FORM APPROVAL
OMB NO.: 1905-0145
EXPIRES: September 30, 1989
FORM EIA-871A

1986

NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY

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 his or her name, title and address at which he/she might be located?

NAME: _____

TITLE: _____

LOCATION: _____ PHONE ( ) _____

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 participation in this survey is voluntary, we hope you will cooperate and participate in this important study of energy use.

IF ASKED ABOUT CONFIDENTIALITY, READ:

Any information we collect which will 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. _____

(10/86)

A-3. The questions I will be asking you will all be about this building. By this building, I am referring to the structure(s) at (READ NUMBER(S) OR NAME)/the entire shopping center or mall at (READ NUMBER(S) OR NAME).

(IF NAME OF BUILDING IS NOT KNOWN, ASK): What is the correct name and address of this building? RECORD BELOW. (IF BUILDING HAS NO NAME, ASK NAME OF MAJOR ESTABLISHMENT THAT OCCUPIES BUILDING AND RECORD BELOW.)

(IF NAME ON LABEL): Is the correct name and address of the building: (MENTION NAME AND ADDRESS)? RECORD VERIFIED NAME AND ADDRESS BELOW.

(CHECK ONE)

VERIFIED NAME: _____ |__| NAME OF BUILDING
|__| NAME OF MAJOR ESTABLISHMENT IN BUILDING

VERIFIED STREET ADDRESS: _____

A-4. What is the phone number of this building (establishment)?

( )
AREA CODE

A-5. What is the building's ZIP Code?

_____
ZIP CODE

BOX 3

- IF AREA SAMPLE: CHECK TO SEE IF THE BUILDING'S ZIP IS LISTED ON THE LABEL (CHECK ONE BOX)

  |__| BUILDING ZIP IS LISTED: CONTINUE WITH INTERVIEW.

  |__| BUILDING ZIP IS NOT LISTED: VERIFY THAT YOU ARE AT THE CORRECT ADDRESS AND WITHIN THE SEGMENT BOUNDARIES. IF YOU ARE, CONTINUE WITH INTERVIEW. IF NOT, DISCONTINUE AND CALL YOUR SUPERVISOR.

- IF SPECIAL BUILDING SAMPLE: VERIFY THAT YOU ARE AT CORRECT ADDRESS AND CONTINUE WITH INTERVIEW.

B. PRINCIPAL BUILDING ACTIVITIES

B-1. What is the gross or total square footage of all the space enclosed within the exterior walls of this building? Please include indoor parking facilities and basements, and all space such as hallways, lobbies, stairways and elevator shafts both finished and unfinished.

_____ (B-3)
TOTAL SQUARE FOOTAGE

DON'T KNOW. 9-8 (B-2)

B-2. Here is a card that has several broad categories of total square feet. (HAND CARD 1) Which category in your estimation best applies to the total square feet in this building, including all areas just mentioned?

HAND CARD 1

5,000 square feet or less. 01	100,001 to 200,000 square feet. . . . 06
5,001 to 10,000 square feet. . . . 02	200,001 to 500,000 square feet. . . . 07
10,001 to 25,000 square feet . . . 03	500,001 to 1 million square feet. . . 08
25,001 to 50,000 square feet . . . 04	Over 1 million square feet. 09
50,001 to 100,000 square feet. . . 05	DON'T KNOW. 98

B-3. The purpose of the next few questions is to find out about the kinds of activities that occur within this building. By activity we mean what the building is used for. For example, space in a building may be used for (INTERVIEWER OBSERVATION OF BUILDING ACTIVITY).

Is any part of the building used for residential purposes? By residential we mean living quarters with kitchen facilities.

YES 1 (B-4)
NO. 2 (B-5)

B-4. Approximately what percentage of the (MENTION SQUARE FEET FROM B-1 OR B-2) square feet in the building is used for residential purposes?

100% . . . . . 1 (TERMINATE INTERVIEW)
75-99% 2 (C-1)
25-74% 3 (B-9)
LESS THAN 25%. 4 (B-5)
DON'T KNOW 8 (B-5)

B-5 INTERVIEWER:
CODE BEST DESCRIPTION BASED ON YOUR OBSERVATION AND GO TO B-5a.

B-5a Considering all of the (MENTION SQUARE FEET FROM B-1 OR B-2) square feet in this building, would you estimate that 75 percent or more of this space (is used for/is) (READ BUILDING ACTIVITY DESCRIPTION FOR CLASSIFICATION CODE CIRCLED)?

