____ _____
10. Name _____ Address _____	_____ _____
11. Name _____ Address _____	_____ _____
12. Name _____ Address _____	_____ _____

SUPPLIER CUSTOMER SHEET

ENERGY SOURCE: _____

SUPPLIER'S NAME: _____

LIST OF RECIPIENTS OF SEPARATE BILLS	ADDITIONAL INFORMATION TO EXPLAIN BILLING
13. Name _____ Address _____	_____ _____
14. Name _____ Address _____	_____ _____
15. Name _____ Address _____	_____ _____
16. Name _____ Address _____	_____ _____
17. Name _____ Address _____	_____ _____
18. Name _____ Address _____	_____ _____
19. Name _____ Address _____	_____ _____
20. Name _____ Address _____	_____ _____
21. Name _____ Address _____	_____ _____
22. Name _____ Address _____	_____ _____
23. Name _____ Address _____	_____ _____
24. Name _____ Address _____	_____ _____

SUPPLIER CUSTOMER SHEET

ENERGY SOURCE: _____

SUPPLIER'S NAME: _____

LIST OF RECIPIENTS OF SEPARATE BILLS	ADDITIONAL INFORMATION TO EXPLAIN BILLING
25. Name _____ Address _____	_____ _____
26. Name _____ Address _____	_____ _____
27. Name _____ Address _____	_____ _____
28. Name _____ Address _____	_____ _____
29. Name _____ Address _____	_____ _____
30. Name _____ Address _____	_____ _____
31. Name _____ Address _____	_____ _____
32. Name _____ Address _____	_____ _____
33. Name _____ Address _____	_____ _____
34. Name _____ Address _____	_____ _____
35. Name _____ Address _____	_____ _____
36. Name _____ Address _____	_____ _____

SUPPLIER CUSTOMER SHEET

ENERGY SOURCE: _____

SUPPLIER'S NAME: _____

LIST OF RECIPIENTS OF SEPARATE BILLS	ADDITIONAL INFORMATION TO EXPLAIN BILLING
37. Name _____ Address _____	_____ _____
38. Name _____ Address _____	_____ _____
39. Name _____ Address _____	_____ _____
40. Name _____ Address _____	_____ _____
41. Name _____ Address _____	_____ _____
42. Name _____ Address _____	_____ _____
43. Name _____ Address _____	_____ _____
44. Name _____ Address _____	_____ _____
45. Name _____ Address _____	_____ _____
46. Name _____ Address _____	_____ _____
47. Name _____ Address _____	_____ _____
48. Name _____ Address _____	_____ _____

FOLD-OUT PAGE

1986	1992	E-3. MULTIBUILDING FACILITY <input type="checkbox"/>
_____ SQUARE FEET	A-7/A-8 _____ SQUARE FEET	E-5. OCCUPANT STATUS: ONE: THE OWNER 1 ONE: NOT THE OWNER 2 MORE THAN ONE: INCLUDING THE OWNER 3 MORE THAN ONE: NOT INCLUDING THE OWNER 4 CURRENTLY UNOCCUPIED 5
_____ NO. OF FLOORS	A-9 _____ NO. OF FLOORS	
_____ YEAR BUILT	A-12/A-14 _____ YEAR BUILT	E-6. NO. OF BUSINESSES: _____
		BOX 16. OPEN 24 HRS <input type="checkbox"/>

C-1. Here is a list of various types of energy sources. Which of these fuels or energy sources have been or may be used to supply energy to this building during calendar year 1992?	C-3. END USES FOR ENERGY SOURCES DURING CALENDAR YEAR 1992:						
	a. Main fuel for heating	b. Any other heating fuels	c. Fuel for air-conditioning	d. Fuel for domestic hot water heating	e. Fuel for commercial/institutional cooking or serving	f. Fuel for manufacturing/industrial activity	g. Fuel to generate electricity
NOT PERFORMED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C-1. ENERGY SOURCES (CHECK ALL USED)	CHECK ONE	CHECK ALL THAT APPLY	CHECK ALL THAT APPLY	CHECK ALL THAT APPLY	CHECK ALL THAT APPLY	CHECK ALL THAT APPLY	CHECK ALL THAT APPLY
a. Electricity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Natural Gas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Fuel Oil/Diesel/Kerosene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Bottled Gas/LPG/Propane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. District Steam	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. District Hot Water	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. District Chilled Water	<input type="checkbox"/>		<input type="checkbox"/>				
h. Wood	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Coal	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. Electricity from solar photovoltaic cells (PVC's)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. Thermal Energy from active solar collectors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l. Other (Specify) _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
END USE PERFORMED BUT ENERGY SOURCE NOT KNOWN	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**UNITED STATES DEPARTMENT OF ENERGY
 COMMERCIAL BUILDINGS ENERGY CONSUMPTION SURVEY**

AUTHORIZATION FORM

I hereby give permission to Westat, Inc. to obtain energy consumption information and information on participation in demand-side management and energy audit programs for confidential use in connection with their survey for the U.S. Department of Energy.

This authorization covers the total amount of fuels and the total price charged for the fuels consumed during the 26-month period of December 1, 1991 to January 31, 1994 by the building/establishment identified below. It also covers demand-side management programs and audits conducted during the 48-month period of January 1, 1990 to December 31, 1993.

Companies are authorized to provide billing information by monthly periods or by delivery date, whichever is applicable. A photocopy of this authorization may be accepted with the same authority as the original.

_____ Building name
 _____ Address
 _____ City _____ State _____ ZIP

_____ Please print name of authorizing person	_____ Employed by	_____ Telephone
<input checked="" type="checkbox"/> _____ Signature of authorizing person	_____ Address (if different than above)	
_____ Title	_____ City	_____ State _____ ZIP

PLEASE COMPLETE ONE BLOCK FOR EACH COMPANY THAT SUPPLIED FUEL USED BY THE ABOVE NONRESIDENTIAL BUILDING SINCE DECEMBER 1, 1991.

_____ Energy Source

_____ Print full name of company		
_____ Address (if known)	_____ City and State	_____ ZIP
_____ Telephone	_____ FAX	
_____ Account Number(s)		

_____ Energy Source

_____ Print full name of company		
_____ Address (if known)	_____ City and State	_____ ZIP
_____ Telephone	_____ FAX	
_____ Account Number(s)		

Demand-side management and energy audit information is not to be released if this box is initialed by the authorizing person.

CONTINUED ON REVERSE SIDE

COMMERCIAL BUILDINGS ENERGY CONSUMPTION SURVEY
AUTHORIZATION FORM (Continued)

Signature of Authorizing Person

Energy Source

Print full name of company

Address (if known) City and State ZIP

Telephone FAX

Account Number(s)

Energy Source

Print full name of company

Address (if known) City and State ZIP

Telephone FAX

Account Number(s)

Energy Source

Print full name of company

Address (if known) City and State ZIP

Telephone FAX

Account Number(s)

Energy Source

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Address (if known) City and State ZIP

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Energy Source

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Address (if known) City and State ZIP

Telephone FAX

Account Number(s)