2007 Commercial Buildings Energy Consumption Survey (CBECS)

Mall Establishment Questionnaire - *Form EIA-871J*

HOW TO USE THIS QUESTIONNAIRE

The purpose of this questionnaire is to document the question text, fills, and skip patterns within the 2007 CBECS questionnaire, which is a *computer-assisted personal interview* programmed using a software called Blaise.

PLEASE NOTE: All fills and skip patterns will be transparent to the interviewer.

Each question is formatted as follows:

A1	Question name	*SASVAR9*
ASK		
FILL		
Question text		
RANGE		
NEXT		

The **black box** (A1 here) contains a question number, followed by the **Question name** and the *SAS variable* (if applicable) in the same row. If the SAS variable area says "*see below,*" the variables are found within the Question text box.

The **ASK** line describes what needs to be true for a question to be asked. The first line of each ASK box describes the type of structures that are asked the question. There are 4 different possible structure types (and this information is preloaded into each case):

In the ASK box, <u>at least one</u> of the statements must be true.

There are two variables that are preloaded into each case and used for routing in some questions:

- Freestanding – a building that is not attached on any sides
- Enclosed mall – the building is an enclosed mall building

The **FILL** line describes any question fills and the conditions under which each appears. If the fill appears as something such as "A1 [Square footage]" this means that the figure given in question A1 will be filled in.

The **Question text** box shows the question text, and any other elements for each question, such as Show Card indicators or instructions, and the answer choices for each question.

The **RANGE** line is only applicable to numeric questions. It shows the range of answers that will be accepted by Blaise.

The **NEXT** line details the routing for the next question. Follow these instructions <u>in order</u>. Once a true statement is reached, go to the question indicated by the arrow (➜).

WORKSHEET AND RESPONDENT QUESTIONS

WS	Worksheet 1	WS1RS09 – WS1RS99
ASK	All cases not yet done with Section E	

Do you have Worksheet 1 with you and completed?

    1   Yes
    2   No

NEXT	IF First time case started ➔ R1 [Respondent title] IF Restart ➔ R2 [Respondent title]

R1	Respondent function	RJOBRS09
ASK	All cases on first start	

📄SHOW CARD R1

◆   Take out the Show Card booklet. It is <u>very important</u> to use
these cards, as some of them contain more information
than can be found on your CAPI screens

Before we get started, I'm going to give you this booklet of Show Cards to look at for some of the questions.
Please turn to Show Card R1.

Looking at this list, please tell me which of these best describes your job function.

     1   Operations, maintenance, or engineering
     2   Property management
     3   Store management
     4   Mall management
     5   Administration or company management
     6   Energy or environmental management
     7   Building owner
     8   Business owner
     9   Accounting, finances, or payroll
   10   Executive official
   11   School official
   12   Religious official
   13   Support staff
   14   Other

NEXT	IF Other ➔ R3 [Other job function] Anything but Other ➔ A1 [Square footage]

R2	Respondent function	*RJOBRS19 – RJOBRS99*

ASK	All restarted cases

◆   ASK if interview is with a new respondent

◆   If interview is with same respondent as previous interview, ENTER "0"

📄SHOW CARD R1

Before we get started, I'm going to give you this booklet of Show Cards to look at for some of the questions. Please turn to Show Card R1.

Looking at this list, please tell me which of these best describes your job position.

    0   Same respondent as previous interview
    1   Operations, maintenance, or engineering
    2   Property management
    3   Store management
    4   Mall management
    5   Administration or company management
    6   Energy or environmental management
    7   Building owner
    8   Business owner
    9   Accounting, finances, or payroll
   10   Executive official
   11   School official
   12   Religious official
   13   Support staff
   14   Other

NEXT	IF Other ➔ R3 [Other job function] Anything but Other ➔ A1 [Square footage]

R3	Other job function	*RJOBXR09 – RJOBXR99*

ASK	IF R1 or R2 [Respondent function] = Other

What is your job function?

NEXT	➔ A1 [Square footage]

SECTION A: <u>BUILDING SIZE AND AGE</u>

A1	Square footage	*SQFT9*
ASK	All Establishments	
FILL	**{Worksheet1Intro}** IF R has Worksheet 1 = "Please refer to Worksheet 1 for some of these next questions on general characteristics." OTHERWISE = BLANK	

HELP <F1>

{Worksheet1Intro}

What is the gross or total square footage of all the space in this establishment both finished and unfinished, including basements, hallways, lobbies, stairways, and elevator shafts?

◆   DEF: [Total square footage = Length of building multiplied by width of building multiplied by the number of floors.]

◆   VERIFY number <u>digit by digit</u>

RANGE	1 to 999,999,999
NEXT	IF DK/RF ➔ A2 [Square footage category] OTHERWISE ➔ B1 [Interviewer establishment activity]

A2	**Square footage category**	*SQFTC9*
ASK	IF A1 [Square footage] = DK/RF	

HELP <F1>

📄SHOW CARD A1

I understand that it may be difficult to give an exact figure for square footage. However, the size of your establishment is very important in helping understand its use of energy.

Please look at this list and tell me which category best describes the total gross square footage in this establishment. There are examples provided to help you estimate.

◆   If respondent gives the category code,
     VERIFY the response by reading the full answer

     1   1,000 square feet or less
     2   1,001 to 5,000 square feet
     3   5,001 to 10,000 square feet
     4   10,001 to 25,000 square feet
     5   25,001 to 50,000 square feet
     6   50,001 to 100,000 square feet
     7   100,001 to 200,000 square feet
     8   200,001 to 500,000 square feet
     9   500,001 to 1 million square feet
    10   Over 1 million square feet

NEXT	➔ B1 [Interviewer establishment activity]

SECTION B: <u>BUILDING ACTIVITY</u>

B1	Verify establishment activity	*PEAVER9*
ASK	IF Interviewer-coded establishment activity ≠ Other	
FILL	**{Activity}** IF Retail Shop = "retail shop" IF Food Sales = "food sales" IF Food Service = "food service" IF Dry Cleaner/Laundromat = "dry cleaner/laundromat" IF Office/Financial = "office/financial" IF Medical/Dental = "medical/dental" IF Movie theatre/Cinema = "movie theatre/cinema" IF Beauty Salon/Tanning Salon = "beauty salon/tanning salon" IF Vacant = "vacant"	

HELP <F1>

I have recorded that the primary activity in this establishment is {Activity}. Is this correct?

    1   Yes
    2   No

NEXT	IF Yes ➔ C1 [Occupied/vacant all 2007] IF No OR DK/RF ➔ B2 [Establishment activity]

B2	Establishment activity	*PEA9*
ASK	IF Interviewer establishment activity = Other IF B1 [Verify establishment activity] = No	

HELP <F1>

📄SHOW CARD B1

Looking at this list of activities, which one of these accounts for the majority of the floorspace in the establishment?

    01   Retail shop
    02   Food sales
    03   Food service
    04   Dry cleaner/Laundromat
    05   Office/Financial
    06   Medical/Dental
    07   Movie theatre/Cinema
    08   Beauty salon/tanning salon
    09   Vacant
    10   Other

NEXT	IF Other ➔ B3 [Specify other activity] OTHERWISE ➔ C1 [Occupied/vacant all 2007]

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SECTION B: <u>BUILDING ACTIVITY</u>

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B3	Specify other activity
ASK	IF B2 [Establishment activity] = Other

Please describe this other type of activity.

   ◆   RECORD in open box

| NEXT | ➔ C1 [Occupied/vacant all 2007] |

SECTION C. OCCUPANCY AND OPERATING HOURS

C1	Occupied/vacant all 2007	*ESTOCC9*
ASK	All Establishments	
FILL	**{VacOcc}** IF CBECS Activity = Vacant = "been vacant" IF CBECS Activity ≠ Vacant = "occupied this same space"	

	Has this establishment {VacOcc} for all of calendar year 2007?
	1 Yes 2 No

NEXT	IF Yes:
	    IF CBECS Activity = Vacant ➔ D1 [Heating]
	    IF CBECS Activity ≠ Vacant ➔ C3 [Number of employees]
	IF No ➔ C2 [Month occupied/vacant]
	IF DK ➔ D1 [Heating]

C2	Month occupied/vacant	*MONOCC9*
ASK	IF C1 [Occupied/vacant past 12 months] = No	
FILL	**{VacOcc}** IF CBECS Activity = Vacant = "become vacant" OTHERWISE = "begin occupying this space"	

	In what month of 2007 did this establishment {VacOcc}?
	1 January 2 February 3 March 4 April 5 May 10 June 11 July 12 August 13 September 14 October 15 November 16 December
NEXT	IF CBECS Activity = Vacant ➔ D1 [Heating] OTHERWISE ➔ C3 [Number of employees]

C3	Number of employees	NWKER9

ASK	IF CBECS Activity ≠ Vacant

HELP <F1>

How many employees work <u>in the establishment</u> during the main shift, that is, when most employees are present?

◆ EXP: [Include any volunteer workers. Do not include employees who always work outside the building (such as drivers with delivery routes), customers, patients, students, or institutionalized residents.]

RANGE	0 to 99,999

NEXT	Number given ➜ D1 [Heating] DK/RF ➜ C4 [Number of employees category]

C4	Number of employees category	NWKERC9

ASK	IF C3 [Number of employees] = DK/RF

HELP <F1>

SHOW CARD C1

Which category on this list best describes how many employees work <u>in the establishment</u> during the main shift?

1   None
2   1 to 4
3   5 to 9
4   10 to 19
5   20 to 49
6   50 to 99
7   100 to 249
8   250 to 499
9   500 to 999
10   1,000 to 2,499
11   2,500 to 4,999
12   5,000 or More

NEXT	➜ D1 [Heating]

SECTION D. <u>ENERGY USE AND EQUIPMENT</u>

D1	Heating	*HT19*
ASK	All Establishments	
FILL	**{Worksheet1Intro}** IF R has Worksheet 1 = "Please continue to refer to Worksheet 1 for some of these next questions on energy sources, uses, and equipment." OTHERWISE = BLANK	

[F1]-HELP

{Worksheet1Intro}
 	
For the next five questions, please tell me if energy was used in this establishment for any of these purposes during calendar year 2007.
 	
Was any energy used for heating the establishment?
 	
     1   Yes
     2   No

NEXT	➔ D2 [Cooling]

D2	Cooling	*COOL9*
ASK	All Establishments	

[F1]-HELP

(Was any energy used...)
 	
For air conditioning?
 	
     1   Yes
     2   No

NEXT	➔ D3 [Water heating]

D3	Water heating	*WATR9*
ASK	All Establishments	

[F1]-HELP

(Was any energy used...)
 	
For heating water for purposes such as washing hands, dishes, or clothes?
 	
     1   Yes
     2   No

NEXT	➔ D4 [Cooking]

D4	Cooking	COOK9
ASK	All Establishments	

[F1]-HELP

(Was any energy used...)

For cooking?

      1   Yes
      2   No

NEXT	➔ D5 [Manufacturing]

D5	Manufacturing	COOK9
ASK	All Establishments	

[F1]-HELP

(Was any energy used...)

For manufacturing?

      1   Yes
      2   No

NEXT	IF D1 [Heating] = No & D2 [Cooling] = No & D3 [Water heating] = No & D4 [Cooking] = No & D5 [Manufacturing] = No ➔ D6 [Any energy used] OTHERWISE ➔ D7 [Electricity generation capability]

D6	**Any energy used**	*NOENGY9*

ASK	IF D1 [Heating] = No & D2 [Cooling] = No & D3 [Water heating] = No & D4 [Cooking] = No & D5 [Manufacturing] = No

I did not record any uses of energy for this establishment. Did this establishment use <u>any</u> energy in 2007 for other purposes, such as lighting or appliances?

     1   Yes, some energy was used in 2007
     2   True, no energy was used

NEXT	IF Yes, some energy was used in 2007 OR DK/RF ➜ D7 [Electricity generation capability] IF True, no energy was used ➜ E51 [Window glass type]

D7	**Electricity generation capability**	*CAPGEN9*

ASK	IF D1 [Heating] = Yes OR D2 [Cooling] = Yes OR D3 [Water heating] = Yes OR D4 [Cooking] = Yes OR D5 [Manufacturing] = Yes OR D6 [Any energy used] = Yes, some energy was used OR DK/RF

[F1]-HELP

Does this establishment have the ability to generate electricity, including for emergency backup?

     1   Yes
     2   No

NEXT	➜ D8 [Energy sources used]

D8	Energy sources used	see below
ASK	IF D1 [Heating] = Yes OR D2 [Cooling] = Yes OR D3 [Water heating] = Yes OR D4 [Cooking] = Yes OR D5 [Manufacturing] = Yes OR D6 [Any energy used] = Yes, some energy was used OR DK/RF	

[F1]-HELP

📄 SHOW CARD D1

Looking at the second list on this card, please tell me which of these energy sources were used in this establishment for any purpose in 2007.

◆ EXP: [Include fuel oil, diesel, or kerosene if it was purchased or delivered in 2007, even if it was not used during that time.]

◆ EXP: [Do not include any fuels used in vehicles outside the establishment.]

◆ PROBE for any others

◆ ENTER all that apply

11	Electricity	*ELUSED9*
12	Natural gas	*NGUSED9*
13	Fuel oil, diesel, or kerosene	*FKUSED9*
14	Bottled gas, also known as LPG or propane	*PRUSED9*
15	District steam piped in from a separate building or utility	*STUSED9*
16	District hot water piped in from a separate building or utility	*HWUSED9*
17	District chilled water piped in from a separate building or utility	*CWUSED9*
18	Wood, coal, or solar thermal panels	
24	Other source or sources	*OTUSED9*

NEXT	IF Fuel, oil, diesel, or kerosene selected ➜ D9 [Fuel oil, diesel, or kerosene] IF Wood, coal, or solar thermal panels selected ➜ D10 [Wood, coal, or solar] IF Other source or sources selected ➜ D11 [Other energy source 1] IF District steam or District hot water selected ➜ D14 [From central plant] IF DK/RF: 　　IF D7 [Electricity generation capability] = Yes ➜ D65 [Energy for generation] 　　IF D7 [Electricity generation capability] ≠ Yes ➜ E1 [Section E Routing] OTHERWISE: 　　IF D1 [Heating] = Yes ➜ D21 [Source for main heating] 　　IF D2 [Cooling] = Yes ➜ D43 [Sources for cooling] 　　IF D3 [Water heating] = Yes ➜ D58 [Sources for water heating] 　　IF D4 [Cooking] = Yes ➜ D61 [Sources for cooking] 　　IF D5 [Manufacturing] = Yes ➜ D63 [Sources for manufacturing] 　　IF D7 [Electricity generation capability] = Yes ➜ D65 [Energy for generation] 　　OTHERWISE ➜ D71 [Any other sources]

D9	**Fuel oil, diesel, or kerosene**	*FKTYPE9*
ASK	IF Fuel oil, diesel, or kerosene IN D8 [Energy sources used]	

[F1]-HELP

◆   VERIFY if volunteered in previous question

You mentioned fuel oil, diesel, or kerosene. Which of these were used [in this establishment in 2007]?

◆   ENTER all that apply

    1   Fuel oil
    2   Diesel
    3   Kerosene

NEXT	IF Wood, coal, or solar thermal panels IN D8 [Energy sources used] ➜ D10 [Wood, coal, or solar]
	IF Other source or sources IN D8 [Energy sources used] ➜ D11 [Other energy source 1]
	IF District steam or District hot water selected ➜ D14 [From central plant]
	OTHERWISE:
	IF D1 [Heating] = Yes ➜ D21 [Source for main heating]
	IF D2 [Cooling] = Yes ➜ D43 [Sources for cooling]
	IF D3 [Water heating] = Yes ➜ D58 [Sources for water heating]
	IF D4 [Cooking] = Yes ➜ D61 [Sources for cooking]
	IF D5 [Manufacturing] = Yes ➜ D63 [Sources for manufacturing]
	IF D7 [Electricity generation capability] = Yes ➜ D65 [Energy for generation]
	OTHERWISE ➜ D71 [Any other sources]

D10	**Wood, coal, or solar**	*see below*

ASK	IF Wood, coal, or solar thermal panels IN D8 [Energy sources used]

◆   VERIFY if volunteered in previous question

You mentioned wood, coal, or solar thermal panels. Which of these were used [in this establishment in 2007]?

◆   ENTER all that apply

1	Wood	*WOUSED9*
2	Coal	*COUSED9*
3	Solar thermal panels	*SOUSED9*

NEXT	IF Other source or sources IN D8 [Energy sources used] ➔ D11 [Other energy source 1]
	IF District steam or District hot water selected ➔ D14 [From central plant]
	OTHERWISE:
	IF D1 [Heating] = Yes ➔ D21 [Source for main heating]
	IF D2 [Cooling] = Yes ➔ D43 [Sources for cooling]
	IF D3 [Water heating] = Yes ➔ D58 [Sources for water heating]
	IF D4 [Cooking] = Yes ➔ D61 [Sources for cooking]
	IF D5 [Manufacturing] = Yes ➔ D63 [Sources for manufacturing]
	IF D7 [Electricity generation capability] = Yes ➔ D65 [Energy for generation]
	OTHERWISE ➔ D71 [Any other sources]

D11	**Other energy source 1**	*OTUSDX19*

ASK	IF Other source or sources IN D8 [Energy sources used]

What was the first other energy source used [in this establishment in 2007]?

◆   ENTER the first energy source used

NEXT	➔ D12 [Other energy source 2]

D12	**Other energy source 2**	*OTUSDX29*

ASK	IF Other source or sources IN D8 [Energy sources used]

Were there any other energy sources used [in this establishment in 2007]?

- ◆ ENTER the next energy source

- ◆ <ENTER> if no others

NEXT	IF Source entered here ➜ D13 [Other energy source 3]
	IF No source entered here:
	   IF District steam or District hot water selected ➜ D14 [From central plant]
	   OTHERWISE:
	     IF D1 [Heating] = Yes ➜ D21 [Source for main heating]
	     IF D2 [Cooling] = Yes ➜ D43 [Sources for cooling]
	     IF D3 [Water heating] = Yes ➜ D58 [Sources for water heating]
	     IF D4 [Cooking] = Yes ➜ D61 [Sources for cooking]
	     IF D5 [Manufacturing] = Yes ➜ D63 [Sources for manufacturing]
	     IF D7 [Electricity generation capability] = Yes ➜ D65 [Energy for generation]
	     OTHERWISE ➜ D71 [Any other sources]

D13	**Other energy source 3**	*OTUSDX39*

ASK	IF Source was entered in D12 [Other energy source 2]

Were there any other energy sources used [in this establishment in 2007]?

- ◆ ENTER the next energy source

- ◆ <ENTER> if no others

NEXT	IF District steam or District hot water selected ➜ D14 [From central plant]
	OTHERWISE:
	   IF D1 [Heating] = Yes ➜ D21 [Source for main heating]
	   IF D2 [Cooling] = Yes ➜ D43 [Sources for cooling]
	   IF D3 [Water heating] = Yes ➜ D58 [Sources for water heating]
	   IF D4 [Cooking] = Yes ➜ D61 [Sources for cooking]
	   IF D5 [Manufacturing] = Yes ➜ D63 [Sources for manufacturing]
	   IF D7 [Electricity generation capability] = Yes ➜ D65 [Energy for generation]
	   OTHERWISE ➜ D71 [Any other sources]

D14	**From central plant**	DHFRPL9

ASK	IF District steam or District hot water IN D8 [Energy sources used]

Is the district steam or hot water piped in from a central plant that is part of the same complex as your establishment?

      1   Yes
      2   No

NEXT	IF No OR DK/RF ➔ D20 [Purchase from offsite]
	IF Yes:
	    IF ONLY District steam and NOT District hot water IN D8 [Energy sources used] ➔ D16 [Plant produces district hot water]
	    OTHERWISE ➔ D15 [Plant produces district steam]

D15	**Plant produces district steam**	FACDST9

ASK	IF D14 [From central plant] = Yes IF ONLY District hot water and NOT District steam IN D8 [Energy sources used] OR District steam & District hot water IN D8 [Energy sources used]

HELP <F1>

Does the central physical plant produce...

District steam?