ACTIVITY	CIRCLE ONE	YES	NO
a. VACANT	01	1 (B-10a)	2 (B-7)
b. OFFICE/PROFESSIONAL BUILDING	02	1 (C-1)	2 (B-7)
c. SHOPPING CENTER/MALL/RETAIL/SERVICE	03	1 (C-1)	2 (B-7)
d. ASSEMBLY BUILDING	04	1 (C-1)	2 (B-7)
e. FOOD SALES	05	1 (C-1)	2 (B-7)
f. PUBLIC ORDER AND SAFETY	06	1 (C-1)	2 (B-7)
g. OUT-PATIENT HEALTH SERVICES/CLINIC	07	1 (C-1)	2 (B-7)
h. INDUSTRIAL PROCESSING AND MANUFACTURING	08	1 (TERMINATE)	2 (B-6)
i. AGRICULTURAL PURPOSES	09	1 (TERMINATE)	2 (B-6)
j. LABORATORY	10	1 (C-1)	2 (B-7)
k. REFRIGERATED WAREHOUSE OR STORAGE	11	1 (C-1)	2 (B-7)
l. NONREFRIGERATED WAREHOUSE OR STORAGE	12	1 (C-1)	2 (B-7)
m. EDUCATION	13	1 (B-10m)	2 (B-7)
n. FOOD SERVICES	14	1 (B-10n)	2 (B-7)
o. HOSPITAL/IN-PATIENT HEALTH SERVICES (IHS)	15	1 (B-10o)	2 (B-7)
p. SKILLED NURSING/OTHER RESIDENTIAL CARE (NURSING HOME)	16	1 (B-10p)	2 (B-7)
q. HOTEL/MOTEL/DORM, ETC.	17	1 (B-10q)	2 (B-7)
r. RESIDENTIAL	18	1 (C-1)	2 (B-7)
s. OTHER (SPECIFY): _____ _____	19	1 (C-1)	2 (B-7)

B-6. Would you estimate that 50 percent or more of the space in this building is used for (industrial/agricultural) activities?

YES . . . . . 1 (TERMINATE INTERVIEW)
NO. 2 (B-7)

B-7. Considering all of the (MENTION SQUARE FEET FROM B-1 OR B-2) square feet in this building, is there one main activity that occupies 75 percent or more of the space?

YES 1 (B-8)
NO. 2 (B-9)

B-8 Here is a card with a list of activities that may take place within a building. (HAND CARD 2) Please tell me me which activity occupies over 75% of the space in this building? (CIRCLE ONE)

B-9 Here is a card with a list of activities that may take place in a building. Please tell me which activities occupy space in this building?

HAND CARD 2

ACTIVITY	CIRCLE ONE	B-9A OCCUPIES SPACE (CIRCLE ALL THAT APPLY)	B-9B Approximately what percentage of space does this activity occupy?	B-10
a. VACANT SPACE	01 (B-10a)	01 →	% →	a. IF MORE THAN 50% VACANT, ASK: (What was this vacant space previously used for?/OR IF NEVER USED: What was this space intended to be used for?)
b. OFFICE/PROFESSIONAL BUILDING	02 (C-1)	02 →	%	
c. SHOPPING CENTER/MALL/RETAIL	03 (C-1)	03 →	%	
d. ASSEMBLY BUILDING	04 (C-1)	04 →	%	
e. FOOD SALES	05 (C-1)	05 →	%	
f. PUBLIC ORDER AND SAFETY	06 (C-1)	06 →	%	
g. OUT-PATIENT HEALTH SERVICES	07 (C-1)	07 →	%	
h. INDUSTRIAL AND MANUFACTURING	08 (TERMINATE)	08 →	%	
I. AGRICULTURAL PURPOSES	09 (TERMINATE)	09 →	%	
j. LABORATORY	10 (C-1)	10 →	%	
k. REFRIG. WAREHOUSE OR STORAGE	11 (C-1)	11 →	%	
l. NONREFRIG. WAREHOUSE OR STORAGE	12 (C-1)	12 →	%	
m. EDUCATION	13 (B-10m)	13 →	_____ % →	B-10 m. How many students can be seated in the classrooms in this building at one time? _____ STUDENTS
n. FOOD SERVICES	14 (B-10n)	14 →	_____ % →	n. What is the seating capacity of this facility? _____ SEATS
o. HOSPITAL/INPATIENT HEALTH SERVICES	15 (B-10o)	15 →	_____ % →	o. What is the licensed bed capacity of this facility? _____ BEDS
p. SKILLED NURSING/OTHER RES. CARE	16 (B-10p)	16 →	_____ % →	p. What is the licensed bed capacity of this facility? _____ BEDS
q. HOTEL/MOTEL/DORM, ETC.	17 (B-10q)	17 →	_____ % →	q. How many guest rooms are there in this facility? _____ ROOMS
r. RESIDENTIAL	18 (C-1)	18 →	_____ %	
s. OTHER (SPECIFY) _____ _____	19 (C-1)	19 →	_____ %	

TOTAL SHOULD EQUAL 100%

ASK ALL APPROPRIATE B-10 QUESTIONS BEFORE GOING TO C-1

(10/86)

C. BUILDING OWNERSHIP AND OCCUPANCY CHARACTERISTICS

C-1. Is the building owned by: (READ EACH CATEGORY SEPARATELY)

	YES	NO	DK
1. A Federal Government agency?.	1	2	8
2. A State Government agency?.	1	2	8
3. A Local Government agency?.	1	2	8

C-2. Is the building owner, or the owner's business, an occupant of this building?

YES 1
NO. 2
DON'T KNOW. 8

C-3. My next few questions are about the establishments in this building. Approximately how many people work in (all of the establishments that occupy/the establishment that occupies) this building during most of the year?

_____ (C-5)
NUMBER OF PEOPLE

DON'T KNOW OR WON'T ESTIMATE. 9-8 (C-4)

C-4. Here is a card which shows categories. (HAND CARD 3) Which category in your estimation best applies to the number of people who work in the building?

HAND CARD 3

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

C-5. What were the usual operating hours for the building during calendar year 1986? By "in operation," we mean the usual number of hours each day at least 50% of the building's square footage was in full use. Let's start with: (READ EACH DAY)

DAY(S)	TIME	OPEN 24 HOURS	NOT OPEN
Monday through Friday	_____ AM to _____ AM PM PM	☐	☐
Saturday	_____ AM to _____ AM PM PM	☐	☐
Sunday	_____ AM to _____ AM PM PM	☐	☐
Holidays	_____ AM to _____ AM PM PM	☐	☐

D. BUILDING ENVELOPE CHARACTERISTICS

D-1. Now I would like to ask you some questions about the physical characteristics of the building. When was the construction of the major or largest portion of the building completed?

_____ (D-3)
YEAR

DON'T KNOW. 9-8 (D-2)

D-2. Here is a card which has several categories of years. (HAND CARD 4) Which category in your estimation best contains the year the largest portion of the building was completed?

HAND CARD 4

1900 or before. 01
1901-1920 02
1921-1945 03
1946-1960 04
1961-1970 05
1971-1973 06
1974-1979 07
1980-1983 08
1984 to present 09
DON'T KNOW. 98

D-3. How many floors are in the tallest section of the building? Please include basements, floors that may be used as a parking garage, or any other floors below ground level.

_____
OF FLOORS

D-4. Approximately what percentage of the exterior wall surface of this building is covered with glass doors or window glass? By glass doors or window glass we mean glass that can be seen through from the inside.

_____ (D-6)
PERCENT

DON'T KNOW. 998 (D-5)

D-5. Here is a card that shows categories. (HAND CARD 5) Which category, in your estimation, best describes the percent of the exterior wall surface of this building that is covered with glass doors or window glass?

HAND CARD 5

0 percent 1
1-25 percent. 2
26-50 percent 3
51-75 percent 4
76 percent or more. 5
DON'T KNOW. 8

D-6. Here is a card that shows different types of construction materials. (HAND CARD 6) What is the major type of exterior wall construction material used on this building? [CODE ONLY ONE RESPONSE]

HAND CARD 6

Glass exterior coverings that are not window glass (such as glass blocks or spandrels)	01
Concrete panels	02
Brick, stone, stucco, or other masonry over wood frame	03
Wood, plastic or metal siding over wood frame	04
Metal siding - over masonry wall	05
Brick, stone, stucco or other masonry wall over masonry wall (solid masonry wall)	06
Brick, stone, stucco or other masonry wall over a steel frame	07
Pre-engineered metal or light-weight metal panel	08
Other (SPECIFY) _____	09
DON'T KNOW	98

D-7. Now I would like to ask you a few questions about the roof on this building. (HAND CARD 7) Here is a card that shows different size categories. Which of these square footage categories, in your estimation, best describes the total exposed surface area of the roof on this building?