      1   Yes
      2   No

NEXT	IF District steam & District hot water IN D8 [Energy sources used] ➔ D16 [Plant produces district hot water] OTHERWISE ➔ D17 [Plant produces district chilled water]

D16	**Plant produces district hot water**	*FACDHW9*

ASK	IF D14 [From central plant] = Yes IF ONLY District steam and NOT District hot water IN D8 [Energy sources used] OR District steam & District hot water IN D8 [Energy sources used]

HELP <F1>

[Does the central physical plant produce...]

District hot water?

      1   Yes
      2   No

NEXT	➜ D17 [Plant produces district chilled water]

D17	**Plant produces district chilled water**	*FACDCW9*

ASK	IF D14 [From central plant] = Yes

HELP <F1>

[Does the central physical plant produce...]

District chilled water?

      1   Yes
      2   No

NEXT	➜ D18 [Plant produces electricity]

D18	**Plant produces electricity**	*FACELC9*

ASK	IF D14 [From central plant] = Yes

HELP <F1>

[Does the central physical plant produce...]

Electricity?

      1   Yes
      2   No

NEXT	IF D1 [Heating] = Yes ➜ D21 [Source for main heating] IF D2 [Cooling] = Yes ➜ D43 [Sources for cooling] IF D3 [Water heating] = Yes ➜ D58 [Sources for water heating] IF D4 [Cooking] = Yes ➜ D61 [Sources for cooking] IF D5 [Manufacturing] = Yes ➜ D63 [Sources for manufacturing] IF D7 [Electricity generation capability] = Yes ➜ D65 [Energy for generation] OTHERWISE ➜ D71 [Any other sources]

[D19 deleted]

D20	**Purchase from offsite**	*DHOFF9*
ASK	IF D14 [From central plant] = No OR DK/RF	

Is it [the district steam or hot water] purchased from somewhere off-site, such as a commercial or municipal plant?

      1   Yes
      2   No

NEXT	IF D1 [Heating] = Yes ➔ D21 [Source for main heating]
	IF D2 [Cooling] = Yes ➔ D43 [Sources for cooling]
	IF D3 [Water heating] = Yes ➔ D58 [Sources for water heating]
	IF D4 [Cooking] = Yes ➔ D61 [Sources for cooking]
	IF D5 [Manufacturing] = Yes ➔ D63 [Sources for manufacturing]
	IF D7 [Electricity generation capability] = Yes ➔ D65 [Energy for generation]
	OTHERWISE ➔ D71 [Any other sources]

D21	Source for main heating	*see below*

ASK	IF D1 [Heating] = Yes

FILL	**{Ht1SourcesList}** = List of all energy sources used **{Electricity} – {Other3}** = If a source is used, it appears in this list; if not, the line is blank **{FuelOilType}** = Type or types specified in D9 [Fuel oil, diesel, or kerosene] **{Other1} – {Other3}** = Sources specified in D11 [Other energy source 1] – D13 [Other energy source 3]

What was the <u>main</u> energy source for heating? [Was it {Ht1SourcesList}?]

◆ DEF: [The main energy source for heating is the energy source used
   to heat most of the square footage in this establishment most of the time.]

◆ EXP: [Do not include electricity if it is used only to run fan motors.]

◆ Only sources already selected are shown here

11	{Electricity}	*ELHT19*
12	{Natural gas}	*NGHT19*
13	{FuelOilType}	*FKHT19*
14	{Bottled gas}	*PRHT19*
15	{District steam}	*STHT19*
16	{District hot water}	*HWHT19*
18	{Wood}	*WOHT19*
19	{Coal}	*COHT19*
20	{Solar}	*SOHT19*
21	{Other1}	*OTHT19*
22	{Other2}	*OTHT19*
23	{Other3}	*OTHT19*
24	Some other energy source	

NEXT	IF Some other energy source ➜ D22 [Other source for main heating]
	IF Anything but Some other energy source OR DK/RF:
	   IF More than one energy source used ➜ D23 [Other sources for heating]
	   IF Only one energy source used ➜ D24 [Other sources for heating]

D22	Other source for main heating	*see below*

ASK	IF D21 [Source for main heating] = Some other energy source

What was the other energy source used for <u>main</u> space heating?

11	Electricity	*ELHT19*
12	Natural gas	*NGHT19*
13	Fuel oil/Diesel/Kerosene	*FKHT19*
14	Bottled gas	*PRHT19*
15	District steam	*STHT19*
16	District hot water	*HWHT19*
18	Wood	*WOHT19*
19	Coal	*COHT19*
20	Solar	*SOHT19*
24	Some other energy source	*OTHT19*

NEXT	➜ D23 [Other sources for heating]

D23	Other sources for heating	HT29 & see below

ASK	IF D1 [Heating] = Yes & More than one energy source used

FILL	{Ht2SourcesList} = List of all energy sources used, minus the one used for main heating {Electricity} – {Other3} = If a source is used (other than for main space heating), it appears in this list; if not, the line is blank {FuelOilType} = Type or types specified in D9 [Fuel oil, diesel, or kerosene] {Other1} – {Other3} = Sources specified in D11 [Other energy source 1] – D13 [Other energy source 3]

Which other energy sources, if any, were used for heating? [{Ht2SourcesList}]

◆ EXP: [Do not include electricity if it is used only to run fan motors.]

◆ Only sources already selected are shown here

◆ PROBE for any others

◆ ENTER all that apply

11	{Electricity}	ELHT29
12	{Natural gas}	NGHT29
13	{FuelOilType}	FKHT29
14	{Bottled gas}	PRHT29
15	{District steam}	STHT29
16	{District hot water}	HWHT29
18	{Wood}	WOHT29
19	{Coal}	COHT29
20	{Solar}	SOHT29
21	{Other1}	OTHT29
22	{Other2}	OTHT29
23	{Other3}	OTHT29
24	Some other energy source	
99	No other sources for heating	

NEXT	IF Some other energy source➜ D24 [Other sources for heating] IF Anything but Some other energy source OR DK/RF ➜ D26 [Heating equipment types]

D24	Other sources for heating	HT29
ASK	IF D1 [Heating] = Yes & Only one energy source used	

Were there any other energy sources used for heating?

    1   Yes
    2   No

NEXT	IF Yes ➔ D25 [Other source for heating] IF No OR DK/RF ➔ D26 [Heating equipment types]

D25	Other source for heating	
ASK	IF D23 [Other sources for heating] = Some other energy source OR D24 [Other sources for heating] = Yes	

What was the other energy source used for secondary space heating?

11	Electricity	ELHT29
12	Natural gas	NGHT29
13	Fuel oil/Diesel/Kerosene	FKHT29
14	Bottled gas	PRHT29
15	District steam	STHT29
16	District hot water	HWHT29
18	Wood	WOHT29
19	Coal	COHT29
20	Solar	SOHT29
24	Some other energy source	OTHT29

NEXT	➔ D26 [Heating equipment types]

NOTE ON ENERGY SOURCES:

Throughout the rest of this questionnaire, there will be references such as "Electricity used" or "Natural gas used." In addition to the energy sources that were given in D8 [Energy sources used], if sources are added along the way, such as in D22 [Other source for main heating] OR D25 [Other source for heating], those sources are then also considered to be used.

D26	Heating equipment types	*see below*
ASK	IF D1 [Heating] = Yes	

[F1]-HELP

📄 SHOW CARD D2

Looking at this list of heating equipment types, please tell me which types are used in this establishment.

◆ PROBE for any others

◆ ENTER all that apply

1	Furnaces that heat air directly, without using steam or hot water	*FURNAC9*
2	Packaged central unit (roof mounted)	*PKGHT9*
3	Boilers inside (or adjacent to) the building that produce steam or hot water	*BOILER9*
4	District steam or hot water piped in from outside the building	*STHW9*
5	Heat pumps	*HTPMPH9*
6	Individual space heaters, other than heat pumps	*SLFCON9*
7	Other heating equipment	*OTHTEQ9*

NEXT	IF Furnaces ➜ D27 [Type of furnace]
	IF Packaged central unit ➜ D30 [Type of packaged unit]
	IF Boilers ➜ D32 [Type of boiler system]
	IF District steam or hot water ➜ D33 [Type of district system]
	IF Heat pumps ➜ D34 [Heat pump heating system]
	IF Individual space heaters ➜ D36 [Type of individual heater]
	IF Other heating equipment ➜ D37 [Other heat specify]
	IF DK/RF ➜ D41 [Reduce heating]

D27	Type of furnace
ASK	IF Furnaces IN D26 [Heating equipment types]

[F1]-HELP

📄SHOW CARD D3

Looking at this list, please tell me the type or types of furnace systems used in the establishment.

◆ ENTER all that apply

    1   Residential-type split system
    2   Packaged central unit (roof mounted)
    3   Individual room furnace (freestanding or floor-mounted)

| NEXT | IF Packaged central unit ➜ D28 [Classify as packaged]
IF Individual room furnace ➜ D29 [Classify as space heater]
OTHERWISE:
   IF Packaged central unit IN D26 [Heating equipment types] ➜ D30 [Type of packaged unit]
   IF Boilers IN D26 [Heating equipment types] ➜ D32 [Type of boiler system]
   IF District steam or hot water IN D26 [Heating equipment types] ➜ D33 [Type of district system]
   IF Heat pumps IN D26 [Heating equipment types] ➜ D34 [Heat pump heating system]
   IF Individual space heaters IN D26 [Heating equipment types] ➜ D36 [Type of individual heater]
   IF Other heating equipment IN D26 [Heating equipment types] ➜ D37 [Other heat specify]
   OTHERWISE:
     IF ONLY Boiler, Furnace, OR District heat as heating equipment but more than one energy source
     used for heating ➜ D38 [Explain sources for heating]
     OTHERWISE ➜ D40 [Equipment heat many establishments] |

D28	Classify as packaged
ASK	IF D27 [Type of furnace] = Packaged central unit

For the purposes of this study, I am going to refer to your packaged central furnace as a "packaged unit."

◆ ENTER "1" to continue

| NEXT | IF Packaged central unit IN D26 [Heating equipment types] ➜ D30 [Type of packaged unit]
IF Boilers IN D26 [Heating equipment types] ➜ D32 [Type of boiler system]
IF District steam or hot water IN D26 [Heating equipment types] ➜ D33 [Type of district system]
IF Heat pumps IN D26 [Heating equipment types] ➜ D34 [Heat pump heating system]
IF Individual space heaters IN D26 [Heating equipment types] ➜ D36 [Type of individual heater]
IF Other heating equipment IN D26 [Heating equipment types] ➜ D37 [Other heat specify]
OTHERWISE:
   IF ONLY Boiler, Furnace, OR District heat as heating equipment but more than one energy source
     used for heating ➜ D38 [Explain sources for heating]
   OTHERWISE ➜ D40 [Equipment heat many establishments] |

D29	Classify as space heater
ASK	IF D27 [Type of furnace] = Individual room furnace

For the purposes of this study, I am going to refer to your individual room furnace as an "individual space heater."

◆ ENTER "1" to continue

| NEXT | IF Packaged central unit IN D26 [Heating equipment types] ➔ D30 [Type of packaged unit]
IF Boilers IN D26 [Heating equipment types] ➔ D32 [Type of boiler system]
IF District steam or hot water IN D26 [Heating equipment types] ➔ D33 [Type of district system]
IF Heat pumps IN D26 [Heating equipment types] ➔ D34 [Heat pump heating system]
IF Individual space heaters IN D26 [Heating equipment types] ➔ D36 [Type of individual heater]
IF Other heating equipment IN D26 [Heating equipment types] ➔ D37 [Other heat specify]
OTHERWISE:
   IF ONLY Boiler, Furnace, OR District heat as heating equipment but more than one energy source
      used for heating ➔ D38 [Explain sources for heating]
     OTHERWISE ➔ D40 [Equipment heat many establishments] |

D30	Type of packaged unit
ASK	IF Packaged central unit IN D26 [Heating equipment types]

[F1]-HELP

▤SHOW CARD D4

Looking at this card, please tell me if the packaged unit is a central roof mounted unit or a packaged heat pump.

    1   Packaged central unit (roof mounted)
    2   Packaged heat pump
    3   [IF VOLUNTEERED] Both central and packaged heat pumps

| NEXT | IF Packaged heat pump or Both central and packaged heat pumps ➔ D31 [Classify as heat pump]
OTHERWISE:
   IF Boilers IN D26 [Heating equipment types] ➔ D32 [Type of boiler system]
   IF District steam or hot water IN D26 [Heating equipment types] ➔ D33 [Type of district system]
   IF Heat pumps IN D26 [Heating equipment types] ➔ D34 [Heat pump heating system]
   IF Individual space heaters IN D26 [Heating equipment types] ➔ D36 [Type of individual heater]
   IF Other heating equipment IN D26 [Heating equipment types] ➔ D37 [Other heat specify]
   OTHERWISE:
     IF ONLY Boiler, Furnace, OR District heat as heating equipment but more than one energy
       source used for heating ➔ D38 [Explain sources for heating]
     OTHERWISE ➔ D40 [Equipment heat many establishments] |

D31	Classify as heat pump
ASK	IF D30 [Type of packaged unit] = Packaged heat pump OR Both central and packaged heat pumps

For the purposes of this study, I am going to refer to your packaged unit heat pump as a "heat pump."

◆ ENTER "1" to continue

NEXT	IF Boilers IN D21 [Heating equipment types] ➜ D32 [Type of boiler system]
	IF District steam or hot water IN D21 [Heating equipment types] ➜ D33 [Type of district system]
	IF Heat pumps IN D21 [Heating equipment types] ➜ D34 [Heat pump heating system]
	IF Individual space heaters IN D21 [Heating equipment types] ➜ D36 [Type of individual heater]
	IF Other heating equipment IN D21 [Heating equipment types] ➜ D37 [Other heat specify]
	OTHERWISE:
	   IF ONLY Boiler, Furnace, OR District heat as heating equipment but more than one energy source
	      used for heating ➜ D38 [Explain sources for heating]
	      OTHERWISE ➜ D40 [Equipment heat many establishments]

D32	Type of boiler system
ASK	IF Boilers IN D26 [Heating equipment types]

[F1]-HELP

🖹 SHOW CARD D5

Looking at this list, please tell me the type or types of distribution systems used with the boiler.

◆ ENTER all that apply

    1   Radiators
    2   Fan coil units in rooms (or areas)
    3   Central air handling system

NEXT	IF District steam or hot water IN D26 [Heating equipment types] ➜ D33 [Type of district system]
	IF Heat pumps IN D26 [Heating equipment types] ➜ D34 [Heat pump heating system]
	IF Individual space heaters IN D26 [Heating equipment types] ➜ D36 [Type of individual heater]
	IF Other heating equipment IN D26 [Heating equipment types] ➜ D37 [Other heat specify]
	OTHERWISE:
	   IF ONLY Boiler, Furnace, OR District heat as heating equipment but more than one energy source
	      used for heating ➜ D38 [Explain sources for heating]
	      OTHERWISE ➜ D40 [Equipment heat many establishments]

D33	Type of district system
ASK	IF District steam or hot water IN D26 [Heating equipment types]

[F1]-HELP

📄SHOW CARD D6

Looking at this list, please tell me the type or types of distribution systems used with the district steam or hot water.

◆ ENTER all that apply

    1   Radiators
    2   Fan coil units in rooms (or areas)
    3   Central air handling system

| **NEXT** | IF Heat pumps IN D21 [Heating equipment types] ➜ D34 [Heat pump heating system]
IF Individual space heaters IN D21 [Heating equipment types] ➜ D36 [Type of individual heater]
IF Other heating equipment IN D21 [Heating equipment types] ➜ D37 [Other heat specify]
OTHERWISE:
   IF ONLY Boiler, Furnace, OR District heat as heating equipment but more than one energy source
      used for heating ➜ D38 [Explain sources for heating]
      OTHERWISE ➜ D40 [Equipment heat many establishments] |

D34	Heat pump heating system	*see below*
ASK	IF Heat pumps IN D26 [Heating equipment types]	

[F1]-HELP

📄SHOW CARD D7

Please look at the first list on this card and tell me which heat pump systems are used for heating in this establishment.

◆ ENTER all that apply

    1   Packaged unit   *PKGHPS9*
    2   Residential-type split system   *SPLHPS9*
    3   Individual room heat pump   *RMHPS9*

| **NEXT** | ➜ D35 [Heat pump heating type] |

D35	Heat pump heating type	*see below*

ASK	IF Heat pumps IN D26 [Heating equipment types]

[F1]-HELP

📄SHOW CARD D8

Looking at the second list on this card, which types of heat pumps are these?

◆   ENTER all that apply

1	Air source heat pump	*AIRHPT9*
2	Ground source or ground water heat pump	*GRDHPT9*
3	Water loop heat pump	*WTRHPT9*

NEXT	IF Individual space heaters IN D26 [Heating equipment types] ➜ D36 [Type of individual heater]
	IF Other heating equipment IN D26 [Heating equipment types] ➜ D37 [Other heat specify]
	OTHERWISE:
	IF ONLY Boiler, Furnace, OR District heat as heating equipment but more than one energy source
	used for heating ➜ D38 [Explain sources for heating]
	OTHERWISE ➜ D40 [Equipment heat many establishments]

D36	Type of individual heater

ASK	IF Individual space heaters IN D26 [Heating equipment types]

[F1]-HELP

📄SHOW CARD D9

Looking at this list, please tell me the type or types of individual heaters used in the establishment.

◆   ENTER all that apply

1   Infrared radiant heater (permanent)
2   Baseboard heater (permanent)
3   Portable space heater
4   Wall heater
5   Individual furnace

NEXT	IF Other heating equipment IN D26 [Heating equipment types] ➜ D37 [Other heat specify]
	OTHERWISE:
	IF ONLY Boiler, Furnace, OR District heat as heating equipment but more than one energy source
	used for heating ➜ D38 [Explain sources for heating]
	OTHERWISE ➜ D40 [Equipment heat many establishments]

D37	Other heat specify
ASK	IF Other heating equipment IN D26 [Heating equipment types]

Please describe the other type of heating equipment.

- ◆ RECORD in open box

NEXT	IF ONLY Boiler, Furnace, OR District heat as heating equipment but more than one energy source used for heating ➜ D38 [Explain sources for heating] OTHERWISE ➜ D40 [Equipment heat many establishments]

D38	Explain sources for heating
ASK	IF ONLY Boiler, Furnace, OR District heat as heating equipment but more than one energy source used for heating
FILL	**{HeatEquip}** IF Boilers = "boiler" IF Furnace = "furnace" IF District heat = "district heating system" **{HeatSources}** = list of the energy sources given for heating

I've recorded just one type of heating equipment - a {HeatEquip} - but more than one energy source – {HeatSources} - for heating. For clarification, will you please briefly explain how these sources are used for operating the {HeatEquip}.

- ◆ RECORD in open box

NEXT	➜ D40 [Equipment heat many establishments]

[D39 deleted]

D40	Equipment heat many establishments	HTMNY9
ASK	IF D26 [Heating equipment types] known, ask for each type of equipment reported	
FILL	**{HtEquip}** IF Furnace = "furnaces" IF Packaged unit = "packaged units" IF Boilers = "boilers" IF District heat = "district heating systems" IF Heat pump = "heat pumps" IF Individual space heater = "individual space heaters" IF Other heating equipment = "the other types of heating equipment"	

	Are {HtEquip} used to heat all establishments, some establishments, or just this establishment ?
	
	    1 All establishments
	    2 Some establishments
	    3 Just this establishment	

NEXT	➜ D41 [Reduce heating]	

D41	Reduce heating	RDHTNF9
ASK	IF D1 [Heating] = Yes	

	[F1]-HELP
	
	When this establishment is not in full use, is there a change in the temperature setting for heating?
	
	    1 Yes
	    2 No	

NEXT	IF Yes ➜ D42 [How reduce heating]
	IF No OR DK/RF:
	    IF D2 [Cooling] = Yes ➜ D43 [Sources for cooling]
	    IF D3 [Water heating] = Yes ➜ D58 [Sources for water heating]
	    IF D4 [Cooking] = Yes ➜ D61 [Sources for cooking]
	    IF D5 [Manufacturing] = Yes ➜ D63 [Sources for manufacturing]
	    IF D7 [Electricity generation capability] = Yes ➜ D65 [Energy for generation]
	    OTHERWISE ➜ D71 [Any other sources]	

D42	**How reduce heating**	*HWRDHT9 & see below*

ASK	IF D41 [Reduce heating] = Yes

SHOW CARD D10

Looking at this card, which of these best describes how the temperature for heating is usually changed?

    1   Time-clock thermostat
    2   Thermostat is manually reset
    3   Part of "Energy Management and Control System (EMCS)"
        or "Building Automation System (BAS)"   *EMCS9*

NEXT	IF D2 [Cooling] = Yes ➔ D43 [Sources for cooling] IF D3 [Water heating] = Yes ➔ D58 [Sources for water heating] IF D4 [Cooking] = Yes ➔ D61 [Sources for cooking] IF D5 [Manufacturing] = Yes ➔ D63 [Sources for manufacturing] IF D7 [Electricity generation capability] = Yes ➔ D65 [Energy for generation] OTHERWISE ➔ D71 [Any other sources]

D43	**Sources for cooling**	*see below*

ASK	IF D2 [Cooling] = Yes

FILL	**{CoolSourcesList}** = List of all possible air conditioning energy sources used **{Electricity} – {Other3}** = If a source is used, it appears in this list; if not, the line is blank **{FuelOilType}** = Type or types specified in D6 [Fuel oil, diesel, or kerosene] **{Other1} – {Other3}** = Sources specified in D8 [Other energy source 1] – D10 [Other energy source 3]

Which energy sources were used for air conditioning? [{CoolSourcesList}]

◆   Only sources already selected are shown here

◆   PROBE for any others

◆   ENTER all that apply

    11   {Electricity}   *ELCOOL8*
    12   {Natural gas}   *NGCOOL9*
    13   {FuelOilType}   *FKCOOL9*
    14   {Bottled gas}   *PRCOOL9*
    15   {District steam}   *STCOOL9*
    16   {District hot water}   *HWCOOL9*
    17   {District chilled water}   *CWCOOL9*
    21   {Other1}   *OTCOOL9*
    22   {Other2}   *OTCOOL9*
    23   {Other3}   *OTCOOL9*
    24   Some other energy source

NEXT	IF Some other energy source selected ➔ D44 [Other source for cooling] OTHERWISE ➔ D45 [Cooling equipment types]

D44	**Other source for cooling**	*see below*

ASK	IF Some other energy source IN D43 [Sources for cooling]

What was the other energy source used for air conditioning?

11	Electricity	*ELCOOL9*
12	Natural gas	*NGCOOL9*
13	Fuel oil/Diesel/Kerosene	*FKCOOL9*
14	Bottled gas	*PRCOOL9*
15	District steam	*STCOOL9*
16	District hot water	*HWCOOL9*
17	District chilled water	*CWCOOL9*
24	Some other energy source	*OTCOOL9*

NEXT	➜ D45 [Cooling equipment types]

D45	**Cooling equipment types**	*see below*

ASK	IF D2 [Cooling] = Yes

[F1]-HELP

📄SHOW CARD D11

Looking at this list of cooling equipment types, please tell me which types are used in this establishment.

◆ PROBE for any others

◆ ENTER all that apply

1	Residential-type central air conditioners, other than heat pumps, that cool air directly and circulate it without using chilled water	*RCAC9*
2	Packaged air conditioning units, other than heat pumps	*PKGCL9*
3	Central chillers inside the building that chill water for air conditioning	*CHILLR9*
4	District chilled water piped in from outside the building	*CHWT9*
5	Heat pumps for cooling	*HTPMPC9*
6	Individual room air conditioners, other than heat pumps	*ACWNWL9*
7	"Swamp" coolers or evaporative coolers	*EVAPCL9*
8	Other cooling equipment	*OTCLEQ9*

NEXT	IF Packaged air conditioning units ➜ D46 [Type of packaged cooling]
	IF Central chillers ➜ D47 [Type of chiller system]
	IF District chilled water ➜ D48 [Type of chilled water system]
	IF Heat pumps for cooling AND NOT Heat pumps for heating ➜ D49 [Heat pump cooling system]
	IF Other cooling equipment ➜ D51 [Other cool specify]
	IF DK/RF ➜ D54 [Reduce cooling]
	OTHERWISE:
	   IF Any source(s) other than electricity or chilled water reported in D43 [Sources for cooling] OR
	      D44 [Other sources for cooling] ➜ D52 [Cool source explanation]
	   OTHERWISE ➜ D53 [Equipment cool many establishments]

D46	**Type of packaged cooling**	*see below*
ASK	IF Packaged air conditioning units IN D45 [Cooling equipment types]	

[F1]-HELP

📄SHOW CARD D12

Looking at this card, please tell me if the packaged unit is a central roof mounted unit or a split system with outdoor and indoor units.

    1 Packaged central unit (roof mounted)
    2 Split system, with outdoor (condensor) and indoor (evaporator/blower) units
    3 [IF VOLUNTEERED] Both central unit and split system

| **NEXT** | IF Central chillers IN D45 [Cooling equipment types] ➜ D47 [Type of chiller system]
IF District chilled water IN D45 [Cooling equipment types] ➜ D48 [Type of chilled water system]
IF Heat pumps for cooling IN D45 [Cooling equipment types] AND NOT Heat pumps for heating
    ➜ D49 [Heat pump cooling system]
IF Other cooling equipment IN D45 [Cooling equipment types] ➜ D51 [Other cool specify]
OTHERWISE:
  IF Any source(s) other than electricity or chilled water reported in D43 [Sources for cooling] OR
    D44 [Other sources for cooling] ➜ D52 [Cool source explanation]
    OTHERWISE ➜ D53 [Equipment cool many establishments] |

D47	**Type of chiller system**	*see below*
ASK	IF Central chillers IN D45 [Cooling equipment types]	

[F1]-HELP

📄SHOW CARD D13

Looking at this card, please tell me if the water from the chiller is distributed through a central air handling system or by fan coil units.

    1   Central air handling system
    2   Fan coil units in rooms (or area)
    3   [IF VOLUNTEERED] Both air handling and fan coil units

| **NEXT** | IF District chilled water IN D45 [Cooling equipment types] ➜ D48 [Type of chilled water system]
IF Heat pumps for cooling IN D45 [Cooling equipment types] AND NOT Heat pumps for heating
    ➜ D49 [Heat pump cooling system]
IF Other cooling equipment IN D45 [Cooling equipment types] ➜ D51 [Other cool specify]
OTHERWISE:
  IF Any source(s) other than electricity or chilled water reported in D43 [Sources for cooling] OR
    D44 [Other sources for cooling] ➜ D52 [Cool source explanation]
    OTHERWISE ➜ D53 [Equipment cool many establishments] |

D48	**Type of chilled water system**	*see below*

ASK	IF Residential-type central air conditioners IN D45 [Cooling equipment types]

[F1]-HELP

📄SHOW CARD D14

Looking at this card, please tell me if the water from the chiller is distributed through a central air handling system or by fan coil units.

     1   Central air handling system
     2   Fan coil units in rooms (or area)
     3   [IF VOLUNTEERED] Both air handling and fan coil units

NEXT	IF Heat pumps for cooling IN D45 [Cooling equipment types] AND NOT Heat pumps for heating
	    ➜ D49 [Heat pump cooling system]
	IF Other cooling equipment IN D45 [Cooling equipment types] ➜ D51 [Other cool specify]
	OTHERWISE:
	   IF Any source(s) other than electricity or chilled water reported in D43 [Sources for cooling] OR
	     D44 [Other sources for cooling] ➜ D52 [Cool source explanation]
	   OTHERWISE ➜ D53 [Equipment cool many establishments]

D49	**Heat pump cooling system**	*see below*

ASK	IF Heat pumps IN D45 [Cooling equipment types] & Heat pumps NOT IN D26 [Heating equipment types]

[F1]-HELP

📄SHOW CARD D15

Please look at the first list on this card and tell me which heat pump systems are used for cooling in this establishment.

◆   ENTER all that apply

     1   Packaged unit   *PKGCPS9*
     2   Residential-type split system   *SPLCPS9*
     3   Individual room heat pump   *RMCPS9*

NEXT	➜ D50 [Heat pump cooling type]

D50	Heat pump cooling type	see below

ASK	IF Heat pumps in D45 [Cooling equipment types] & Heat pumps NOT IN D26 [Heating equipment types]

[F1]-HELP

SHOW CARD D16

Looking at the second list on this card, which types of heat pumps are these?

◆   ENTER all that apply

1	Air source heat pump	*AIRCPT9*
2	Ground source or ground water heat pump	*GRDCPT9*
3	Water loop heat pump	*WTRCPT9*

NEXT	IF Other cooling equipment IN D45 [Cooling equipment types] ➜ D51 [Other cool specify]
	OTHERWISE:
	   IF Any source(s) other than electricity or chilled water reported in D43 [Sources for cooling] OR
	       D44 [Other sources for cooling] ➜ D52 [Cool source explanation]
	       OTHERWISE ➜ D53 [Equipment cool many establishments]

D51	Other cool specify

ASK	IF Other cooling equipment in D45 [Cooling equipment types]

Please describe the other type of cooling equipment.

◆   RECORD in open box

NEXT	IF Any source(s) other than electricity or chilled water reported in D43 [Sources for cooling] OR
	       D44 [Other sources for cooling] ➜ D52 [Cool source explanation]
	       OTHERWISE ➜ D53 [Equipment cool many establishments]

D52	Cool source explanation

ASK	IF Any source(s) other than electricity or chilled water reported in D43 [Sources for cooling] OR D44 [Other sources for cooling]

FILL	**{CoolSources}** = List of the energy sources given for cooling, other than electricity or chilled water **{IsAre}** = IF Only one cooling source in list = "is" IF More than one cooling source in list = "are"

I have recorded that {CoolSources} {IsAre} used for cooling. Because it is somewhat unusual to use sources other than electricity or chilled water for cooling, will you please briefly describe how the {CoolSources} is used with the cooling equipment.

◆   RECORD in open box

NEXT	➜ D53 [Equipment cool many establishments]

D53	Equipment cool many establishments	COOLMNY9
ASK	IF D45 [Cooling equipment types] known, ask for each type of equipment reported	
FILL	**{CoolEquip}** IF Residentail-type central air conditioners = "residential-type central air conditioners" IF Packaged air-conditioning unit = "packaged air-conditioning units" IF Central chiller = "central chillers" IF District chilled water = "district chilled water systems" IF Heat pump for cooling = "heat pumps" IF Individual room air conditioners = "individual room air conditioners" IF "Swamp" coolers = ""swamp" coolers" IF Other cooling equipment = "the other types of cooling equipment"	

Are {CoolEquip} used to cool all establishments, some establishments, or just this establishment ?

     1   All establishments
     2   Some establishments
     3   Just this establishment

NEXT	➔ D54 [Reduce cooling]

D54	Reduce cooling	RDCLNF9
ASK	IF D2 [Cooling] = Yes	

[F1]-HELP

When the establishment is not in full use, is there a change in the temperature setting for cooling?

    1   Yes
    2   No

NEXT	IF Yes ➔ D55 [How reduce cooling]
	IF No OR DK/RF:
	    IF D45 [Cooling equipment types] NOT JUST Room air conditioners ➔ D56 [Economizer cycle]
	    IF D3 [Water heating] = Yes ➔ D58 [Sources for water heating]
	    IF D4 [Cooking] = Yes ➔ D61 [Sources for cooking]
	    IF D5 [Manufacturing] = Yes ➔ D63 [Sources for manufacturing]
	    IF D7 [Electricity generation capability] = Yes ➔ D65 [Energy for generation]
	    OTHERWISE ➔ D71 [Any other sources]

D55	How reduce cooling	HWRDCL9 & see below
ASK	IF D54 [Reduce cooling] = Yes	

📄SHOW CARD D17

Looking at this card, which of these best describes how the temperature for cooling is usually changed?

    1   Time-clock thermostat
    2   Thermostat is manually reset
    3   Part of "Energy Management and Control System (EMCS)"
        or "Building Automation System (BAS)"   EMCS9

NEXT	IF D45 [Cooling equipment types] NOT JUST Room air conditioners ➔ D56 [Economizer cycle] IF D3 [Water heating] = Yes ➔ D58 [Sources for water heating] IF D4 [Cooking] = Yes ➔ D61 [Sources for cooking] IF D5 [Manufacturing] = Yes ➔ D63 [Sources for manufacturing] IF D7 [Electricity generation capability] = Yes ➔ D65 [Energy for generation] OTHERWISE ➔ D71 [Any other sources]

D56	Economizer cycle	ECN9
ASK	IF Cooling equipment used other than just Room air conditioner	

[F1]-HELP

Does this establishment have any equipment that uses outside air for cooling, often called an "economizer cycle"?

    1   Yes
    2   No

NEXT	➔ D57 [Regular HVAC maintenance]

D57	Regular HVAC maintenance	*MAINT9*

ASK	IF Heating or cooling equipment used other than just Space heater and/or Room air conditioner

FILL	**{HeatCool}** IF Heating only = "heating" IF Cooling only = "cooling" IF Heating & Cooling = "heating and cooling"

[F1]-HELP

Is there any regularly scheduled maintenance and repair for the {HeatCool} system?

     1   Yes
     2   No

NEXT	IF D3 [Water heating] = Yes ➔ D58 [Sources for water heating] IF D4 [Cooking] = Yes ➔ D61 [Sources for cooking] IF D5 [Manufacturing] = Yes ➔ D63 [Sources for manufacturing] IF D7 [Electricity generation capability] = Yes ➔ D65 [Energy for generation] OTHERWISE ➔ D71 [Any other sources]

D58	Sources for water heating	*see below*

ASK	IF D3 [Water heating] = Yes

FILL	**{WatrSourcesList}** = List of all energy sources used **{Electricity} – {Other3}** = If a source is used, it appears in this list; if not, the line is blank **{FuelOilType}** = Type or types specified in D9 [Fuel oil, diesel, or kerosene] **{Other1} – {Other3}** = Sources specified in D11 [Other energy source 1] – D13 [Other energy source 3]

Which energy sources were used for water heating? [{WatrSourcesList}]

◆   Only sources already selected are shown here

◆   PROBE for any others

◆   ENTER all that apply

11	{Electricity}	*ELWATR9*
12	{Natural gas}	*NGWATR9*
13	{FuelOilType}	*FKWATR9*
14	{Bottled gas}	*PRWATR9*
15	{District steam}	*STWATR9*
16	{District hot water}	*HWWATR9*
18	{Wood}	*WOWATR9*
19	{Coal}	*COWATR9*
20	{Solar}	*SOWATR9*
21	{Other1}	*OTWATR9*
22	{Other2}	*OTWATR9*
23	{Other3}	*OTWATR9*
24	Some other energy source	

NEXT	IF Some other energy source selected ➔ D59 [Other water heating source] OTHERWISE ➔ D60 [Water heating equipment]

D59	Other water heating source	see below

ASK	IF Some other energy source IN D58 [Sources for water heating]

What was the other energy source used for water heating?

11	Electricity	*ELWATR9*
12	Natural gas	*NGWATR9*
13	Fuel oil/Diesel/Kerosene	*FKWATR9*
14	Bottled gas	*PRWATR9*
15	District steam	*STWATR9*
16	District hot water	*HWWATR9*
18	Wood	*WOWATR9*
19	Coal	*COWATR9*
20	Solar	*SOWATR9*
24	Some other energy source	*OTWATR9*

NEXT	➔ D60 [Water heating equipment]

D60	Water heating equipment	*WTHTEQ9*

ASK	IF D3 [Water heating] = Yes

[F1]-HELP

Does this establishment have one or more centralized water heaters, one or more "point-of-use" water heaters, or both of these types [of water heaters]?

1	One or more centralized water heaters
2	One or more "point-of-use" water heaters
3	Both types

NEXT	IF D4 [Cooking] = Yes ➔ D61 [Sources for cooking]
	IF D5 [Manufacturing] = Yes ➔ D63 [Sources for manufacturing]
	IF D7 [Electricity generation capability] = Yes ➔ D65 [Energy for generation]
	OTHERWISE ➔ D71 [Any other sources]

D61	**Sources for cooking**	*see below*

ASK	IF D4 [Cooking] = Yes

FILL	**{CookSourcesList}** = List of all energy sources used **{Electricity} – {Other3}** = If a source is used, it appears in this list; if not, the line is blank **{FuelOilType}** = Type or types specified in D9 [Fuel oil, diesel, or kerosene] **{Other1} – {Other3}** = Sources specified in D11 [Other energy source 1] – D13 [Other energy source 3]

Which energy sources were used for cooking? [{CookSourcesList}]

◆   Only sources already selected are shown here

◆   PROBE for any others

◆   ENTER all that apply

11	{Electricity}	*ELCOOK9*
12	{Natural gas}	*NGCOOK9*
13	{FuelOilType}	*FKCOOK9*
14	{Bottled gas}	*PRCOOK9*
15	{District steam}	*STCOOK9*
16	{District hot water}	*HWCOOK9*
18	{Wood}	*WOCOOK9*
19	{Coal}	*COCOOK9*
20	{Solar}	*SOCOOK9*
21	{Other1}	*OTCOOK9*
22	{Other2}	*OTCOOK9*
23	{Other3}	*OTCOOK9*
24	Some other energy source	

NEXT	IF Some other energy source selected ➔ D62 [Other cooking source]
	OTHERWISE:
	  IF D5 [Manufacturing] = Yes ➔ D63 [Sources for manufacturing]
	  IF D7 [Electricity generation capability] = Yes ➔ D65 [Energy for generation]
	  OTHERWISE ➔ D71 [Any other sources]

D62	Other cooking source

ASK	IF Some other energy source IN D61 [Sources for cooking]

What was the other energy source used for cooking?

11	Electricity	*ELCOOK9*
12	Natural gas	*NGCOOK9*
13	Fuel oil/Diesel/Kerosene	*FKCOOK9*
14	Bottled gas	*PRCOOK9*
15	District steam	*STCOOK9*
16	District hot water	*HWCOOK9*
18	Wood	*WOCOOK9*
19	Coal	*COCOOK9*
20	Solar	*SOCOOK9*
24	Some other energy source	*OTCOOK9*

NEXT	IF D5 [Manufacturing] = Yes ➜ D63 [Sources for manufacturing] IF D7 [Electricity generation capability] = Yes ➜ D65 [Energy for generation] OTHERWISE ➜ D71 [Any other sources]

D63	**Sources for manufacturing**	*see below*
ASK	IF D5 [Manufacturing] = Yes	
FILL	**{ManuSourcesList}** = List of all energy sources used **{Electricity} – {Other3}** = If a source is used, it appears in this list; if not, the line is blank **{FuelOilType}** = Type or types specified in D9 [Fuel oil, diesel, or kerosene] **{Other1} – {Other3}** = Sources specified in D11 [Other energy source 1] – D13 [Other energy source 3]	

Which energy sources were used for manufacturing? [{ManuSourcesList}]

◆   Only sources already selected are shown here

◆   PROBE for any others

◆   ENTER all that apply

11	{Electricity}	*ELMANU9*
12	{Natural gas}	*NGMANU9*
13	{FuelOilType}	*FKMANU9*
14	{Bottled gas}	*PRMANU9*
15	{District steam}	*STMANU9*
16	{District hot water}	*HWMANU9*
18	{Wood}	*WOMANU9*
19	{Coal}	*COMANU9*
20	{Solar}	*SOMANU9*
21	{Other1}	*OTMANU9*
22	{Other2}	*OTMANU9*
23	{Other3}	*OTMANU9*
24	Some other energy source	

NEXT	IF Some other energy source selected ➜ D64 [Other manufacturing source]
	OTHERWISE:
	    IF D7 [Electricity generation capability] = Yes ➜ D65 [Energy for generation]
	    OTHERWISE ➜ D71 [Any other sources]

D64	**Other manufacturing source**	*see below*
ASK	IF Some other energy source IN D63 [Sources for manufacturing]	

What was the other energy source used for manufacturing?

11	Electricity	*ELMANU9*
12	Natural gas	*NGMANU9*
13	Fuel oil/Diesel/Kerosene	*FKMANU9*
14	Bottled gas	*PRMANU9*
15	District steam	*STMANU9*
16	District hot water	*HWMANU9*
18	Wood	*WOMANU9*
19	Coal	*COMANU9*
20	Solar	*SOMANU9*
24	Some other energy source	*OTMANU9*

NEXT	IF D7 [Electricity generation capability] = Yes ➜ D65 [Energy for generation] OTHERWISE ➜ D71 [Any other sources]

D65	**Energy for generation**	*GENR9*
ASK	IF D7 [Electricity generation capability] = Yes	

Was any energy actually <u>used</u> for generating electricity in this establishment during 2007, even if just a small amount was used for emergency backup or for testing generators?