HAND CARD 7

5,000 square feet or less	01
5,001 to 10,000 square feet	02
10,001 to 25,000 square feet	03
25,001 to 50,000 square feet	04
50,001 to 100,000 square feet	05
100,001 to 200,000 square feet	06
200,001 to 500,000 square feet	07
500,001 to 1 million square feet	08
Over 1 million square feet	09
DON'T KNOW	98

D-8. Here is a card with different types of roofing materials. (HAND CARD 8) Which of the following best describes the building's major type of roof surface? [CODE ONLY ONE RESPONSE]

HAND CARD 8

Wood shingles, shakes and other wooden materials	01
Slate or tile	02
Shingles - asphalt, fiberglass, etc.	03
Built-up (tar, felts or fiberglass and a ballast, such as stone)	04
Metal surfacing	05
Single ply synthetic (plastic/rubber)	06
Other (SPECIFY) _____ _____	07
DON'T KNOW	98

E. HEATING AND COOLING SYSTEMS

E-1. What percentage of the total square footage in this building you mentioned before is heated to at least 50 degrees Fahrenheit? (Be sure to include basements or enclosed garages if they are heated to at least 50 degrees.)

_____
PERCENTAGE

DON'T KNOW. 998

E-2. What percentage of the square footage in this building is cooled?

_____
PERCENTAGE

DON'T KNOW. 998

> IF BOTH OF THE PERCENTAGES HEATED AND COOLED ARE ZERO, THEN SKIP TO SECTION F. OTHERWISE CONTINUE.

E-3. Here is a card that shows primary heating and cooling equipment. (HAND CARD 9) During the 1986 calendar year did this building use:

HAND CARD 9

HEATING OR COOLING EQUIPMENT	YES	NO	DON'T KNOW
a) Boilers inside the building?	1	2	8
b) Furnaces that heat air directly, without using steam or hot water coils?	1	2	8
c) Water source heat pump?	1	2	8
d) Air source heat pump?	1	2	8
e) Central cooling (for example, chillers)?	1	2	8
f) Electric baseboards, individual space heaters, free-standing or mounted in walls or floors?	1	2	8
g) Individual air conditioners, mounted through the walls or windows?	1	2	8
h) Packaged rooftop units used for heating?	1	2	8
i) Packaged rooftop units used for cooling?	1	2	8
j) Evaporative cooler (that is, "swamp coolers")?	1	2	8
k) Some other heating or cooling equipment?	1	2	8
(SPECIFY) _____			

E-4. Now think about the system or systems which distribute heating and cooling throughout the building. (HAND CARD 10)

HAND CARD 10

A How was heating or cooling delivered throughout this building in 1986? Did you use:				B FOR EACH DISTRIBUTION SYSTEM MENTIONED IN COLUMN A, ASK: Did the system deliver heating or cooling, or both in 1986?			
SYSTEM TYPE	YES	NO	DON'T KNOW	HEATING ONLY	COOLING ONLY	BOTH HEATING AND COOLING	DON'T KNOW
a) Forced air distributed through ducts?	1	2	8	1	2	3	8
b) Fan-coil units? (These are thermostatically controlled units in individual rooms. Hot or cold water or steam must be piped into the unit, and it has a built-in fan.)	1	2	8	1	2	3	8
c) Steam radiators or baseboards?	1	2	8				
d) Hot water baseboards or radiators?	1	2	8				
e) Heating panels in the walls, ceiling or floors?	1	2	8				
f) Some other system? (SPECIFY) _____ _____ _____	1	2	8	1	2	3	8

(10/86)

E-5. Other than maintenance personnel, do most tenants in the building have control over the heating temperatures; that is, are they able to turn the heating on or off, or to set the temperature in their area? How about for cooling?

HEATING		COOLING
YES 1	→	YES 1
NO. 2		NO. 2
NO HEATING. . . 7		NO COOLING. . . 7
DON'T KNOW. . . 8		DON'T KNOW. . . 8

E-6. As part of the building's standard operating procedure, do you reduce the amount of heating produced during the hours when the building is not in full use? How about for cooling?

HEATING		COOLING
YES 1	→	YES 1
NO. 2		NO. 2
NO HEATING. . . 7		NO COOLING. . . 7
DON'T KNOW. . . 8		DON'T KNOW. . . 8

E-7. Was any space in the building vacant or unoccupied for at least 3 consecutive months during calendar year 1986?

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

E-8. Approximately what percentage of the square feet was vacant or unoccupied for at least 3 consecutive months during 1986?

_____
PERCENTAGE VACANT

DON'T KNOW. 998

E-9. During that time, was there a reduction in the amount of heating or cooling supplied to the vacant or unoccupied area compared to what it would have received if it were occupied?

YES 1
NO. 2
DON'T KNOW. 8

F. THE LIGHTING SYSTEM

The next set of questions pertains to the lighting system in this building.

F-1. What percentage of the total square footage of the interior of the building is lit electrically. . .

a) During usual operating hours?

_____ %

BUILDING NOT LIT. 997
DON'T KNOW. 998

b) During off hours?

_____ %

BUILDING NOT LIT. 997
DON'T KNOW. 998

IF BUILDING NEVER LIT (F-1a AND F-1b = "NOT LIT"), SKIP TO SECTION G.

F-2. Here is a card which lists the different types of lighting equipment. (HAND CARD 11)

HAND CARD 11

What percentage of the electrically lighted interior space of this building is lit by:	% FOR EACH LIGHTING TYPE
a. Energy Efficient Incandescent bulbs?	_____ %
b. Standard incandescent bulbs?	_____ %
c. Energy efficient fluorescent lights?	_____ %
d. Standard Fluorescent lights?	_____ %
e. High Intensity Discharge lights such as mercury vapor, metal halide and sodium lights?	_____ %
f. Some other electric lighting equipment? (SPECIFY) _____ _____	_____ %
	TOTAL SHOULD EQUAL 100%

G. ENERGY CONSERVATION PRACTICES

G-1. Was an energy audit ever performed in this building?

YES . . . . . 1 (PLACE CHECK (✓) ABOVE COL. D AND GO TO G-2)
NO. 2 (G-3)
DON'T KNOW. 8 (G-3)

G-2. In what year was it performed? _____ YEAR

DON'T KNOW. 9-8 (G-3)

IF MORE THAN ONE AUDIT, OBTAIN DATE OF MOST RECENT.

a. IF IN 1986: In what month? _____ MONTH

DON'T KNOW. 9-8

G-3. This next section deals with energy conservation measures in place in this building as of December 31, 1986.

ASK ABOUT EACH FEATURE IN THIS COLUMN; THEN GO BACK AND WORK ACROSS GRID FOR EACH "YES."

FEATURE	COLUMN A YES	COLUMN A NO	COLUMN A DK	COLUMN B DK	COLUMN B INSTALLED	COLUMN B ADDED
a. Does your HVAC system (heating and/or cooling system) have:						
1. A variable air volume (VAV) system?.....	1	2	8	8	1	2 →
2. Any waste heat recovery equipment?.....	1	2	8	8	1	2 →
3. Any other HVAC conservation measures?..... (SPECIFY) _____	1	2	8	8	1	2 →
b. Does your lighting system have:						
4. High efficiency ballasts?.....	1	2	8	8	1	2 →
5. Lighting control sensors that detect natural light (daylighting controls)?.....	1	2	8	8	1	2 →
6. Other lighting controls such as occupancy sensors, timed switches and/or time clocks?.....	1	2	8	8	1	2 →
7. Any other lighting system conservation features?..... (SPECIFY) _____	1	2	8	8	1	2 →
c. Are any of these features present in the building shell:						
8. Roof or ceiling insulation?.....	1	2	8	8	1	2 →
9. Wall insulation?.....	1	2	8	8	1	2 →
10. Storm windows or double or triple-paned glass?.....	1	2	8	8	1	2 →
11. Tinted or reflective glass or shading films?.....	1	2	8	8	1	2 →
12. Exterior or interior shadings or awnings?.....	1	2	8	8	1	2 →
13. Weatherstripping or caulking?.....	1	2	8	8	1	2 →
14. Any other building shell conservation features?..... (SPECIFY) _____	1	2	8	8	1	2 →
d. Finally, does the building have:						
15. A regularly scheduled preventive maintenance program for the heating and/or cooling system?.....	1	2	8	8	1	2 →
16. A computerized energy management and control system?.....	1	2	8	8	1	2 →
17. A delamping program: removing unnecessary lights and disconnecting the associated ballasts?.....	1	2	8	8	1	2 →
18. Any other energy conservation features you would like to mention?..... (SPECIFY) _____	1	2	8	8	1	2 →

☐ CHECK (✓) IF ENERGY AUDIT

COLUMN C IF FEATURE "ADDED" ASK: When was the (FEATURE) added? Was it added in 1986, between 1980 and 1985, or before 1980?				COLUMN D ONLY ASK IF "ADDED" AND ENERGY AUDIT: Was the (FEATURE) added as a result of an energy audit?			COLUMN E IF FEATURE "ADDED" ASK: Was energy cost savings the primary reason for having the (FEATURE)?		
1986	1980-1985	BEFORE 1980	DK	YES	NO	DK	YES	NO	DK
1	2	3	8	1	2	8	1	2	8
1	2	3	8	1	2	8	1	2	8
1	2	3	8	1	2	8	1	2	8
1	2	3	8	1	2	8	1	2	8
1	2	3	8	1	2	8	1	2	8
1	2	3	8	1	2	8	1	2	8
1	2	3	8	1	2	8	1	2	8
1	2	3	8	1	2	8	1	2	8
1	2	3	8	1	2	8	1	2	8
1	2	3	8	1	2	8	1	2	8
1	2	3	8	1	2	8	1	2	8
1	2	3	8	1	2	8	1	2	8
1	2	3	8	1	2	8	1	2	8
1	2	3	8	1	2	8	1	2	8
1	2	3	8	1	2	8	1	2	8
1	2	3	8	1	2	8	1	2	8
1	2	3	8	1	2	8	1	2	8