    1   Yes
    2   No

NEXT	IF Yes ➜ D66 [Sources for electricity generation] IF No OR DK/RF ➜ D71 [Any other sources]

D66	**Sources for electricity generation**	*see below*

ASK	IF D65 [Energy for generation] = Yes

FILL	**{Other1} – {Other3}** = Sources specified in D11 [Other energy source 1] – D13 [Other energy source 3]

📄SHOW CARD D18

Looking at this first list, please tell me which energy sources were used for electricity generation.

◆ PROBE for any others

◆ ENTER all that apply

12	Natural gas	*NGGENR9*
13	Fuel oil/Diesel/Kerosene	*FKGENR9*
14	Bottled gas/LPG/Propane	*PRGENR9*
18	Wood	*WOGENR9*
19	Coal	*COGENR9*
20	Solar thermal panels	*SOGENR9*
21	{Other1}	*OTGENR9*
22	{Other2}	*OTGENR9*
23	{Other3}	*OTGENR9*
24	Some other energy source	*OTGENR9*

NEXT	➜ D67 [Generation technologies]

D67	**Generation technologies**	*see below*

ASK	IF D65 [Energy for generation] = Yes

📄SHOW CARD D19

Looking again at this card, were any of the technologies on this second list used for generating electricity?

◆ PROBE for any others

◆ ENTER all that apply

1	Photovoltaic cells	*PHOTVL9*
2	Fuel cells	*FUELCL9*
3	Microturbines	*MCROTB9*
4	IF VOLUNTEERED: None of these	

NEXT	➜ D68 [Use of generated electricity]

D68	Use of generated electricity	GENUSE9

ASK	IF D65 [Energy for generation] = Yes

[F1]-HELP

During 2007, was the electricity generated in this establishment used: primarily for emergency back-up, during periods of high electricity demand, or whenever electricity was used?

     1   Primarily for emergency back-up
     2   During periods of high electricity demand
     3   Whenever electricity was used

NEXT	IF Primarily for emergency back-up OR DK/RF ➜ D71 [Any other sources] IF During periods of high electricity demand OR Whenever electricity was used ➜ D69 [Cogeneration system]

D69	Cogeneration system	COGEN9

ASK	IF D68 [Use of generated electricity] = During periods of high electricity demand OR Whenever electricity was used

[F1]-HELP

Is the electric power generating system also a cogeneration system? That is, in addition to producing electric power, does the same system simultaneously produce heat that is used in this or another establishment for space heating, water heating, or industrial processes?

     1   Yes
     2   No

NEXT	➜ D70 [Deliver electricity to grid]

D70	Deliver electricity to grid	GRID9

ASK	IF D69 [Cogeneration system] =Yes

Is the cogeneration or generation system interconnected with an electric utility so that it is able to deliver or sell electricity to the grid?

     1   Yes
     2   No

NEXT	➜ D71 [Any other sources]

D71	Any other sources
ASK	IF D8 [Energy sources used] was answered
FILL	{SourcesList} = List of all energy sources used

As a final check, were there any energy sources used in this establishment other than {Sources List} ?

    1   Yes
    2   No

NEXT	IF Yes ➔ D72 [Other sources]
	IF No OR DK/RF:
	   Check that every energy source given in D8 [Energy sources used] (other than electricity or district chilled water) was assigned an end use. THEN:
	   IF Yes:
	      IF Electricity used ➔ D75 [How purchase electricity]
	      IF Natural gas used ➔ D77 [How purchase natural gas]
	      OTHERWISE ➔ E1 [Section E Routing]
	   IF No ➔ D73 [{Energy source} use]

D72	Other sources	*see below*
ASK	IF D71 [Any other sources] =Yes	
FILL	{Electricity} – {Solar} = If a source has NOT been mentioned, it appears in this list; if it has, the line is blank	

What other sources were used?

◆   PROBE for any others

◆   ENTER all that apply

11	{Electricity}	*ELUSED9*
12	{Natural gas}	*NGUSED9*
13	{Fuel/Diesel/Kerosene}	*FKUSED9*
14	{Bottled gas}	*PRUSED9*
15	{District steam}	*STUSED9*
16	{District hot water}	*HWUSED9*
17	{District chilled water}	*CWUSED9*
18	{Wood}	*WOUSED9*
19	{Coal}	*COUSED9*
20	{Solar}	*SOUSED9*
24	Other	*OTUSED9*

NEXT	➔ D73 [{Energy source} use]

D73	{Energy source} use	*see below where {XX} is the energy source abbreviation*
ASK	For each source selected in D72 [Other sources]	
FILL	**{EnergySource}** IF Electricity IN D72 [Other sources] = "electricity" IF Natural gas IN D72 [Other sources] = "natural gas" IF Fuel oil/Diesel/Kerosene IN D72 [Other sources] = "fuel oil/diesel/kerosene" IF Bottled gas IN D72 [Other sources] = "bottled gas" IF District steam IN D72 [Other sources] = "district steam" IF District hot water IN D72 [Other sources] = "district hot water" IF Wood IN D72 [Other sources] = "wood" IF Coal IN D72 [Other sources] = "coal" IF Solar IN D72 [Other sources] = "solar" IF Other IN D72 [Other sources] = "other fuel" **{Cooling}** Does not appear as a choice for Wood use, Coal use, OR Solar use **{Electricity generation}** Does not appear as a choice for Electricity use, District steam use, OR District hot water use	

What was the {EnergySource} used for?

1	Heating	*{XX}HT19/HT29*
2	{Cooling}	*{XX}COOL9*
3	Water heating	*{XX}WATR9*
4	Cooking	*{XX}COOK9*
5	Manufacturing	*{XX}MANU9*
6	{Electricity generation}	*{XX}GENR9*
7	Some other use	*{XX}OTH9*
8	Incorrectly recorded--source not used	

NEXT	Check that every energy source given in D8 [Energy sources used] (other than electricity or district chilled water) was assigned an end use: IF Yes: IF Electricity used ➔ D75 [How purchase electricity] IF Natural gas used ➔ D77 [How purchase natural gas] OTHERWISE ➔ E1 [Section E Routing] IF No ➔ D73 [{Energy source} use]

D74	{Energy source} use	see below where {XX} is the energy source abbreviation
ASK	For every energy source given in D8 [Energy sources used] that was not assigned an end use (other than electricity or district chilled water)	
FILL	**{EnergySource}** IF No end use for Natural gas = "natural gas" IF No end use for Fuel oil = Type or types specified in D9 [Fuel oil, diesel, or kerosene] IF No end use for Bottled gas = "bottled gas" IF No end use for District steam = "district steam" IF No end use for District hot water = "district hot water" IF No end use for Wood = "wood" IF No end use for Coal = "coal" IF No end use for Solar = "solar" IF No end use for Other = "another energy source" (second fill = "other energy source") **{Cooling}** Does not appear as a choice for Wood use, Coal use, OR Solar use **{Electricity generation}** Does not appear as a choice for District steam use OR District hot water use	

I have recorded that {EnergySource} was used in this establishment but not how it was used. What was the {EnergySource} used for?

1	Heating	*{XX}HT19/HT29*
2	{Cooling}	*{XX}COOL9*
3	Water heating	*{XX}WATR9*
4	Cooking	*{XX}COOK9*
5	Manufacturing	*{XX}MANU9*
6	{Electricity generation}	*{XX}GENR9*
7	Some other use	*{XX}OTH9*
8	Incorrectly recorded--source not used	

NEXT	IF Electricity used ➜ D75 [How purchase electricity] IF Natural gas used ➜ D77 [How purchase natural gas] OTHERWISE ➜ E1 [Section E Routing]

NOTE ON USES OF ENERGY:

In addition to the end uses given, it is now possible that an end use was added in D74 [{Energy source} use]. For the rest of this questionnaire, end uses will just simply be stated, for example: "IF Cooking" would mean IF Cooking IN D4 [Cooking] = Yes OR Added as an end use in D74 [Energy source use].

"Any energy used" will be used to refer to:
IF D1 [Heating] = Yes OR D2 [Cooling] = Yes OR D3 [Water heating] = Yes OR D4 [Cooking] = Yes OR D5 [Manufacturing] = Yes OR D6 [Any energy used] = Yes, some energy was used OR DK/RF

D75	How purchase electricity	see below

ASK	IF Electricity used

[F1]-HELP

📄SHOW CARD D20

In some areas of the country, consumers may purchase their electricity from more than one supplier. Looking at the list, please tell me all the ways that electricity is purchased for this establishment.

◆ EXP: [If electricity is bought from the city, that is considered to be the local utility.]

◆ PROBE for any others

◆ ENTER all that apply

1	Bought from the local utility	ELLOCUT9
2	Contracted or bought from an independent power producer or non-local utility	ELNONLU9
3	Bought from someone else, such as a broker	ELOTSRC9
4	IF VOLUNTEERED: Produced by a central plant on campus	ELCPLT9

NEXT	IF more than one selected, including Bought from the local utility ➔ D76 [Percent from local utility]
	 OTHERWISE:
	    IF Natural gas used ➔ D77 [How purchase natural gas]
	    OTHERWISE ➔ E1 [Section E Routing]

D76	Percent from local utility	ELLUPCT9

ASK	IF More than one response selected in D64 [How purchase electricity], including Bought from the local utility

About what percent of the electricity would you estimate was obtained from the local utility?

RANGE	1 to 100

NEXT	IF Natural gas used ➔ D77 [How purchase natural gas] OTHERWISE ➔ E1 [Section E Routing]

D77	How purchase natural gas	NGSRC9 & see below
ASK	IF Natural gas used	
FILL	**{Introduction}** IF Electricity used = "Consumers may also be able to purchase their natural gas from more than one supplier." IF Electricity not used = "In some areas of the country, consumers may purchase their natural gas from more than one supplier."	

[F1]-HELP

{Introduction} Was the natural gas in this establishment bought from the local utility, bought from someone else, such as a non-utility or a broker, or bought both of these ways?

1	Bought from the local utility	*NGLOCUT9*
2	Bought from someone else, such as a non-utility or a broker	*NGOTSRC9*
3	Bought both ways	

NEXT	➔ E1 [Section E Routing]

SECTION E. <u>MISCELLANEOUS EQUIPMENT</u>

E1	Section E Routing

NEXT	IF Cooking OR CBECS Activity = Food sales OR Food Service ➜ E2 [Commercial food prep]
	IF Water heating ➜ E5 [Large amounts of hot water]
	IF CBECS Activity = Medical/Dental ➜ E6 [Medical equipment]
	IF CBECS Activity = Retail shop OR Office/Financial OR Other ➜ E7 [Laboratory equipment]
	OTHERWISE:
	   IF Electricity NOT used ➜ E9 [Verify no electricity]
	   OTHERWISE ➜ E10 [Refrigeration]

E2	Commercial food prep	FDRM9
ASK	IF Cooking OR CBECS Activity = Food sales OR Food Service	

Now I have some questions about uses of space and equipment in this establishment.

Is any space used for institutional or commercial food preparation and serving, such as kitchens, restaurants, snack bars, cafeterias, steam tables, or warming areas?

Do not include lounge areas with only a microwave or other small food preparation equipment or vending machines.

    1   Yes
    2   No

NEXT	IF Yes ➜ E3 [Type of food area]
	IF No OR DK/RF:
	IF Water heating ➜ E5 [Large amounts of hot water]
	IF CBECS Activity = Medical/Dental ➜ E6 [Medical equipment]
	IF CBECS Activity = Retail shop OR Office/Financial OR Other ➜ E7 [Laboratory equipment]
	OTHERWISE:
	   IF Electricity NOT used ➜ E9 [Verify no electricity]
	   OTHERWISE ➜ E10 [Refrigeration]

E3	Type of food area	*see below*

ASK	IF E2 [Commercial food prep] = Yes

📄SHOW CARD E1

Which of these types best describes the food preparation or serving areas in this establishment?

◆ PROBE for any others

◆ ENTER all that apply

1	Snack bar/Concession stand	*SNACK9*
2	Fast food/Small restaurant	*FASTFD9*
3	Cafeteria/Large restaurant	*CAF9*
4	Food preparation area	*FDPREP9*
5	Small kitchen area	*KITCHN9*
6	Some other type of food preparation area	*OTFDRM9*

NEXT	IF Some other type selected ➜ E4 [Other food area]
	 OTHERWISE:
	  IF Water heating ➜ E5 [Large amounts of hot water]
	  IF CBECS Activity = Medical/Dental ➜ E6 [Medical equipment]
	  IF CBECS Activity = Retail shop OR Office/Financial OR Other ➜ E7 [Laboratory equipment]
	  OTHERWISE:
	   IF Electricity NOT used ➜ E9 [Verify no electricity]
	   OTHERWISE ➜ E10 [Refrigeration]

E4	Other food area

ASK	IF Some other type IN E3 [Type of food area]

Please describe this other type of food preparation or serving area.

◆ RECORD in open box

NEXT	IF Water heating ➜ E5 [Large amounts of hot water]
	 IF CBECS Activity = Medical/Dental ➜ E6 [Medical equipment]
	 IF CBECS Activity = Retail shop OR Office/Financial OR Other ➜ E7 [Laboratory equipment]
	 OTHERWISE:
	  IF Electricity NOT used ➜ E9 [Verify no electricity]
	  OTHERWISE ➜ E10 [Refrigeration]

E5	Large amounts of hot water	HWTRM9

ASK	IF Water heating

FILL	**{Introduction}** IF E2 [Commercial food prep] was asked = "Now I have some questions about energy-related space uses and equipment that may be used in this establishment." OTHERWISE = BLANK

[F1]-HELP

{Introduction}

Is any space in this establishment used for any activities requiring large amounts of hot water, such as a commercial dishwasher, laundry room, heated pool, steam room, whirlpool, or showers?

    1   Yes
    2   No

NEXT	IF CBECS Activity = Medical/Dental ➜ E6 [Medical equipment]
	IF CBECS Activity = Retail shop OR Office/Financial OR Other ➜ E7 [Laboratory equipment]
	OTHERWISE:
	  IF Electricity NOT used ➜ E9 [Verify no electricity]
	  OTHERWISE ➜ E10 [Refrigeration]

E6	Medical equipment	MEDEQP9

ASK	IF Any energy used & CBECS Activity=Medical/Dental

[F1]-HELP

Does this establishment have any equipment for medical diagnosis or treatment, such as X-ray, CAT scan, MRI, dialysis, or ultrasound machines?

    1   Yes
    2   No

NEXT	IF Electricity NOT used ➜ E9 [Verify no electricity] OTHERWISE ➜ E10 [Refrigeration]

E7	**Laboratory equipment**	*LABEQP9*
ASK	IF Any energy used & CBECS Activity = Retail shop; Office/Financial; OR Other	

Does this establishment have any specialized laboratory equipment that requires extra energy consumption?

◆ EXP: [Some examples are fume hoods, gas chromatographs, centrifuges, spectrometers, and analysis equipment.]

    1 Yes
    2 No

NEXT	IF CBECS Activity = Retail shop OR Other ➔ E8 [Machine equipment]
	OTHERWISE:
	   IF Electricity NOT used ➔ E9 [Verify no electricity]
	   OTHERWISE ➔ E10 [Refrigeration]

E8	**Machine equipment**	*MCHEQP9*
ASK	IF Any energy used & CBECS Activity = Retail shop OR Other	

Does this establishment have any machine or shop equipment such as woodworking tools, metalworking tools, arc welders, or any other types of power tools?

    1 Yes
    2 No

NEXT	IF Electricity NOT used ➔ E9 [Verify no electricity] OTHERWISE ➔ E10 [Refrigeration]

E9	**Verify no electricity**	*NOELEC9*
ASK	IF Any energy used & Electricity not used & D65 [Energy for generation] ≠ Yes	

I do not have electricity recorded as being used in this establishment. Is it true that there is not any electricity used in this establishment?

    1 True, electricity is <u>not</u> used
    2 False, electricity is used

NEXT	IF True, electricity is not used OR DK/RF ➔ E51 [Window glass type] IF False, electricity is used ➔ E10 [Refrigeration]

E10	Refrigeration	RFGEQP9

ASK	IF Electricity used OR D65 [Energy for generation] = Yes OR E9 [Verify no electricity] = False, electricity is used

[F1]-HELP

Is there any refrigeration or freezer equipment used in this establishment, including vending machines?

    1   Yes
    2   No

NEXT	IF Yes ➔ E11 [Refrigeration types] IF No OR DK/RF ➔ E19 [Computers used]

E11	Refrigeration types	see below

ASK	IF E10 [Refrigeration] = Yes

[F1]-HELP

📄SHOW CARD E2

Looking at this card, please tell me which types of refrigeration or freezer equipment are found in this establishment.

◆   PROBE for any others

◆   ENTER all that apply

1	Walk-in refrigeration/freezer units	RFGWI9
2	Open refrigerated/freezer cases or cabinets	RFGOP9
3	Residential-type refrigerators/freezers	RFGCL9
4	Closed refrigerated/freezer cases or cabinets	RFGRES9
5	Refrigerated vending machines	RFGVEN9
6	Commercial ice makers	RFGICE9
7	Large cold storage areas	RFGSTO9

NEXT	IF Walk-in units selected ➔ E12 [Number walk-in units] IF Open cases or cabinets selected ➔ E13 [Number open cases] IF Residential-type selected ➔ E14 [Number residential refrigerators] IF Closed cases or cabinets selected ➔ E15 [Number closed cases] IF Refrigerated vending machines selected ➔ E16 [Number vending] IF Commercial ice makers selected ➔ E17 [Number ice makers] IF Large cold storage areas selected ➔ E18 [Percent cold storage] IF DK/RF ➔ E19 [Computers used]

E12	Number walk-in units	RFGWIN9
ASK	IF Walk-in units IN E11 [Refrigeration types]	

How many walk-in refrigeration or freezer units are there?

◆ PROBE for estimate if DK

RANGE	1 to 999
NEXT	IF Open cases or cabinets IN E11 [Refrigeration types] ➜ E13 [Number open cases] IF Residential-type IN E11 [Refrigeration types] ➜ E14 [Number residential refrigerators] IF Closed cases or cabinets IN E11 [Refrigeration types] ➜ E15 [Number closed cases] IF Refrigerated vending machines IN E11 [Refrigeration types] ➜ E16 [Number vending] IF Commercial ice makers IN E11 [Refrigeration types] ➜ E17 [Number ice makers] IF Large cold storage areas IN E11 [Refrigeration types] ➜ E18 [Percent cold storage] OTHERWISE ➜ E19 [Computers used]

E13	Number open cases	RFGOPN9
ASK	IF Open cases or cabinets IN E11 [Refrigeration types]	

How many open refrigerated or freezer cases or cabinets are there?

◆ PROBE for estimate if DK

RANGE	1 to 999
NEXT	IF Residential-type IN E11 [Refrigeration types] ➜ E14 [Number residential refrigerators] IF Closed cases or cabinets IN E11 [Refrigeration types] ➜ E15 [Number closed cases] IF Refrigerated vending machines IN E11 [Refrigeration types] ➜ E16 [Number vending] IF Commercial ice makers IN E11 [Refrigeration types] ➜ E17 [Number ice makers] IF Large cold storage areas IN E11 [Refrigeration types] ➜ E18 [Percent cold storage] OTHERWISE ➜ E19 [Computers used]

E14	Number residential refrigerators	RFGRSN9
ASK	IF Residential-type IN E11 [Refrigeration types]	

How many residential-type refrigerators or freezers are there?

◆ PROBE for estimate if DK

RANGE	1 to 999
NEXT	IF Closed cases or cabinets IN E11 [Refrigeration types] ➜ E15 [Number closed cases] IF Refrigerated vending machines IN E11 [Refrigeration types] ➜ E16 [Number vending] IF Commercial ice makers IN E11 [Refrigeration types] ➜ E17 [Number ice makers] IF Large cold storage areas IN E11 [Refrigeration types] ➜ E18 [Percent cold storage] OTHERWISE ➜ E19 [Computers used]

E15	Number closed cases	RFGCLN9
ASK	IF Closed cases or cabinets IN E11 [Refrigeration types]	

How many closed refrigerated or freezer cases or cabinets are there?

◆ PROBE for estimate if DK

RANGE	1 to 999
NEXT	IF Refrigerated vending machines IN E11 [Refrigeration types] ➔ E16 [Number vending] IF Commercial ice makers IN E11 [Refrigeration types] ➔ E17 [Number ice makers] IF Large cold storage areas IN E11 [Refrigeration types] ➔ E18 [Percent cold storage] OTHERWISE ➔ E19 [Computers used]

E16	Number vending	RFGVNN9
ASK	IF Refrigerated vending machines IN E11 [Refrigeration types]	

How many refrigerated vending machines are there inside the establishment?

◆ PROBE for estimate if DK

RANGE	1 to 999
NEXT	IF Commercial ice makers IN E11 [Refrigeration types] ➔ E17 [Number ice makers] IF Large cold storage areas IN E11 [Refrigeration types] ➔ E18 [Percent cold storage] OTHERWISE ➔ E19 [Computers used]

E17	Number ice makers	RFGICN9
ASK	IF Commercial ice makers IN E11 [Refrigeration types]	

How many commercial ice makers are there inside the establishment?

◆ PROBE for estimate if DK

RANGE	1 to 999
NEXT	IF Large cold storage areas IN E11 [Refrigeration types] ➔ E18 [Percent cold storage] OTHERWISE ➔ E19 [Computers used]

E18	Percent cold storage	RFGSTN9

ASK	IF Large cold storage areas IN E11 [Refrigeration types]

About what percent of the total floorspace in the establishment is used for cold storage?

◆ PROBE for estimate if DK

RANGE	1 to 999

NEXT	IF Electricity not used, D65 [Energy for generation] = No & E9 [Verify no electricity] = True, electricity is <u>not</u> used OR CBECS Activity = Vacant & C1 [Occupied/vacant past 12 months] = Yes ➜ E43 [Percent lit when closed] OTHERWISE ➜ E19 [Computers used]

E19	Computers used	PCTERM9

ASK	IF Electricity used OR D65 [Energy for generation] = Yes OR E9 [Verify no electricity] = False, electricity is used & NOT(CBECS Activity = Vacant & C1 [Occupied/vacant past 12 months] = Yes)

Are there any computers used in this establishment?

◆ EXP: [Do not include inventory, such as in retail stores.]

    1 Yes
    2 No

NEXT	IF Yes ➜ E20 [Number of computers] IF No OR DK/RF ➜ E30 [Dedicated servers]

E20	Number of computers	PCNUM9

ASK	IF E19 [Computers used] = Yes

Not counting any dedicated servers or laptop computers, about how many computers are used in this establishment?

◆ EXP: [Do not include inventory, such as in retail stores.]

◆ DEF: [A server is usually just the CPU, or "case," portion of a computer that manages network resources such as computer files, printers, databases, or network traffic; servers do not require much human operation, so most do not have keyboards or monitors.]

RANGE	1 to 9,999,999

NEXT	IF DK/RF ➜ E21 [Computers category] IF Number given ➜ E22 [Multiple monitors]

E21	Computers category	PCTRMC9
ASK	IF E20 [Number of computers] = DK/RF	

SHOW CARD E3

Looking at this card, which category best describes the number of computers used in this establishment?

    1   1 to 4
    2   5 to 9
    3   10 to 19
    4   20 to 49
    5   50 to 99
    6   100 to 249
    7   250 to 499
    8   500 to 999
    9   1,000 to 2,499
   10   2,500 to 4,999
   11   5,000 or more

NEXT	➔ E22 [Multiple monitors]

E22	Multiple monitors	MLTMON9
ASK	IF E19 [Computers used] = Yes	

Do any of the computers use more than one monitor?

    1   Yes
    2   No

NEXT	IF Yes ➔ E23 [Multiple monitor category] IF No OR DK/RF ➔ E24 [Flat screen]

E23	Multiple monitor category	MLTMNC9
ASK	IF E22 [Multiple monitors] =Yes	

Would you say that multiple monitors are used with all of the computers, most of them, some of them, or just a few?

    1   All
    2   Most
    3   Some
    4   A few

NEXT	➔ E24 [Flat screen]

E24	Flat screen	FLAT9

ASK	IF E19 [Computers used] = Yes

FILL	**{FlatQuestion}** IF E22 [Multiple monitors] = Yes = Are any of the monitors of this type? IF E22 [Multiple monitors] ≠ Yes = Do any of the computers in this establishment have these types of monitors?

🖹 SHOW CARD E4

Please look at this picture of a flat screen monitor. {FlatQuestion}

◆ DEF: [A flat screen monitor, also known as a liquid crystal display or LCD, is lightweight and very thin, in contrast to most standard monitors which have bulky backs and take up a lot of desk space.]

    1   Yes
    2   No

NEXT	Yes ➔ E25 [Flat screen category] No OR DK/RF ➔ E26 [Number of laptops]

E25	Flat screen category	FLATC9

ASK	IF E24 [Flat screen] =Yes

FILL	**{MonitorsComputers}** IF E22 [Multiple monitors] = Yes = "the monitors are" IF E22 [Multiple monitors] ≠ Yes = "the computers have"

Would you say that all {MonitorsComputers} flat screen monitors, most of them, some of them, or just a few?

    1   All
    2   Most
    3   Some
    4   A few

NEXT	➔ E26 [Number of laptops]

E26	Number of laptops	LAPTPN9

ASK	IF E19 [Computers used] = Yes

About how many laptop computers are used in this establishment?

◆ EXP: [Do not include inventory, such as in retail stores.]

RANGE	1 to 9,999,999

NEXT	IF DK/RF ➔ E27 [Laptops category] IF Number given ➔ E28 [Number of printers]

E27	**Laptops category**	*LAPTPC9*
ASK	IF E26 [Number of laptops] = DK/RF	

📄SHOW CARD E5

Looking at this card, which category best describes the number of laptop computers used in this establishment?

     1   1 to 4
     2   5 to 9
     3   10 to 19
     4   20 to 49
     5   50 to 99
     6   100 to 249
     7   250 to 499
     8   500 to 999
     9   1,000 to 2,499
   10 2,500 to 4,999
   11 5,000 or more

NEXT	➔ E28 [Number of printers]

E28	**Number of printers**	*PRNTRN9*
ASK	IF E19 [Computers used] = Yes	

About how many printers are there in this establishment?

◆   PROBE for estimate if DK

RANGE	0 to 9,999,999
NEXT	IF Number given ➔ E29 [Type of printers] IF DK/RF ➔ E30 [Dedicated servers]

E29	**Type of printers**	*PRNTYP9*
ASK	IF E28 [Number of printers] ≠ (DK/RF OR Zero)	

[F1]-HELP

Are these mainly inkjet or laser printers?

     1   Inkjet
     2   Laser
     3   IF VOLUNTEERED: Some other type
     4   IF VOLUNTEERED: Half inkjet, half laser

NEXT	➔ E30 [Dedicated servers]

E30	Dedicated servers	SERVER9

ASK	IF E19 [Computers used] = Yes

Are there any dedicated computer servers used in this establishment?

◆ DEF: [A server is usually just the CPU, or "case," portion of a computer that manages network resources such as computer files, printers, databases, or network traffic; servers do not require much human operation, so most do not have keyboards or monitors.]

◆ DEF: [Dedicated means that the server performs no other tasks besides server tasks.]

    1   Yes
    2   No

NEXT	IF Yes ➜ E31 [Number of servers] IF No OR DK/RF ➜ E33 [Separate computer areas]

E31	Number of servers	SRVNUM9

ASK	IF E30 [Dedicated servers] = Yes

About how many dedicated servers are used in this establishment?

RANGE	1 to 9,999,999

NEXT	IF DK/RF ➜ E32 [Servers category] IF Number given ➜ E33 [Separate computer areas]

E32	Servers category	SRVRC9

ASK	IF E31 [Number of servers] = DK/RF

📄SHOW CARD E6

Looking at this card, which category best describes the number of servers used in this establishment?

    1   1 to 4
    2   5 to 9
    3   10 to 19
    4   20 to 49
    5   50 to 99
    6   100 to 249
    7   250 to 499
    8   500 to 999
    9   1,000 to 2,499
  10   2,500 to 4,999
  11   5,000 or more

NEXT	➜ E33 [Separate computer areas]

E33	Separate computer areas	*see below*
ASK	IF E19 [Computers used] = Yes	

📄SHOW CARD E7

Please look at this card and tell me if any of these types of separate computer areas are found in this establishment.

◆ PROBE for any others

◆ ENTER all that apply

    1   High-density computing center   *HIDENS9*
    2   Computer-based training room   *TRNGRM9*
    3   Student or public computer center   *STDNRM9*
    4   Other type of specialized computer area   *OTPCRM9*
    5   IF VOLUNTEERED: None of these types of areas

NEXT	IF Other type of specialized computer area selected ➜ E34 [Other computer area] IF Any other type selected ➜ E35 [Computer area percent] IF None of these types of areas OR DK/RF ➜ E36 [Number of cash registers]

E34	Other computer area
ASK	IF Other type of specialized computer area IN E33 [Separate computer areas]

Please describe this other type of computer area.

◆ RECORD in open box

NEXT	➜ E35 [Computer area percent]

E35	Computer area percent	*PCRMP9*
ASK	IF E33 [Separate computer areas] ≠ None of these types of areas OR DK/RF	

Approximately what percent of the floorspace in this establishment does all of the computer area you just mentioned comprise?

RANGE	1 to 100
NEXT	➜ E36 [Number of cash registers]

E36	Number of cash registers	RGSTRN9

ASK	IF Electricity used OR D65 [Energy for generation] = Yes
	    OR E9 [Verify no electricity] = False, electricity is used
	        & NOT(CBECS Activity = Vacant & C1 [Occupied/vacant past 12 months] = Yes)	

About how many cash registers are used in this establishment?

   ◆   PROBE for estimate if DK

RANGE	0 to 9,999
NEXT	➔ E37 [Photocopiers]

E37	Photocopiers	COPIER9

ASK	IF Electricity used OR D65 [Energy for generation] = Yes
	    OR E9 [Verify no electricity] = False, electricity is used
	        & NOT(CBECS Activity = Vacant & C1 [Occupied/vacant past 12 months] = Yes)	

Are there any photocopiers, other than small desktop copiers, used in this establishment?

   1   Yes
   2   No

NEXT	IF Yes ➔ E38 [Number of photocopiers] IF No OR DK/RF ➔ E39 [FAX machines]

E38	Number of photocopiers	COPRN9
ASK	IF E37 [Photocopiers] = Yes

About how many photocopiers are there?

   ◆   PROBE for estimate if DK

RANGE	1 to 9,999
NEXT	➔ E39 [FAX machines]

E39	FAX machines	FAX9

ASK	IF Electricity used OR D65 [Energy for generation] = Yes OR E9 [Verify no electricity] = False, electricity is used & NOT(CBECS Activity = Vacant & C1 [Occupied/vacant past 12 months] = Yes)

Are there any FAX machines used in this establishment?

    1 Yes
    2 No

NEXT	IF E19 [Computers used] = Yes ➔ E40 [Equipment turned off] OTHERWISE ➔ E41 [Percent lit when open]

E40	Equipment turned off	RDOFEQ9

ASK	IF E19 [Computers used] = Yes

FILL	**{Equipment}**
	IF E28 [Number of printers] number was given OR E36 [Number of cash registers] number was given
	    OR E37 [Photocopiers] = Yes OR E39 [FAX machines] = Yes = "the computers and the office
	    equipment just mentioned"
	OTHERWISE = "the computers"

[F1]-HELP

How often are the majority of {Equipment} turned off when the establishment is not normally open? Would you say that they are always turned off, sometimes turned off, or never turned off when the establishment is not normally open?

    1   Always turned off
    2   Sometimes turned off
    3   Never turned off
    4   IF VOLUNTEERED: Computers are "powered down"

NEXT	➔ E41 [Percent lit when open]

E41	**Percent lit when open**	*LTOHRP9*

ASK	IF Electricity used OR D65 [Energy for generation] = Yes OR E9 [Verify no electricity] = False, electricity is used & NOT(CBECS Activity = Vacant & C1 [Occupied/vacant past 12 months] = Yes)

FILL	**{SqFt}** IF A1 [Square footage] known = "A1 [Square footage] square feet" IF A1 [Square footage] = DK/RF = "floorspace"

[F1]-HELP

The next questions are about the lighting inside the establishment.

What percentage of the {SqFt} in this establishment is lit when the establishment is normally open?

- ◆ DEF: ["Normally open" means the hours when the usual activities occur.]

- ◆ If lit square footage is known but not the percent, RECORD square footage in comments, then code DK

RANGE	0 to 100

NEXT	IF DK/RF ➔ E42 [Lit when open category] OTHERWISE ➔ E43 [Percent lit when closed]

E42	**Lit when open category**	*LOHRPC9*

ASK	IF E41 [Percent lit when open] = DK/RF

[F1]-HELP

📄SHOW CARD E8

Looking at this list, what is your best estimate of the percent of the square feet in this establishment that is lit?

    1   1 to 25 percent
    2   26 to 50 percent
    3   51 to 75 percent
    4   76 to 100 percent
    5   Not lit at all when it is normally open

NEXT	➔ E43 [Percent lit when closed]

E43	Percent lit when closed	LTNHRP9

FILL	**{SqFt}** IF A1 [Square footage] known = "A1 [Square footage] square feet" IF A1 [Square footage] = DK/RF = "floorspace"

[F1]-HELP

What percentage of the {SqFt} is lit during off hours, that is the hours when the establishment is not normally open? Exclude the space lit by emergency lighting.

◆ If lit square footage is known but not the percent,
RECORD square footage in comments, then code DK

RANGE	0 to 100

NEXT	IF DK/RF ➜ E44 [Lit when closed category]
	IF Percent lit when closed > 0 ➜ E45 [Lighting types]
	IF Percent lit when closed = 0:
	   IF E41 [Percent lit when open] > 0 OR E42 [Lit when open category] ≠ Not lit ➜ E45 [Lighting types]
	   OTHERWISE ➜ E51 [Window glass type]

E44	Lit when closed category	LNHRPC9

ASK	IF E43 [Percent lit when closed] = DK/RF

[F1]-HELP

📄SHOW CARD E9

Looking at this list, what is your best estimate of the percent lit during off hours?

    1   1 to 25 percent
    2   26 to 50 percent
    3   51 to 75 percent
    4   76 to 100 percent
    5   Not lit at all during off hours

NEXT	IF 1 to 100 percent ➜ E45 [Lighting types]
	IF Not lit at all:
	   IF E41 [Percent lit when open] > 0 OR E42 [Lit when open category] ≠ Not lit ➜ E45 [Lighting types]
	   OTHERWISE ➜ E51 [Window glass type]

E45	**Lighting types**	*see below*

ASK	IF E41 [Percent lit when open] > 0 OR E42 [Lit when open category] ≠ Not lit
	OR E43 [Percent lit when closed] > 0 OR E44 [Lit when closed category] ≠ Not lit

[F1]-HELP

📄 SHOW CARD E10

Looking at this card, what types of lighting were used to light any of the space in this establishment?

◆ PROBE for any others

◆ ENTER all that apply

1	Fluorescent lighting other than compact fluorescent bulbs	*FLUOR9*
2	Compact fluorescent bulbs	*CFLR9*
3	Incandescent light bulbs, other than halogen bulbs	*BULB9*
4	Halogen bulbs	*HALO9*
5	High intensity discharge (HID) lights such as high pressure sodium, metal halide or mercury vapor	*HID9*
6	Light-emitting diode (LED) lights	*LED9*
7	Other type of lighting	*OTLT9*

NEXT	IF Other type of lighting selected ➔ E46 [Other bulb type]
	OTHERWISE:
	IF More than one type selected ➔ E47 [Percent lit by bulb type]
	IF Only one type selected:
	IF Fluorescent (1) selected ➔ E48 [Specular reflectors]
	IF HID (5) selected ➔ E49 [Electronic ballasts]
	IF D42 [How reduce heating] = EMCS OR D55 [How reduce cooling] = EMCS
	➔ E50 [EMCS controls lighting]
	OTHERWISE ➔ E51 [Window glass type]

E46	**Other bulb type**	*OTLTX9*

ASK	IF Other type of lighting IN E45 [Lighting types]

What type of bulb is the other type of lighting?

◆ RECORD in space below

NEXT	IF More than one type selected in E45 [Lighting types] ➔ E47 [Percent lit by bulb type]
	IF Only one type selected in E45 [Lighting types]:
	IF Fluorescent in E45 [Lighting types] ➔ E48 [Specular reflectors]
	IF HID in E45 [Lighting types] ➔ E49 [Electronic ballasts]
	IF D42 [How reduce heating] = EMCS OR D55 [How reduce cooling] = EMCS
	➔ E50 [EMCS controls lighting]
	OTHERWISE ➔ E51 [Window glass type]

E47	**Percent lit by bulb type**	*FLUORP9, CFLRP9, BULBP9, HALOP9, HIDP9, LEDP9, OTLTP9*
ASK	For each lighting type given in E45 [Lighting types]	
FILL	**{Introduction}** IF First lighting type = "The next questions are about the percent of floorspace lit by the types of lighting you just mentioned. Please keep in mind: " OTHERWISE = BLANK **{Explanation}** IF First lighting type and E41 [Percent lit when open] ≠ 100 = "We are talking only about the <u>lighted portion</u> of the floorspace, so these percents must add up to at least 100, but since more than one type of bulb can light the same area, it is also possible for them to add up to <u>more</u> than 100." IF First lighting type and E41 [Percent lit when open] = 100 = "These percents must add up to at least 100, but since more than one type of bulb can light the same area, it is also possible for them to add up to <u>more</u> than 100." OTHERWISE = BLANK **{BulbType}** IF Fluorescent IN E45 [Lighting types] = "fluorescent lighting" IF Compact fluorescent bulbs IN E45 [Lighting types] = "compact fluorescent bulbs" IF Incandescent light bulbs IN E45 [Lighting types] = "incandescent bulbs" IF Halogen bulbs IN E45 [Lighting types] = "halogen lighting" IF High intensity discharge (HID) lights IN E45 [Lighting types] = "high intensity discharge lights" IF Light-emitting diode (LED) lights IN E45 [Lighting types] = "LED lights" IF Other type of lighting IN E45 [Lighting types] = "other lighting type"	

📄SHOW CARD E11

{Introduction}

{Explanation}

What percent of the lighted area in this establishment is lit by the {BulbType}?

◆   PROBE for estimate if DK

RANGE	0 to 100
NEXT	IF Fluorescent in E45 [Lighting types] ➔ E48 [Specular reflectors] IF HID in E45 [Lighting types] ➔ E49 [Electronic ballasts] IF D42 [How reduce heating] = EMCS OR D55 [How reduce cooling] = EMCS ➔ E50 [EMCS controls lighting] OTHERWISE ➔ E51 [Window glass type]

E48	**Specular reflectors**	*SREF9*

ASK	IF Fluorescent in E45 [Lighting types]

Does your establishment's interior lighting system have any specular reflectors, which are designed to increase the amount of light from a fluorescent fixture?

◆ DEF: [A specular reflector consists of a reflective surface or panel attached to a fluorescent lamp to direct a greater fraction of the lamp's light to the room.]

    1   Yes
    2   No

NEXT	➔ E49 [Electronic ballasts]

E49	**Electronic ballasts**	*HEB9*

ASK	IF Fluorescent OR HID in E45 [Lighting types]

Do any of the establishment's lights have electronic ballasts?

◆ DEF: [A ballast is the transformer for fluorescent and HID lamps which provides the necessary current, voltage, and wave-form conditions to operate the lamp. Electronic ballasts operate lamps using electronic switching power supply circuits, are lightweight, and start instantly without flickering.]

◆ EXP: [Do not include magnetic ballasts.]

    1   Yes
    2   No

NEXT	IF D42 [How reduce heating] = EMCS OR D55 [How reduce cooling] = EMCS ➔ E50 [EMCS controls lighting] OTHERWISE ➔ E51 [Window glass type]

E50	**EMCS controls lighting**	*EMCSLT9*

ASK	IF (E41 [Percent lit when open] > 0 OR E42 [Lit when open category] ≠ Not lit OR E43 [Percent lit when closed] > 0 OR E44 [Lit when closed category] ≠ Not lit) & D42 [How reduce heating] = EMCS OR D55 [How reduce cooling] = EMCS

[F1]-HELP

Does the "Energy Management and Control System (EMCS)" or "Building Automation System (BAS)" that you mentioned earlier also control the interior lighting system?