(10/86)

H. ELECTRICITY QUESTIONS

H-1. Do you have the capability of generating your own electric power in this building?

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

H-2. Here is a list of ways in which electricity generators can be used. Please indicate the primary use of the generators in the building. (HAND CARD 12)

HAND CARD 12

a) Emergency back-up generation, for use only when there is an interruption of normal service from your utility 1 (I-1)

b) Generators used only during periods of high electric power demand. 2 (H-3)

c) Generators operating continuously for most of the year 3 (H-3)

d) Other (SPECIFY) _____ 4 (I-1)

e) DON'T KNOW 8 (I-1)

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

YES 1
NO. 2
DON'T KNOW. 8

H-4. During calendar year 1986, how many kilowatt-hours of electricity were generated in this building?

_____
KILOWATT-HOURS

ELECTRICITY NOT GENERATED IN 1986 . . 9-7 (I-1)
DON'T KNOW. 9-8

H-5. During calendar year 1986, was the electric power generated onsite:

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) DON'T KNOW 8

INTENTIONALLY LEFT BLANK

I. ENERGY SOURCES, SUPPLIERS AND WAIVERS SECTION

I-1. Here is a card which lists various types of fuels or energy sources. Which of these fuels or energy sources are brought into this building? (HAND CARD 13)

HAND CARD 13

Electricity
Natural Gas
Fuel Oil, Diesel or Kerosene which is consumed in the building
LPG or bottled gas
Purchased Steam
Steam piped in from a central plant but not purchased
Purchased Hot Water
Hot water piped in from a central plant but not purchased
Purchased Chilled Water
Chilled water piped in from a central plant but not purchased

*Wood
*Coal
*Active Solar with collector panels
*Other (RECORD IN COLUMN HEADINGS)

RECORD ENERGY SOURCES IN COLUMN HEADINGS ON TOP OF FACING PAGE, INCLUDING THE ASTERISK (*). IF MORE COLUMNS ARE NEEDED, USE CONTINUATION BOOKLET.

I-2. HAS R MENTIONED FUEL OIL OR DIESEL?

YES 1
NO. 2 (I-4)

I-3. Think about the fuel oil storage tanks for this building. What is the total capacity, in gallons, of all the fuel oil storage tanks?

_____
GALLONS OF TOTAL FUEL OIL
STORAGE TANK CAPACITY

DON'T KNOW. 9-8

(10/86)

INTENTIONALLY LEFT BLANK

I-4. (HAND RESPONDENT CARD 13.) Which of the fuels or energy sources listed on this card are used to supply the building's need for: (RECORD RESPONSES BY CHECKING APPROPRIATE COLUMN(S) ON FACING PAGE OR "NOT PERFORMED.")

HAND CARD 13

	NOT PERFORMED IN BUILDING
a. The primary fuel for space heating?	☐
b. The secondary fuel for space heating? . . .	☐
c. Cooling?.	☐
d. The primary fuel for water heating other than for heating the building	☐
e. The secondary fuel for water heating? . . .	☐
f. Commercial cooking?	☐
g. Manufacturing or any other type of industrial activity?.	☐
h. Fuel used to generate electricity (other than for emergency back-up) in this building?	☐

ASK I-5 THROUGH I-14 CONSECUTIVELY FOR EACH ENERGY SOURCE RECORDED IN THE COLUMN HEADINGS ON TOP OF FACING PAGE THAT DOES NOT HAVE AN ASTERISK (*).

The following questions ask about specific companies that supply energy to this building.

I-5. May I have the name and address of the company that has supplied (MENTION ENERGY SOURCE) during calendar year 1986? (RECORD COMPLETE SUPPLIER NAME AND ADDRESS UNDER APPROPRIATE ENERGY SOURCE. IF MORE THAN ONE SUPPLIER IS MENTIONED, RECORD ADDITIONAL SUPPLIERS IN CONTINUATION BOOKLET, IF NECESSARY.)