    1   Yes
    2   No

NEXT	➔ E51 [Window glass type]

E51	**Window glass type**	*WINTYP9*

ASK	All Establishments

📄SHOW CARD E12

Looking at the picture on this card, which shows a multi-layer window, do the exterior windows in this establishment contain single layer glass, multi-layer glass, or a combination of both of these types?

      1   Single layer glass
      2   Multi-layer glass
      3   Combination of both
      4   IF VOLUNTEERED: No windows

NEXT	IF Single layer, Multi-layer, OR Combination ➔ E52 [Daylighting features] IF No windows OR DK/RF ➔ F1 [Section F Routing]

E52	**Daylighting features**	*see below*

ASK	IF E51 [Window glass type] ≠ (No windows OR DK/RF)

📄SHOW CARD E13

Looking at the list at the bottom of this same card, please tell me which of these daylighting or conservation features are present in this establishment.

◆   PROBE for any others

◆   ENTER all that apply

1	Tinted window glass	*TINT9*
2	Reflective window glass	*REFL9*
3	External overhangs or awnings	*AWN9*
4	Skylights or atriums designed to provide light	*SKYLT9*
5	Automatic controls or sensors that increase or reduce lighting in response to the level of natural light	*AUTOLT9*
6	Occupancy sensors that reduce lighting when rooms are unoccupied	*OCSN9*
7	IF VOLUNTEERED: None of these	

NEXT	➔ E53 [Percent daylight]

E53	**Percent daylight**	*DAYLTP9*
ASK	IF E51 [Window glass type] ≠ (No windows OR DK/RF)	

What percent of the establishment receives enough outside light so that the interior lights do not need to be turned on?

   ◆   If none, ENTER "0"

   ◆   PROBE for estimate if DK

RANGE	0 to 100
NEXT	➔ F1 [Section F Routing]

SECTION F. <u>ELECTRICITY</u>

F1	Section F Routing
NEXT	IF Electricity used ➔ F2 [WS2 electricity filled out] OTHERWISE ➔ G1 [Section G Routing]

F2	WS2 electricity filled out	*WS2ELCE9*
ASK	IF Electricity used	

Do you have Worksheet 2 with you and filled out for electricity?

     1   Yes
     2   No

NEXT	IF No OR DK/RF ➔ F3 [Provide electricity figures] IF Yes ➔ F5 [Electricity consumption]

F3	Provide electricity figures	*ELFIGS9*
ASK	IF F2 [WS2 electricity filled out] = No OR DK/RF	

The next questions are about electricity usage in the establishment during calendar year 2007. Would you be able to give me an approximate figure of how much electricity was used or how much was spent on it?

     1   Yes
     2   No

NEXT	IF Yes ➔ F5 [Electricity consumption] IF No OR DK/RF ➔ F4 [Electricity included in rent]

F4	Electricity included in rent	*ELNRENT9*
ASK	IF F3 [Provide electricity figures] = No OR DK/RF	

Is the cost of the electricity used in this establishment included in the rent?

     1   Yes
     2   No

NEXT	➔ F19 [Number electricity suppliers]

F5	Electricity consumption	ELCNS9

ASK	IF F2 [WS2 electricity filled out] = Yes OR F3 [Provide electricity figures] = Yes

[F1]-HELP

Please give me the total number of kilowatthours of electricity used in calendar year 2007.

◆ EXP: [If the respondent only knows the consumption for the entire building including other establishments, ENTER the total consumption for the building here.]

◆ VERIFY number digit by digit

RANGE	1 to 99,999,999,999,999
NEXT	➔ F6 [Electricity expenditures]

F6	Electricity expenditures	ELEXP9

ASK	IF F2 [WS2 electricity filled out] = Yes OR F3 [Provide electricity figures] = Yes

[F1]-HELP

Please give me the total dollars spent on electricity in calendar year 2007. This should include state and local taxes and the following charges: fuel adjustment, system, distribution, and demand.

◆ Do not enter cents

◆ VERIFY number digit by digit

RANGE	0 to 999,999,999
NEXT	IF F5 [Electricity consumption] = DK/RF & F6 [Electricity expenditures] = DK/RF ➔ F19 [Number electricity suppliers] OTHERWISE ➔ F7 [Starting date for electricity figures]

F7	Starting date for electricity figures	ELSTDAT9

ASK	IF F5 [Electricity consumption] given OR F6 [Electricity expenditures] given

[F1]-HELP

What is the starting date for these electricity usage figures?

- ◆ ENTER date as MMDDYYYY

- ◆ If the day is not known, ENTER "15"

NEXT	➔ F8 [Ending date for electricity figures]

F8	Ending date for electricity figures	ELENDAT9

ASK	IF F5 [Electricity consumption] given OR F6 [Electricity expenditures] given

[F1]-HELP

What is the ending date [for these electricity usage figures]?

- ◆ ENTER date as MMDDYYYY
.
- ◆ VERIFY that this is the last day of the last billing period

- ◆ If the day is not known, ENTER "15"

NEXT	➔ F9 [Other estabs electricity included]

F9	Other estabs electricity included	ELOTBD9

ASK	IF F5 [Electricity consumption] given OR F6 [Electricity expenditures] given

Is any consumption from other establishments included in these figures?

    1   Yes
    2   No

NEXT	IF Yes ➔ F10 [Sq ft of other included]
	IF No OR DK/RF ➔ F13 [Include other major electricity]

F10	Sq ft of other included	ELOTSF9

ASK	IF F9 [Other estabs electricity included] = Yes

What is the approximate square footage of the <u>other</u> establishments that are included in these figures?

◆   PROBE for estimate if DK

RANGE	1 to 999,999,999

NEXT	IF A1 [Square footage] known & Number given > A1 [Square footage] & Number given < A1 [Square footage] x 50 ➔ F11 [Verify sq ft is other estabs] OTHERWISE ➔ F13 [Include other major electricity]

F11	Verify sq ft is other estabs	ELOTVY9

ASK	IF Number given IN F10 [Sq ft of other included] & A1 [Square footage] known
	     & F10 [Sq ft of other included] > A1 [Square footage]
	     & F10 [Sq ft of other included] < A1 [Square footage] x 50

FILL	{SqFt} = A1 [Square footage] square feet {OtherSqFt} = F10 [Sq ft of other included] {TotalSqFt} = A1 [Square footage] square feet + F10 [Sq ft of other included]

So, just to verify, the consumption figures you just gave me are for both this {SqFt} square foot establishment <u>and</u> {OtherSqFt} square feet of additional space, for a total of {TotalSqFt} square feet, is that correct?

    1   Yes, consumption is for {TotalSqFt} square feet
    2   No, the square footage just given was the total including this establishment - consumption is for {OtherSqFt} square feet
    3   No, consumption is for some other number of square feet

NEXT	IF No, consumption is for some other number of square feet ➔ F12 [What sq ft included] OTHERWISE ➔ F13 [Include other major electricity]

F12	What sq ft included	ELTOSF9

ASK	IF F11 [Verify sq ft is other estabs] = No, consumption is for some other number of square feet

What is the total floorspace included in the electricity usage figures?

◆   PROBE for estimate if DK

RANGE	1 to 999,999,999

NEXT	➔ F13 [Include other major electricity]

F13	Include other major electricity	ELOTUS9

ASK	IF F5 [Electricity consumption] given OR F6 [Electricity expenditures] given

Do these figures include charges for any <u>other</u> major electricity usage outside the establishment, such as parking lot lights, exterior lights, signs or billboards, large pumps, or swimming pools?

    1   Yes
    2   No

NEXT	IF Independent power producer or non-local utility OR Bought from someone else
	    IN D75 [How purchase electricity] ➜ F14 [Include all non-local electricity]
	OTHERWISE:
	    IF F2 [WS2 electricity filled out] = Yes ➜ F19 [Monthly electricity included]
	    IF F2 [WS2 electricity filled out] = No OR DK/RF ➜ F20 [Monthly electricity available]

F14	Include all non-local electricity	ELNONU9

ASK	IF (F5 [Electricity consumption] given OR F6 [Electricity expenditures] given) & (Independent power producer or non-local utility OR Bought from someone else IN D75 [How purchase electricity])

Do these figures include all the electricity from the independent power producer, non-local utility, or broker?

    1   Yes
    2   No

NEXT	IF No ➜ F18 [What not included]
	IF Yes OR DK/RF:
	    IF F2 [WS2 electricity filled out] = Yes ➜ F16 [Monthly electricity included]
	    IF F2 [WS2 electricity filled out] = No OR DK/RF ➜ F17 [Monthly electricity available]

F15	What not included

ASK	IF F14 [Include all non-local electricity] = No

What was not included?

    ◆   RECORD the additional charges in the open box

NEXT	IF F2 [WS2 electricity filled out] = Yes ➜ F16 [Monthly electricity included] IF F2 [WS2 electricity filled out] = No OR DK/RF ➜ F17 [Monthly electricity available]

F16	Monthly electricity included	ELINC129

ASK	IF (F5 [Electricity consumption] given OR F6 [Electricity expenditures] given) & F2 [WS2 electricity filled out] = Yes

Did you include your monthly electricity usage on Worksheet 2?

      1   Yes
      2   No

NEXT	IF No OR DK/RF ➔ F17 [Monthly electricity available] OTHERWISE ➔ F18 [Electricity bill available]

F17	Monthly electricity available	ELHAV129

ASK	IF (F5 [Electricity consumption] given OR F6 [Electricity expenditures] given) & (F2 [WS2 electricity filled out] = No OR DK/RF OR F16 [Monthly electricity included] = No OR DK/RF)

Do you have a record of the monthly electricity use that I could have to help us better understand the seasonal patterns of electricity use?

◆   If available, you will be prompted again to
    collect this at the end of the interview, so it is
    not necessary to stop the interview to collect it here

      1   Yes, monthly electricity available
      2   No, will not be able to provide monthly electricity

NEXT	➔ F21 [Electricity bill available]

F18	Electricity bill available	ELBILL9

ASK	IF F5 [Electricity consumption] given OR F6 [Electricity expenditures] given

Would it be possible for me to scan one of your electricity bills? There is information on some utility bills that may help energy researchers who use these data.

◆   EXP: [Examples of these items include miscellaneous
    charges, past months data, and units of measure.]

◆   If available, you will be prompted to scan the bill at the end of
    the interview, so it is not necessary to stop the interview here

      1   Yes, bill available
      2   No, will not be able to provide bill

NEXT	➔ G1 [Section G Routing]

F19	Number electricity suppliers	ELNUMSP9

ASK	IF F3 [Provide electricity figures] = No OR DK/RF
	    OR
	    F5 [Electricity consumption] = DK/RF & F6 [Electricity expenditures] = DK/RF

We should be able to obtain this information directly from your electricity supplier, so I just need to collect some information about your electricity accounts.

In some parts of the country, customers can purchase energy from more than one supplier. How many different companies supplied electricity to this establishment during calendar year 2007?

RANGE	1 to 4
NEXT	Number given ➔ F20 [Electricity suppliers] DK/RF ➔ G1 [Section G Routing]

F20	Electricity suppliers	EL1LKP9—EL4LKP9

ASK	IF F19 [Number electricity suppliers] given
FILL	**{FirstNext}** IF Only one supplier = BLANK IF First supplier given = "first" OTHERWISE = "next"

What is the name of the {FirstNext} supplier that provided electricity in calendar year 2007?

◆   Start typing the name of the supplier or use
    <BACKSPACE> to bring up the look-up table

◆   Type in the first few letters of the supplier name,
    and the look-up table will scroll to the closest match

◆   If you find a match, make sure the correct line
    is highlighted (blue) and press <ENTER>

◆   If you don't find a match, use <BACKSPACE> to
    clear the Search line, which will bring you back to
    the top of the look-up table where ** NOT ON LIST
    will be highlighted, then press <ENTER> two times

NEXT	IF NOT ON LIST selected ➔ F21 [Supplier name]
	IF Supplier found in look-up table ➔ F27 [Number electricity accounts]
	IF DK/RF:
	    IF Only one supplier or last supplier ➔ G1 [Section G Routing]
	    IF More suppliers left to answer for ➔ Ask F20 [Electricity suppliers] again for next supplier

F21	Supplier name	EL1NEW9—EL4NEW9
ASK	IF NOT ON LIST selected in F20 [Electricity suppliers]	

◆   ENTER the name of the supplier

NEXT	IF Name given ➔ F22 [Street address]
	IF DK/RF:
	    IF Only one supplier or last supplier ➔ G1 [Section G Routing]
	    IF More suppliers left to answer for ➔ Back to F20 [Electricity suppliers] for next supplier

F22	Street address	EL1AD19—EL4AD19
ASK	IF NOT ON LIST selected in F20 [Electricity suppliers]	
FILL	**{Supplier}** = "F27 [Supplier name]"	

What is the address for {Supplier}, beginning with the street?

NEXT	➔ F23 [P.O. Box or Suite]

F23	P.O. Box or Suite	EL1AD29—EL4AD29
ASK	IF NOT ON LIST selected in F20 [Electricity suppliers]	

Is there a post office box or suite number?

◆   If not, press <ENTER>

NEXT	➔ F24 [City]

F24	City	EL1CTY9—EL4CTY9
ASK	IF NOT ON LIST selected in F20 [Electricity suppliers]	

What is the city?

NEXT	➔ F25 [State abbreviation]

F25	State abbreviation	EL1STA9—EL4STA9
ASK	IF NOT ON LIST selected in F20 [Electricity suppliers]	

What is the state?

◆   ENTER the two letter abbreviation

NEXT	➔ F26 [Zip code]

F26	Zip code	EL1ZIP9—EL4ZIP9
ASK	IF NOT ON LIST selected in F20 [Electricity suppliers]	

And what is the zip code?

NEXT	➔ F27 [Number electricity accounts]

F27	Number electricity accounts	EL1NAC9—EL4NAC9
ASK	IF Supplier found in F20 [Electricity suppliers] look-up table OR F21 [Supplier name] given	
FILL	{Supplier} = Supplier name from F20 [Electricity suppliers] look-up table OR F21 [Supplier name]	

How many different electricity accounts does this establishment have with {Supplier}?

RANGE	1 to 999
NEXT	IF 1 to 10 accounts ➔ F28 [Electricity account number] IF More than 10 accounts OR DK/RF ➔ F33 [Electricity bill available]

F28	Electricity account number	EL1AC19—EL4AC109
ASK	IF F27 [Number electricity accounts] = 1 to 10 Ask as many times as account numbers given, or until DK/RF	
FILL	{FirstNext} IF Only one account = BLANK IF First account given = "first" OTHERWISE = "next" {Supplier} = Supplier name from F20 [Electricity suppliers] look-up table OR F21 [Supplier name]	

Please give me the {FirstNext} electricity account number for {Supplier}.

◆   VERIFY number digit by digit

NEXT	IF Independent power producer or non-local utility OR Bought from someone else IN D75 [How purchase electricity] ➔ F29 [Supplier is non-local utility] OTHERWISE ➔ F30 [Bills cover only establishment]

F29	Supplier is non-local utility	EL1NONU9—EL4NONU9

ASK	IF (Supplier found in F20 [Electricity suppliers] look-up table OR F21 [Supplier name] given) & (Independent power producer or non-local utility OR Bought from someone else IN D75 [How purchase electricity])
FILL	**{Supplier}** = Supplier name from F20 [Electricity suppliers] look-up table OR F21 [Supplier name]

You mentioned earlier that you purchase electricity from an independent power producer, non-local utility, or broker. Is {Supplier} one of those companies?

    1   Yes
    2   No

NEXT	➜ F30 [Bills cover only establishment]

F30	Bills cover only establishment	EL1OTB9—EL4OTB9

ASK	IF Supplier found in F20 [Electricity suppliers] look-up table OR F21 [Supplier name] given
FILL	**{Bills}** IF Only one account = "Does the bill or statement" IF 2 to 10 accounts = "Do the bills or statements" **{Supplier}** = Supplier name from F20 [Electricity suppliers] look-up table OR F21 [Supplier name]

{Bills} from {Supplier} cover just this establishment or are other establishments covered as well?

    1   Just this establishment
    2   Other establishment(s)

NEXT	IF Other establishments ➜ F31 [Sq ft of others included] IF Just this establishment OR DK/RF ➜ F32 [Include other major electricity]

F31	Sq ft of others included	EL1OTS9—EL4OTS9

ASK	IF F30 [Bills cover only establishment] = Other establishments
FILL	**{Bills}** IF Only one account = "bill or statement" IF 2 to 10 accounts = "bills or statements"

What is the approximate square footage of the <u>other</u> establishments included on the {Bills}?

    ◆   PROBE for estimate if DK

RANGE	1 to 999,999,999
NEXT	➜ F32 [Include other major electricity]

F32	Include other major electricity	EL1OTU9—EL4OTU9
ASK	IF Supplier found in F20 [Electricity suppliers] look-up table OR F21 [Supplier name] given	
FILL	**{Bills}** IF Only one account = "Does the bill or statement" IF 2 to 10 accounts = "Do the bills or statements"	

{Bills} include charges for any <u>other</u> major electricity usage outside the establishment, such as parking lot lights, exterior lights, signs or billboards, large pumps or swimming pools?

     1   Yes
     2   No

NEXT	➔ F33 [Electricity bill available]

F33	Electricity bill available	EL1BILL9—EL4BILL9
ASK	IF (Supplier found in F20 [Electricity suppliers] look-up table OR F21 [Supplier name])	
FILL	**{Supplier}** = Supplier name from F20 [Electricity suppliers] look-up table OR F21 [Supplier name]	

Would it be possible for me to scan one electricity bill from {Supplier}? There is information on some utility bills that may help energy researchers who use these data.

◆   EXP: [Examples of these items include other miscellaneous charges,
     past months data, and units of measure.]

◆   If available, you will be prompted to scan the bill at the end of
     the interview, so it is not necessary to stop the interview here

     1   Yes, copy of bill available
     2   No, will not be able to provide copy of bill

NEXT	IF More suppliers left to answer for ➔ Back to F20 [Electricity suppliers] for next supplier OTHERWISE ➔ G1 [Section G Routing]

SECTION G. <u>NATURAL GAS</u>

G1	Section G Routing	
NEXT	IF Natural gas used ➜ G2 [WS2 natural gas filled out] OTHERWISE ➜ H1 [Section H Routing]	

G2	**WS2 natural gas filled out**	*WS2NGCE9*
ASK	IF Natural gas used	

Do you have Worksheet 2 with you and filled out for natural gas?
 	
    1   Yes
    2 No		

NEXT	IF No OR DK/RF ➜ G3 [Provide natural gas figures] IF Yes ➜ G5 [Units for natural gas]	

G3	**Provide natural gas figures**	*NGFIGS9*
ASK	IF G2 [WS2 natural gas filled out] = No OR DK/RF	

The next questions are about natural gas usage in this establishment during calendar year 2007. Would you be able to give me an approximate figure of how much natural gas was used or how much was spent on it?
 	
    1   Yes
    2 No		

NEXT	IF Yes ➜ G5 [Units for natural gas] IF No OR DK/RF ➜ G4 [Natural gas included in rent]	

G4	**Natural gas included in rent**	*NGNRENT9*
ASK	IF G3 [Provide natural gas figures] = No OR DK/RF	

Is the cost of the natural gas used in this establishment included in the rent?
 	
    1   Yes
    2 No		

NEXT	➜ G21 [Number natural gas suppliers]	

G5	Units for natural gas	NGUNIT9

ASK	IF G2 [WS2 natural gas filled out] = Yes OR G3 [Provide natural gas figures] = Yes

🖹SHOW CARD G1

Please look at this card and tell me the units in which your natural gas is measured.

     1   Hundred cubic feet (Ccf)
     2   Therms
     3   Thousand cubic feet (Mcf)
     4   Dekatherms
     5   Cubic feet (cf)
     6   IF VOLUNTEERED: Some other units

NEXT	IF Some other units ➔ G6 [Other natural gas units] IF Anything else OR DK/RF ➔ G7 [Natural gas consumption]

G6	Other natural gas units	NGUNITX9

ASK	IF G5 [Units for natural gas] = Some other unit

What are the other units?

NEXT	➔ G7 [Natural gas consumption]

G7	Natural gas consumption	NGCNS9

ASK	IF G2 [WS2 natural gas filled out] = Yes OR G3 [Provide natural gas figures] = Yes

[F1]-HELP

Please give me the total amount of natural gas used in calendar year 2007.