I-6. Has any other company supplied the building's (ENERGY SOURCE) in the past year?

YES . . . . . .
NO. . . . . .
DON'T KNOW. . . . . .

a. . . . [ ] b. . . . [ ] c. . . . [ ] d. . . . [ ] e. . . . [ ] f. . . . [ ] g. . . . [ ] h. . . . [ ]	a. . . . [ ] b. . . . [ ] c. . . . [ ] d. . . . [ ] e. . . . [ ] f. . . . [ ] g. . . . [ ] h. . . . [ ]	a. . . . [ ] b. . . . [ ] c. . . . [ ] d. . . . [ ] e. . . . [ ] f. . . . [ ] g. . . . [ ] h. . . . [ ]	a. . . . [ ] b. . . . [ ] c. . . . [ ] d. . . . [ ] e. . . . [ ] f. . . . [ ] g. . . . [ ] h. . . . [ ]
YES . . . 1 NO. . . . 2 (I-8) DK. . . . 8 (I-8)	YES . . . 1 NO. . . . 2 (I-8) DK. . . . 8 (I-8)	YES . . . 1 NO. . . . 2 (I-8) DK. . . . 8 (I-8)	YES . . . 1 NO. . . . 2 (I-8) DK. . . . 8 (I-8)

I-7. What (is/are) the name(s) and address(es) of the other company(ies) that supplied (MENTION ENERGY SOURCE) in the past year? (RECORD INFORMATION ON FACING SHEET OR IN CONTINUATION BOOKLET)

I-8. Is the building occupied by one, or more than one establishment, organization, company or agency?

NONE, COMPLETELY VACANT. 1 (I-12)
ONE. 2 (I-12)
MORE THAN ONE. 3 (I-9)
DON'T KNOW 8 (I-12)

I-9. Is there a bill from (SUPPLIER) for (ENERGY SOURCE) for the entire building or are any of the tenants or establishments billed separately?

ONE BILL. . . . . .
MORE THAN ONE BILL. . . . . .

I-10. How many separately billed tenants are there?

I-11. We would like to contact each tenant or establishment who receives a bill from (NAME OF SUPPLIER) to obtain information about each one's energy consumption. Please tell me the name of each company, organization or agency that received a bill from (NAME OF SUPPLIER) for the building's use of (NAME OF ENERGY SOURCE) during calender year 1986?

IF LIST IS NOT PROVIDED, RECORD NAME AND ADDRESS OF EACH TENANT WHO RECEIVES A SEPARATE BILL ON A "SUPPLIER CUSTOMER SHEET."

I-12. What is the name and address of the person or company who receives the bill for this building's use of (MENTION ENERGY SOURCE) from the (NAME OF SUPPLIER)?

NAME. . . . . .

ADDRESS . . . . . .

ZIP CODE. . . . . .

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. . . . . 1 (I-12) 2 (I-10)	. . . . . 1 (I-12) 2 (I-10)	. . . . . 1 (I-12) 2 (I-10)	. . . . . 1 (I-12) 2 (I-10)
NUMBER OF BILLS	NUMBER OF BILLS	NUMBER OF BILLS	NUMBER OF BILLS
LIST PROVIDED. . 1 NOT PROVIDED . . 2 GO TO NEXT COL. OR I-15.	LIST PROVIDED. . 1 NOT PROVIDED . . 2 GO TO NEXT COL. OR I-15.	LIST PROVIDED. . 1 NOT PROVIDED . . 2 GO TO NEXT COL. OR I-15.	LIST PROVIDED. . 1 NOT PROVIDED . . 2 GO TO NEXT COL. OR I-15.

(10/86)

I-13. Does the bill you receive from (NAME OF SUPPLIER) cover just this building or does it cover another building?

JUST THIS BUILDING. . . . . .
ALSO COVERS ANOTHER BUILDING. . .
DON'T KNOW. . . . . .

I-14. What is the approximate square footage of the other buildings that are served by this bill?

BOX 4

CHECK NEXT COLUMN ON FACING SHEET AND CONTINUATION BOOKLET.

- IF NO OTHER ENTRIES, GO TO I-15.