◆   EXP: [If the respondent only knows the consumption for the entire
    building including other establishments, ENTER the total consumption
    for the building here.]

◆   VERIFY number digit by digit

RANGE	1 to 99,999,999,999,999

NEXT	➔ G8 [Natural gas expenditures]

G8	**Natural gas expenditures**	NGEXP9

ASK	IF G2 [WS2 natural gas filled out] = Yes OR G3 [Provide natural gas figures] = Yes

[F1]-HELP

Please give me the total dollars spent on natural gas in calendar year 2007. This should include state and local taxes and the following charges: fuel adjustment, system, demand, and distribution.

◆ Do not enter cents

◆ VERIFY number digit by digit

RANGE	0 to 999,999,999

NEXT	IF G7 [Natural gas consumption] = DK/RF & G8 [Natural gas expenditures] = DK/RF ➔ G21 [Number natural gas suppliers] OTHERWISE ➔ G9 [Starting date for natural gas figures]

G9	**Starting date for natural gas figures**	NGSTDAT9

ASK	IF G7 [Natural gas consumption] given OR G8 [Natural gas expenditures] given

[F1]-HELP

What is the starting date for these natural gas usage figures?

◆ ENTER date as MMDDYYYY

◆ If the day is not known, ENTER "15"

NEXT	➔ G10 [Ending date for natural gas figures]

G10	**Ending date for natural gas figures**	NGENDAT9

ASK	IF G7 [Natural gas consumption] given OR G8 [Natural gas expenditures] given

[F1]-HELP

What is the ending date [for these natural gas usage figures]?

◆ ENTER date as MMDDYYYY

◆ VERIFY that this is the last day of the last billing period

◆ If the day is not known, ENTER "15"

NEXT	➔ G11 [Other estabs natural gas included]

G11	**Other estabs natural gas included**	*NGOTBD9*

ASK	IF G7 [Natural gas consumption] given OR G8 [Natural gas expenditures] given

Is any consumption from other establishments included in these figures?

    1   Yes
    2   No

NEXT	IF Yes ➔ G12 [Sq ft of other included] IF No OR DK/RF ➔ G15 [Include other major natural gas]

G12	**Sq ft of other included**	*NGOTSF9*

ASK	IF G11 [Other estabs natural gas included] = Yes

What is the approximate square footage of the <u>other</u> establishments that are included in these figures?

◆   PROBE for estimate if DK

RANGE	1 to 999,999,999

NEXT	IF A1 [Square footage] known & Number given > A1 [Square footage] & Number given < A1 [Square footage] x 50 ➔ G13 [Verify sq ft is other estabs] OTHERWISE ➔ G15 [Include other major natural gas]

G13	**Verify sq ft is other estabs**	*NGOTVY9*

ASK	IF Number given IN G12 [Sq ft of other included] & A1 [Square footage] known
	    & G12 [Sq ft of other included] > A1 [Square footage]
	    & G12 [Sq ft of other included] < A1 [Square footage] x 50

FILL	**{SqFt}** = A1 [Square footage] square feet **{OtherSqFt}** = G12 [Sq ft of other included] **{TotalSqFt}** = A1 [Square footage] square feet + G12 [Sq ft of other included]

So, just to verify, the consumption figures you just gave me are for both this {SqFt} square foot establishment <u>and</u> {OtherSqFt} square feet of additional space, for a total of {TotalSqFt} square feet, is that correct?

    1   Yes, consumption is for {TotalSqFt} square feet
    2   No, the square footage just given was the total including this establishment - consumption is for {OtherSqFt} square feet
    3   No, consumption is for some other number of square feet

NEXT	IF No, consumption is for some other number of square feet ➔ G14 [What sq ft included] OTHERWISE ➔ G15 [Include other major natural gas]

G14	**What sq ft included**	NGTOSF9
ASK	IF G13 [Verify sq ft is other estabs] = No, consumption is for some other number of square feet	

What is the total floorspace included in the natural gas usage figures?

◆ PROBE for estimate if DK

RANGE	1 to 999,999,999
NEXT	➔ G15 [Include other major natural gas]

G15	**Include other major natural gas**	NGOTUS9
ASK	IF G7 [Natural gas consumption] given OR G8 [Natural gas expenditures] given	

Do these figures include charges for any <u>other</u> major natural gas usage outside the establishment, such as for kilns, gas space heaters, exterior or decorative lighting, compressed natural gas vehicles, or pumps not used in the establishment?

    1   Yes
    2   No

NEXT	IF D77 [How purchase natural gas] = Bought from someone else OR Bought both ways ➔ G16 [Include all non-local natural gas] OTHERWISE: IF G2 [WS2 natural gas filled out] = Yes ➔ G18 [Monthly natural gas included] IF G2 [WS2 natural gas filled out] = No OR DK/RF ➔ G19 [Monthly natural gas available]

G16	**Include all non-local natural gas**	NGNONU9
ASK	IF (G7 [Natural gas consumption] given OR G8 [Natural gas expenditures] given) & (D77 [How purchase natural gas] = Bought from someone else OR Bought both ways)	

Do these figures include all the natural gas from the non-utility or broker?

    1   Yes
    2   No

NEXT	IF No ➔ G17 [What not included] OTHERWISE: IF G2 [WS2 natural gas filled out] = Yes ➔ G18 [Monthly natural gas included] IF G2 [WS2 natural gas filled out] = No OR DK/RF ➔ G19 [Monthly natural gas available]

G17	What not included
ASK	IF G16 [Include all non-local natural gas] = No

What was not included?

◆ RECORD the additional charges in the open box

NEXT	IF G2 [WS2 natural gas filled out] = Yes ➔ G18 [Monthly natural gas included] IF G2 [WS2 natural gas filled out] = No OR DK/RF ➔ G19 [Monthly natural gas available]

G18	Monthly natural gas included	NGINC129
ASK	IF (G7 [Natural gas consumption] given OR G8 [Natural gas expenditures] given) & G2 [WS2 natural gas filled out] = Yes	

Did you include your monthly natural gas usage on Worksheet 2?

    1   Yes
    2   No

NEXT	IF No OR DK/RF ➔ G19 [Monthly natural gas available] OTHERWISE ➔ G20 [Natural gas bill available]

G19	Monthly natural gas available	NGHAV129

ASK	IF (G7 [Natural gas consumption] given OR G8 [Natural gas expenditures] given)
	    & (G2 [WS2 natural gas filled out] = No OR DK/RF OR G18 [Monthly natural gas included] = No
	    OR DK/RF)	

Do you have a record of the monthly natural gas use that I could have to help us better understand the seasonal patterns of natural gas use?

◆ If available, you will be prompted again to
   collect this at the end of the interview, so it is
   not necessary to stop the interview to collect it here

    1   Yes, monthly natural gas available
    2   No, will not be able to provide monthly natural gas

NEXT	➔ G20 [Natural gas bill available]

G20	Natural gas bill available	NGBILL9

ASK	IF G7 [Natural gas consumption] given OR G8 [Natural gas expenditures] given

Would it be possible for me to scan one of your natural gas bills? There is information on some utility bills that may help energy researchers who use these data.

◆ EXP: [Examples of these items include miscellaneous charges, past months data, and units of measure.]

◆ If available, you will be prompted to scan the bill at the end of the interview, so it is not necessary to stop the interview here

　　1　Yes, bill available
　　2　No, will not be able to provide bill

NEXT	➔ H1 [Section H Routing]

G21	Number natural gas suppliers	NGNUMSP9

ASK	IF G3 [Provide natural gas figures] = No OR DK/RF OR G7 [Natural gas consumption] = DK/RF & G8 [Natural gas expenditures] = DK/RF

We should be able to obtain this information directly from your natural gas supplier, so I just need to collect some information about your natural gas accounts.

In some parts of the country, customers can purchase energy from more than one supplier. How many different companies supplied natural gas to this establishment during calendar year 2007?

RANGE	1 to 4
NEXT	Number given ➔ G22 [Natural gas suppliers] DK/RF ➔ H1 [Section H Routing]

G22	Natural gas suppliers	NG1LKP9—NG2LKP9
ASK	IF G21 [Number natural gas suppliers] given	
FILL	**{FirstNext}** IF Only one supplier = BLANK IF First supplier given = "first" OTHERWISE = "next"	

What is the name of the {FirstNext} supplier that provided natural gas in calendar year 2007?

◆ Start typing the name of the supplier or use
  <BACKSPACE> to bring up the look-up table

◆ Type in the first few letters of the supplier name,
  and the look-up table will scroll to the closest match

◆ If you find a match, make sure the correct line
  is highlighted (blue) and press <ENTER>

◆ If you don't find a match, use <BACKSPACE> to
  clear the Search line, which will bring you back to
  the top of the look-up table where ** NOT ON LIST
  will be highlighted, then press <ENTER> two times

NEXT	IF NOT ON LIST selected ➔ G23 [Supplier name]
	IF Supplier found in look-up table ➔ G29 [Number natural gas accounts]
	IF DK/RF:
	   IF Only one supplier or last supplier ➔ H1 [Section H Routing]
	   IF More suppliers left to answer for ➔ Ask G22 [Natural gas suppliers] again for next supplier

G23	Supplier name	NG1NEW9—NG4NEW9
ASK	IF NOT ON LIST selected in G22 [Natural gas suppliers]	

◆ ENTER the name of the supplier

NEXT	IF Name given ➔ G24 [Street address]
	IF DK/RF:
	   IF Only one supplier or last supplier ➔ H1 [Section H Routing]
	   IF More suppliers left to answer for ➔ Back to G22 [Natural gas suppliers] for next supplier

G24	Street address	NG1AD19—NG4AD19
ASK	All Establishments IF NOT ON LIST selected in G22 [Natural gas suppliers]	
FILL	**{Supplier}** = "G23 [Supplier name]"	

What is the address for {Supplier}, beginning with the street?

NEXT	➔ G25 [P.O. Box or Suite]

G25	P.O. Box or Suite	NG1AD29—NG4AD29
ASK	IF NOT ON LIST selected in G22 [Natural gas suppliers]	

Is there a post office box or suite number?

◆   If not, press <ENTER>

NEXT	➔ G26 [City]

G26	City	NG1CTY9—NG4CTY9
ASK	IF NOT ON LIST selected in G22 [Natural gas suppliers]	

What is the city?

NEXT	➔ G27 [State abbreviation]

G27	State abbreviation	NG1STA9—NG4STA9
ASK	IF NOT ON LIST selected in G22 [Natural gas suppliers]	

What is the state?

◆   ENTER the two letter abbreviation

NEXT	➔ G28 [Zip code]

G28	Zip code	NG1ZIP9—NG4ZIP9
ASK	IF NOT ON LIST selected in G22 [Natural gas suppliers]	

And what is the zip code?

NEXT	➔ G29 [Number natural gas accounts]

G29	Number natural gas accounts	NG1NAC9—NG4NAC9
ASK	IF Supplier found in G22 [Natural gas suppliers] look-up table OR G23 [Supplier name] given	
FILL	**{Supplier}** = Supplier name from G22 [Natural gas suppliers] look-up table OR G23 [Supplier name]	

How many different natural gas accounts does this establishment have with {Supplier}?

RANGE	1 to 999
NEXT	IF 1 to 10 accounts ➔ G30 [Natural gas account number] IF More than 10 accounts OR DK/RF ➔ G35 [Natural gas bill available]

G30	Natural gas account number	NG1AC19—NG4AC109
ASK	IF G29 [Number natural gas accounts] = 1 to 10 Ask as many times as account numbers given, or until DK/RF	
FILL	**{FirstNext}** IF Only one account = BLANK IF First account given = "first" OTHERWISE = "next" **{Supplier}** = Supplier name from G22 [Natural gas suppliers] look-up table OR G23 [Supplier name]	

Please give me the {FirstNext} natural gas account number for {Supplier}.

◆ VERIFY number <u>digit by digit</u>

NEXT	IF D77 [How purchase natural gas] = Bought from someone else OR Bought both ways ➔ G31 [Supplier is non-local utility] OTHERWISE ➔ G32 [Bills cover only establishment]

G31	Supplier is non-local utility	NG1NONU9—NG4NONU9
ASK	IF (Supplier found in G22 [Natural gas suppliers] look-up table OR G23 [Supplier name] given) & (D77 [How purchase natural gas] = Bought from someone else OR Bought both ways)	
FILL	**{Supplier}** = Supplier name from G22 [Natural gas suppliers] look-up table OR G23 [Supplier name]	

You mentioned earlier that you purchase natural gas from a non-utility or broker. Is {Supplier} one of those companies?

1   Yes
2   No

NEXT	➔ G32 [Bills cover only establishment]

G32	Bills cover only establishment	NG1OTB9—NG4OTB9

ASK	IF Supplier found in G22 [Natural gas suppliers] look-up table OR G23 [Supplier name] given

FILL	**{Bills}** IF Only one account = "Does the bill or statement" IF 2 to 10 accounts = "Do the bills or statements" **{Supplier}** = Supplier name from G22 [Natural gas suppliers] look-up table OR G23 [Supplier name]

{Bills} from {Supplier} cover just this establishment or are other establishments covered as well?

    1   Just this establishment
    2   Other establishment(s)

NEXT	IF Other establishments ➜ G33 [Sq ft of others included] IF Just this establishment OR DK/RF ➜ G34 [Include other major natural gas]

G33	Sq ft of others included	NG1OTS9—NG4OTS9

ASK	IF G32 [Bills cover only establishment] = Other establishments

FILL	**{Bills}** IF Only one account = "bill or statement" IF 2 to 10 accounts = "bills or statements"

What is the approximate square footage of the <u>other</u> establishments included on the {Bills}?

   ◆   PROBE for estimate if DK

RANGE	1 to 999,999,999

NEXT	➜ G34 [Include other major natural gas]

G34	Include other major natural gas	NG1OTU9—NG4OTU9

ASK	IF Supplier found in G22 [Natural gas suppliers] look-up table OR G23 [Supplier name] given

FILL	**{Bills}** IF Only one account = "Does the bill or statement" IF 2 to 10 accounts = "Do the bills or statements"

{Bills} include charges for any <u>other</u> major natural gas usage outside the establishment, such as for kilns, gas space heaters, exterior or decorative lighting, compressed natural gas vehicles, or pumps not used in the establishment?

    1   Yes
    2   No

NEXT	➜ G35 [Natural gas bill available]

G35	Natural gas bill available	NG1BILL8—NG4BILL8

ASK	IF (Supplier found in G22 [Natural gas suppliers] look-up table OR G23 [Supplier name given]) & G20 [Natural gas bill available] NOT already asked

FILL	**{Supplier}** = Supplier name from G22 [Natural gas suppliers] look-up table OR G23 [Supplier name]

Would it be possible for me to scan one of your natural gas bills from {Supplier}? There is information on some utility bills that may help energy researchers who use these data.

◆ EXP: [Examples of these items include miscellaneous charges, past months data, and units of measure.]

◆ If available, you will be prompted to scan the bill at the end of the interview, so it is not necessary to stop the interview here

    1   Yes, bill available
    2   No, will not be able to provide bill

NEXT	IF More suppliers left to answer for ➔ Back to G22 [Natural gas suppliers] for next supplier OTHERWISE ➔ H1 [Section H Routing]

SECTION H. <u>FUEL OIL/DIESEL/KEROSENE</u>

NOTE: In ASK and NEXT instructions in this section, "Fuel oil" refers to fuel oil, diesel, or kerosene.

H1	Section H Routing
NEXT	IF Fuel oil used ➜ H2 [WS2 fuel oil filled out] OTHERWISE ➜ I1 [Section I Routing]

H2	WS2 fuel oil filled out	*WS2FKCE9*
ASK	IF Fuel oil used	
FILL	**{FuelOilType}** = Type or types specified in D9 [Fuel oil, diesel, or kerosene]	

Do you have Worksheet 2 with you and filled out for {FuelOilType}?

    1   Yes
    2   No

NEXT	IF No OR DK/RF ➜ H3 [Provide fuel oil figures] IF Yes ➜ H5 [Fuel oil purchases]

H3	Provide fuel oil figures	*FKFIGS9*
ASK	IF H2 [WS2 fuel oil filled out] = No OR DK/RF	
FILL	**{FuelOilType}** = Type or types specified in D9 [Fuel oil, diesel, or kerosene]	

The next questions are about {FuelOilType} usage and purchases in this establishment during calendar year 2007. Would you be able to give me an approximate figure of how much {FuelOilType} was purchased or used or how much was spent on it?

    1   Yes
    2   No

NEXT	IF Yes ➜ H5 [Fuel oil purchases] IF No ➜ H4 [Fuel oil included in rent] IF DK/RF ➜ I1 [Section I Routing]

H4	Fuel oil included in rent	FKNRENT9

ASK	IF H3 [Provide fuel oil figures] = No

Is the cost of the fuel oil used in this establishment included in the rent?

     1   Yes
     2   No

NEXT	IF D21 [Source for main heating] = Fuel oil OR D22 [Other source for main heating] = Fuel oil ➔ H18 [Number fuel oil suppliers] OTHERWISE ➔ I1 [Section I Routing]

H5	Fuel oil purchases	FKPURC9

ASK	IF H2 [WS2 fuel oil filled out] = Yes OR H3 [Provide fuel oil figures] = Yes
FILL	{FuelOilType} = Type or types specified in D9 [Fuel oil, diesel, or kerosene]

[F1]-HELP

Please give me the total number of gallons of {FuelOilType} purchased in calendar year 2007.

◆ EXP: [If the respondent only knows the consumption for the entire
building including other establishments, ENTER the total consumption
for the building here.]

◆ VERIFY number <u>digit by digit</u>

RANGE	0 to 99,999,999,999,999
NEXT	➔ H6 [Fuel oil expenditures]

H6	Fuel oil expenditures	FKEXP9

ASK	IF H2 [WS2 fuel oil filled out] = Yes OR H3 [Provide fuel oil figures] = Yes
FILL	{FuelOilType} = Type or types specified in D9 [Fuel oil, diesel, or kerosene]

[F1]-HELP

Please give me the total dollars spent on {FuelOilType} in calendar year 2007, including state and local taxes.

◆ Do <u>not</u> enter cents

◆ VERIFY number <u>digit by digit</u>

RANGE	0 to 999,999,999

NEXT	IF H5 [Fuel oil purchases] = Zero & H6 [Fuel oil expenditures] = Zero
	    ➔ H7 [Purchased before 2007]
	IF H5 [Fuel oil purchases] = DK/RF & H6 [Fuel oil expenditures] = DK/RF
	    ➔ H10 [Fuel oil use measured]
	OTHERWISE ➔ H8 [Starting date for fuel oil figures]

H7	**Purchased before 2007**	*FKSTORD9*
ASK	IF H5 [Fuel oil purchases] = Zero & H6 [Fuel oil expenditures] = Zero	
FILL	**{FuelOilType}** = Type or types specified in D9 [Fuel oil, diesel, or kerosene]	

Was any {FuelOilType} used in 2007 that was purchased or delivered in 2006 or before?

    1   Yes
    2   No

NEXT	IF Yes ➜ H10 [Fuel oil use measured] IF No ➜ I1 [Section I Routing]

H8	**Starting date for fuel oil figures**	*FKSTDAT9*
ASK	IF (H5 [Fuel oil purchases] given OR H6 [Fuel oil expenditures] given) & Not both zero	
FILL	**{FuelOilType}** = Type or types specified in D9 [Fuel oil, diesel, or kerosene]	

[F1]-HELP

What is the first delivery date for these {FuelOilType} purchases?

◆   ENTER date as MMDDYYYY

◆   If the day is not known, ENTER "15"

NEXT	➜ H9 [Ending date for fuel oil figures]

H9	**Ending date for fuel oil figures**	*FKENDAT9*
ASK	IF (H5 [Fuel oil purchases] given OR H6 [Fuel oil expenditures] given) & Not both zero	
FILL	**{FuelOilType}** = Type or types specified in D9 [Fuel oil, diesel, or kerosene]	

[F1]-HELP

What is the last delivery date [for these {FuelOilType} purchases]?

◆   ENTER date as MMDDYYYY

◆   If the day is not known, ENTER "15"

NEXT	➜ H10 [Fuel oil use measured]

H10	Fuel oil use measured	FKMEAS9
ASK	IF H2 [WS2 fuel oil filled out] = Yes OR H3 [Provide fuel oil figures] = Yes	
FILL	{FuelOilType} = Type or types specified in D9 [Fuel oil, diesel, or kerosene]	

Is your {FuelOilType} consumption measured or metered so that you can tell how much was actually consumed during 2007?