- OTHERWISE, GO TO I-5 (FOR ENERGY SOURCE WITHOUT *)
  OR I-9 (FOR ADDITIONAL SUPPLIER)

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. . . . . 1 (BOX 4) . . . . . 2 (I-14) . . . . . 8 (BOX 4)	. . . . . 1 (BOX 4) . . . . . 2 (I-14) . . . . . 8 (BOX 4)	. . . . . 1 (BOX 4) . . . . . 2 (I-14) . . . . . 8 (BOX 4)	. . . . . 1 (BOX 4) . . . . . 2 (I-14) . . . . . 8 (BOX 4)
SQUARE FOOTAGE DON'T KNOW. . . 9-8	SQUARE FOOTAGE DON'T KNOW. . . 9-8	SQUARE FOOTAGE DON'T KNOW. . . 9-8	SQUARE FOOTAGE DON'T KNOW. . . 9-8

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WAIVERS

I-15. As I mentioned, the purpose of this study is to relate building characteristics with energy consumption and expenditures. This information can only be obtained by going directly to each energy supplier of this 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.

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

RESPONDENT. . . . . 1 (OBTAIN WAIVER)
SOMEONE ELSE (SPECIFY). . . . . 2 (RECORD BELOW)

NAME: _____

TITLE: _____

ADDRESS: _____

CITY, STATE, ZIP: _____

PHONE NUMBER: _____

I-16. CHECK LABEL: HAS THIS BUILDING BEEN SELECTED FOR THE SUPPLEMENT?

YES. . . . . 1 (RECORD TIME BELOW AND GO TO SUPPLEMENT)
NO 2

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

TIME ENDED: _____

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* MEANS DO NOT ASK QUESTIONS I-5 THROUGH I-14 FOR THIS ENERGY SOURCE.

	ENERGY SOURCES			
	TYPE OF ENERGY	TYPE OF ENERGY	TYPE OF ENERGY	TYPE OF ENERGY
	SUPPLIERS			
NAME:				
ADDRESS:				
ZIP:				

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INTERVIEWER OBSERVATIONS

FILL THIS OUT IF YOU COMPLETE THE BUILDING INTERVIEW.

1. Does the interview's definition of the building agree with the listing sheet (BOX 2 = "CORRECT")?

YES, AGREES WITH LISTING 1 (Q.3)
NO 2

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

NAME: _____

ADDRESS: _____

_____

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

NAME: _____

ADDRESS: _____

_____

C. Please explain the circumstances of the disagreement between listing and interview definition of the building.

_____

_____

_____

3. 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 (Q.4)
NO 2 (Q.5)

4. Please list all other respondents.

NAME: _____

TITLE: _____

LOCATION: _____ PHONE NO. ( ) _____

NAME: _____

TITLE: _____

LOCATION: _____ PHONE NO. ( ) _____

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

_____

_____

_____

6. ANSWER IF INDUSTRIAL BUILDING IS MENTIONED IN QUESTION 5: Is this building part of an industrial establishment, campus or complex?

YES. 1
NO 2

7. Is this building free standing or attached to another building?

FREE STANDING. 1
ATTACHED 2

8. Please describe any unusual circumstances you may have encountered in obtaining the waiver. (If you did not obtain the waiver, explain who refused and why.)

_____

_____

_____

_____

_____

9. IF SHOPPING CENTER/MALL:

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

STRIP SHOPPING CENTER. 1
ENCLOSED MALL. 2

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

LESS THAN 10 1
10-24. 2
25-49. 3
50-74. 4
75-100 5
OVER 100 6

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NON-INTERVIEW 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 (Q.4)
RESPONDENT CANNOT 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 s/he refuse? (RECORD VERBATIM) OR: Why were there problems contacting the respondent?

_____

_____

_____

_____

_____

_____

_____

_____

_____

SKIP TO Q.5

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

YES. 1
NO 2
DON'T KNOW 8

7. What is the length of the building along the street (linear footage)? IF YOU CAN'T ESTIMATE, ENTER NUMBER OF "CAR LENGTHS" ALONG THE STREET.

_____
LENGTH IN FEET

OR

_____
CAR LENGTHS

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

_____
OF FLOORS

(10/86)

SUPPLIER CUSTOMER SHEET

ENERGY SOURCE: _____

SUPPLIER'S NAME: _____

I-11 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 _____	_____ _____

(10/86)

SUPPLIER CUSTOMER SHEET

ENERGY SOURCE: _____

SUPPLIER'S NAME: _____

I-11 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 _____	_____ _____

(10/86)

SUPPLIER CUSTOMER SHEET

ENERGY SOURCE: _____

SUPPLIER'S NAME: _____

I-11 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 _____	_____ _____

(10/86)

SUPPLIER CUSTOMER SHEET

ENERGY SOURCE: _____

SUPPLIER'S NAME: _____

I-11 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 _____	_____ _____

(10/86)

SUPPLIER CUSTOMER SHEET

ENERGY SOURCE: _____

SUPPLIER'S NAME: _____

I-11 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 _____	_____ _____

(10/86)