    1   Yes
    2   No

NEXT	IF Yes ➔ H11 [Fuel oil actual consumption] IF No OR DK/RF ➔ H12 [Other estabs fuel oil included]

H11	Fuel oil actual consumption	FKCNSA9
ASK	IF H10 [Fuel oil use measured] = Yes	
FILL	{FuelOilType} = Type or types specified in D9 [Fuel oil, diesel, or kerosene]	

[F1]-HELP

Please give me the total number of gallons of {FuelOilType} that was underline consumed in calendar year 2007.

◆   VERIFY number digit by digit

RANGE	1 to 99,999,999,999,999
NEXT	IF Number given OR (DK/RF & (H5 [Fuel oil purchases] given OR H6 [Fuel oil expenditures] given) ➔ H12 [Other estabs fuel oil included] OTHERWISE ➔ I1 [Section I Routing]

H12	Other estabs fuel oil included	FKOTBD9
ASK	IF H5 [Fuel oil purchases] given OR H6 [Fuel oil expenditures] given OR H11 [Fuel oil actual consumption] given	

Is any consumption from other establishments included in these figures?

    1   Yes
    2   No

NEXT	IF Yes ➔ H13 [Sq ft of other included] IF No OR DK/RF ➔ H16 [Include other major fuel oil]

H13	Sq ft of other included	FKOTSF9

ASK	IF H12 [Other estabs use included] = Yes

What is the approximate square footage of the other establishments that are included in these figures?

◆ PROBE for estimate if DK

RANGE	1 to 999,999,999

NEXT	IF A1 [Square footage] known & Number given > A1 [Square footage] & Number given < A1 [Square footage] x 50 ➔ H14 [Verify sq ft is other estabs] OTHERWISE ➔ H16 [Include other major fuel oil]

H14	Verify sq ft is other estabs	FKOTVY9

ASK	IF Number given IN H13 [Sq ft of other included] & A1 [Square footage] known
	    & H13 [Sq ft of other included] > A1 [Square footage]
	    & H13 [Sq ft of other included] < A1 [Square footage] x 50

FILL	{SqFt} = A1 [Square footage] square feet {OtherSqFt} = H13 [Sq ft of other included] {TotalSqFt} = A1 [Square footage] square feet + H13 [Sq ft of other included]

So, just to verify, the consumption figures you just gave me are for both this {SqFt} square foot establishment and {OtherSqFt} square feet of additional space, for a total of {TotalSqFt} square feet, is that correct?

1 Yes, consumption is for {TotalSqFt} square feet
2 No, the square footage just given was the total including this establishment - consumption is for {OtherSqFt} square feet
3 No, consumption is for some other number of square feet

NEXT	IF No, consumption is for some other number of square feet ➔ H15 [What sq ft included] OTHERWISE ➔ H16 [Include other major fuel oil]

H15	What sq ft included	FKTOSF9

ASK	IF H14 [Verify sq ft is other estabs] = No, consumption is for some other number of square feet
FILL	{FuelOilType} = Type or types specified in D9 [Fuel oil, diesel, or kerosene]

What is the total floorspace included in the {FuelOilType} usage figures?

◆ PROBE for estimate if DK

RANGE	1 to 999,999,999

NEXT	➔ H16 [Include other major fuel oil]

H16	Include other major fuel oil	FKOTUS9
ASK	IF H5 [Fuel oil purchases] given OR H6 [Fuel oil expenditures] given OR H11 [Fuel oil actual consumption] given	
FILL	**{FuelOilType}** = Type or types specified in D9 [Fuel oil, diesel, or kerosene]	

Do these figures include charges for any <u>other</u> major {FuelOilType} usage outside the establishment, such as for kilns, welding, pumps, or motors?

    1   Yes
    2   No

NEXT	➔ H17 [Fuel oil bill available]

H17	Fuel oil bill available	FKBILL9
ASK	IF H5 [Fuel oil purchases] given OR H6 [Fuel oil expenditures] given OR H11 [Fuel oil actual consumption] given	

Would it be possible for me to scan one of your fuel oil bills? There is information on some utility bills that may help energy researchers who use these data.

◆   EXP: [Examples of these items include miscellaneous
     charges, past months data, and units of measure.]

◆   If available, you will be prompted to scan the bill at the end of
     the interview, so it is not necessary to stop the interview here

    1   Yes, bill available
    2   No, will not be able to provide bill

NEXT	➔ I1 [Section I Routing]

H18	**Number fuel oil suppliers**	*FKNUMSP9*

ASK	IF D21 [Source for main heating] = Fuel oil OR D22 [Other source for main heating] = Fuel oil & H3 [Provide fuel oil figures] = No OR DK/RF OR H5 [Fuel oil purchases] = DK/RF & H6 [Fuel oil expenditures] = DK/RF & H11 [Fuel oil actual consumption] = DK/RF
FILL	**{FuelOilType}** = Type or types specified in D9 [Fuel oil, diesel, or kerosene]

We should be able to obtain this information directly from your supplier, so I just need to collect some information about your accounts."

How many different companies supplied {FuelOilType} to this establishment during calendar year 2007?

RANGE	1 to 4
NEXT	Number given ➔ H19 [Fuel oil supplier name] DK/RF ➔ I1 [Section I Routing]

H19	**Fuel oil supplier name**	*FK1SUP9—FK4SUP9*

ASK	IF H18 [Number fuel oil suppliers] given
FILL	**{FirstNext}** IF Only one supplier = BLANK IF First supplier given = "first" OTHERWISE = "next" **{FuelOilType}** = Type or types specified in D9 [Fuel oil, diesel, or kerosene]

What is the name of the {FirstNext} supplier that provided {FuelOilType} during 2007?

NEXT	IF Name given ➔ H20 [Street address]
	IF DK/RF:
	   IF Only one supplier or last supplier ➔ I1 [Section I Routing]
	   IF More suppliers left to answer for ➔ Ask H19 [Fuel oil supplier name] again for next supplier

H20	**Street address**	*FK1AD19—FK4AD19*

ASK	IF Name given in H19 [Fuel oil supplier name]
FILL	**{Supplier}** = H19 [Fuel oil supplier name]

What is the address for {Supplier}, beginning with the street?

NEXT	➔ H21 [P.O. Box or Suite]

H21	P.O. Box or Suite	FK1AD29—FK4AD29
ASK	IF Name given in H19 [Fuel oil supplier name]	

Is there a post office box or suite number?

◆   If not, press <ENTER>

NEXT	➜ H22 [City]

H22	City	FK1CTY9—FK4CTY9
ASK	IF Name given in H19 [Fuel oil supplier name]	

What is the city?

NEXT	➜ H23 [State abbreviation]

H23	State abbreviation	FK1STA9—FK4STA9
ASK	IF Name given in H19 [Fuel oil supplier name]	

What is the state?

◆   ENTER the two letter abbreviation

NEXT	➜ H24 [Zip code]

H24	Zip code	FK1ZIP9—FK4ZIP9
ASK	IF Name given in H19 [Fuel oil supplier name]	

And what is the zip code?

NEXT	➜ H25 [Number fuel oil accounts]

H25	Number fuel oil accounts	FK1NAC9—FK4NAC9
ASK	IF Name given in H19 [Fuel oil supplier name]	
FILL	**{FuelOilType}** = Type or types specified in D9 [Fuel oil, diesel, or kerosene] **{Supplier}** = H19 [Fuel oil supplier name]	
	How many different {FuelOilType} accounts does this establishment have with {Supplier}?	
NEXT	IF 1 to 10 accounts ➔ H26 [Fuel oil account number] IF More than 10 accounts OR DK/RF ➔ H30 [Fuel oil bill available]	

H26	Fuel oil account number	FK1AC19—FK4AC109
ASK	IF H25 [Number fuel oil accounts] = 1 to 10 Ask as many times as account numbers given, or until DK/RF	
FILL	**{FirstNext}** IF Only one account = BLANK IF First account given = "first" OTHERWISE = "next" **{FuelOilType}** = Type or types specified in D9 [Fuel oil, diesel, or kerosene] **{Supplier}** = H19 [Fuel oil supplier name]	
	Please give me the {FirstNext} {FuelOilType} account number for {Supplier}. ◆ VERIFY number <u>digit by digit</u>	
NEXT	➔ H27 [Bills cover only establishment]	

H27	Bills cover only establishment	FK1OTB9—FK4OTB9
ASK	IF Name given in H19 [Fuel oil supplier name]	
FILL	**{Bills}** IF Only one account = "Does the bill or statement" IF 2 to 10 accounts = "Do the bills or statements" **{Supplier}** = H19 [Fuel oil supplier name]	
	{Bills} from {Supplier} cover just this establishment or are other establishments covered as well? 1 Just this establishment 2 Other establishment(s)	
NEXT	IF Other establishments ➔ H28 [Sq ft of others included] IF Just this establishment OR DK/RF ➔ H29 [Include other major fuel oil]	

H28	Sq ft of others included	FK1OTS9—FK4OTS9
ASK	IF H27 [Bills cover only establishment] = Other establishments	
FILL	**{Bills}** IF Only one account = "bill or statement" IF 2 to 10 accounts = "bills or statements"	

What is the approximate square footage of the <u>other</u> establishments included on the {Bills}?

◆ PROBE for estimate if DK

RANGE	1 to 999,999,999
NEXT	➔ H29 [Include other major fuel oil]

H29	Include other major fuel oil	FK1OTU9—FK4OTU9
ASK	IF Name given in H19 [Fuel oil supplier name]	
FILL	**{Bills}** IF Only one account = "Does the bill or statement" IF 2 to 10 accounts = "Do the bills or statements"	

{Bills} include charges for any <u>other</u> major fuel oil usage outside the establishment, such as for kilns, welding, pumps, or motors?

    1   Yes
    2   No

NEXT	➔ H30 [Fuel oil bill available]

H30	Fuel oil bill available	NG1BILL8—NG4BILL8
ASK	IF Name given in H19 [Fuel oil supplier name]	
FILL	**{FuelOilType}** = Type or types specified in D9 [Fuel oil, diesel, or kerosene] **{Supplier}** = H19 [Fuel oil supplier name]	

Would it be possible for me to have a scan of one {FuelOilType} bill from {Supplier}? There is information on some utility bills that may help energy researchers put these figures together.

◆ EXP: [Examples of these items include miscellaneous charges, past months data, and units of measure.]

◆ If available, you will be prompted to scan the bill at the end of the interview, so it is not necessary to stop the interview here

    1   Yes, bill available
    2   No, will not be able to provide bill

NEXT	IF More suppliers left to answer for ➔ Back to H19 [Fuel oil supplier name] for next supplier OTHERWISE ➔ I1 [Section I Routing]

SECTION I. <u>DISTRICT STEAM</u>

I1	Section I Routing
NEXT	IF District steam used ➔ I2 [WS2 district steam filled out] OTHERWISE ➔ J1 [Section J Routing]

I2	**WS2 district steam filled out**	*WS2STCE9*
ASK	IF District steam used	

Do you have Worksheet 2 with you and filled out for district steam?

     1   Yes
     2   No

NEXT	IF No OR DK/RF ➔ I3 [Provide district steam figures] IF Yes ➔ I5 [Units for district steam]

I3	**Provide district steam figures**	*STFIGS9*
ASK	IF I2 [WS2 district steam filled out] = No OR DK/RF	

The next questions are about district steam usage in this establishment during calendar year 2007. Would you be able to give me an approximate figure of how much district steam was used or how much was spent on it?

     1   Yes
     2   No

NEXT	IF Yes ➔ I5 [Units for district steam] IF No ➔ I4 [District steam included in rent] IF DK/RF ➔ J1 [Section J Routing]

I4	**District steam included in rent**	*STNRENT9*
ASK	IF I3 [Provide district steam figures] = No	

Is the cost of the district steam used in this establishment included in the rent?

     1   Yes
     2   No

NEXT	IF D14 [From central plant] = No OR D20 [Purchase from offsite = Yes] ➔ I16 [District steam supplier name] OTHERWISE ➔ J1 [Section J Routing]

I5	Units for district steam	STUNIT9
ASK	IF I2 [WS2 district steam filled out] = Yes OR I3 [Provide district steam figures] = Yes	

📄 SHOW CARD I1

Please look at this card and tell me the units in which your district steam is measured.

  1   Thousand pounds
  2   Pounds
  3   Million Btu
  4   IF VOLUNTEERED: Some other unit

NEXT	IF Some other unit ➔ I6 [Other district steam units] OTHERWISE ➔ I7 [District steam consumption]

I6	Other district steam units	STUNITX9
ASK	IF I5 [Units for district steam] = Some other unit	

What are the other units?

NEXT	➔ I7 [District steam consumption]

I7	District steam consumption	STCNS9
ASK	IF I2 [WS2 district steam filled out] = Yes OR I3 [Provide district steam figures] = Yes	

[F1]-HELP

Please give me the total amount of district steam used in calendar year 2007.

◆   EXP: [If the respondent only knows the consumption for the entire
    building including other establishments, ENTER the total consumption
    for the building here.]

◆   VERIFY number <u>digit by digit</u>

RANGE	1 to 99,999,999,999,999
NEXT	➔ I8 [District steam expenditures]

I8	District steam expenditures	STEXP9

ASK	IF I2 [WS2 district steam filled out] = Yes OR I3 [Provide district steam figures] = Yes

[F1]-HELP

Please give me the total dollars spent on district steam in calendar year 2007, including state and local taxes.

◆ Do not enter cents

◆ VERIFY number digit by digit

RANGE	1 to 999,999,999
NEXT	IF I7 [District steam consumption] = DK/RF & I8 [District steam expenditures] = DK/RF: 　IF D14 [From central plant] = No OR D20 [Purchase from offsite = Yes] 　　➜ I16 [District steam supplier name] 　OTHERWISE ➜ J1 [Section J Routing] OTHERWISE ➜ I9 [Starting date for district steam figures]

I9	Starting date for district steam figures	STSTDAT9

ASK	IF I7 [District steam consumption] given OR I8 [District steam expenditures] given

[F1]-HELP

What is the starting date for these district steam usage figures?

◆ ENTER date as MMDDYYYY

◆ If the day is not known, ENTER "15"

NEXT	➜ I10 [Ending date for district steam figures]

I10	Ending date for district steam figures	STENDAT9

ASK	IF I7 [District steam consumption] given OR I8 [District steam expenditures] given

[F1]-HELP

What is the ending date [for these district steam usage figures]?

◆ ENTER date as MMDDYYYY

◆ VERIFY that this is the last day of the last billing period

◆ If the day is not known, ENTER "15"

NEXT	➜ I11 [Other estabs steam included]

I11	Other estabs steam included	STOTBD9

ASK	IF I7 [District steam consumption] given OR I8 [District steam expenditures] given

Is any consumption from other establishments included in these figures?

    1   Yes
    2   No

NEXT	IF Yes ➔ I12 [Sq ft of other included] IF No OR DK/RF ➔ I15 [District steam bill available]

I12	Sq ft of other included	STOTSF9

ASK	IF I11 [Other estabs steam included] = Yes

What is the approximate square footage of the <u>other</u> establishments that are included in these figures?

◆   PROBE for estimate if DK

RANGE	1 to 999,999,999

NEXT	IF A1 [Square footage] known & Number given > A1 [Square footage] & Number given < A1 [Square footage] x 50 ➔ I?? [Verify sq ft is other estabs] OTHERWISE ➔ I15 [District steam bill available]

I13	Verify sq ft is other estabs	STOTVY9

ASK	IF Number given IN I12 [Sq ft of other included] & A1 [Square footage] known
	   & I12 [Sq ft of other included] > A1 [Square footage]
	   & I12 [Sq ft of other included] < A1 [Square footage] x 50

FILL	**{SqFt}** = A1 [Square footage] square feet **{OtherSqFt}** = I12 [Sq ft of other included] **{TotalSqFt}** = A1 [Square footage] square feet + I12 [Sq ft of other included]

So, just to verify, the consumption figures you just gave me are for both this {SqFt} square foot establishment <u>and</u> {OtherSqFt} square feet of additional space, for a total of {TotalSqFt} square feet, is that correct?

    1   Yes, consumption is for {TotalSqFt} square feet
    2   No, the square footage just given was the total including this establishment - consumption is for {OtherSqFt} square feet
    3   No, consumption is for some other number of square feet

NEXT	IF No, consumption is for some other number of square feet ➔ I14 [What sq ft included] OTHERWISE ➔ I15 [District steam bill available]

I14	**What sq ft included**	*STTOSF9*
ASK	IF I13 [Verify sq ft is other estabs] = No, consumption is for some other number of square feet	

What is the total floorspace included in the district steam usage figures?

◆ PROBE for estimate if DK

RANGE	1 to 999,999,999
NEXT	➔ I15 [District steam bill available]

I15	**District steam bill available**	*STBILL9*
ASK	IF I7 [District steam consumption] given OR I8 [District steam expenditures] given	

Would it be possible for me to scan one of your district steam bills? There is information on some utility bills that may help energy researchers who use these data.

◆ EXP: [Examples of these items include miscellaneous
charges, past months data, and units of measure.]

◆ If available, you will be prompted to scan the bill at the end of
the interview, so it is not necessary to stop the interview here

1   Yes, bill available
2   No, will not be able to provide bill

NEXT	➔ J1 [Section J Routing]

I16	**District steam supplier name**	*STSUP9*

ASK	IF D14 [From central plant] = No OR D20 [Purchase from offsite = Yes]
	    &
	    (I3 [Provide district steam figures] = No OR DK/RF
	    OR
	    I7 [District steam consumption] = DK/RF & I8 [District steam expenditures] = DK/RF)	

We should be able to obtain this information directly from your district steam supplier, so I just need to collect some information about your district steam accounts.

What is the name of the supplier that provided district steam in calendar year 2007?

NEXT	IF Name given ➔ I17 [Street address] IF DK/RF ➔ J1 [Section J Routing]

I17	Street address	STAD19
ASK	IF Name given in I16 [District steam supplier name]	
FILL	{Supplier} = I16 [District steam supplier name]	
What is the address for {Supplier}, beginning with the street?		
NEXT	➜ I18 [P.O. Box or Suite]	

I18	P.O. Box or Suite	STAD29
ASK	IF Name given in I16 [District steam supplier name]	
Is there a post office box or suite number? ◆ If not, press <ENTER>		
NEXT	➜ I19 [City]	

I19	City	STCTY9
ASK	IF Name given in I16 [District steam supplier name]	
What is the city?		
NEXT	➜ I20 [State abbreviation]	

I20	State abbreviation	STSTA9
ASK	IF Name given in I16 [District steam supplier name]	
What is the state? ◆ ENTER the two letter abbreviation		
NEXT	➜ I21 [Zip code]	

I21	Zip code	STZIP9
ASK	IF Name given in I16 [District steam supplier name]	
And what is the zip code?		
NEXT	➜ I22 [Number district steam accounts]	

I22	Number district steam accounts	STNAC9
ASK	IF Name given in I16 [District steam supplier name]	
FILL	**{Supplier}** = I16 [District steam supplier name]	
How many different district steam accounts does this establishment have with {Supplier}?		
RANGE	1 to 999	
NEXT	IF 1 to 10 accounts ➔ I23 [District steam account number] IF More than 10 accounts OR DK/RF ➔ I26 [District steam bill available]	

I23	District steam account number	STAC19—STAC109
ASK	IF I22 [Number district steam accounts] = 1 to 10 Ask as many times as account numbers given, or until DK/RF	
FILL	**{FirstNext}** IF Only one account = BLANK IF First account given = "first" OTHERWISE = "next" **{Supplier}** = I16 [District steam supplier name]	
Please give me the {FirstNext} district steam account number for {Supplier}. ◆ VERIFY number <u>digit by digit</u>		
NEXT	➔ I24 [Bills cover only establishment]	

I24	Bills cover only establishment	STOTB9
ASK	IF Name given in I16 [District steam supplier name]	
FILL	**{Bills}** IF Only one account = "Does the bill or statement" IF 2 to 10 accounts = "Do the bills or statements" **{Supplier}** = I16 [District steam supplier name]	
{Bills} from {Supplier} cover just this establishment or are other establishments covered as well? 1 Just this establishment 2 Other establishment(s)		
NEXT	IF Other establishments ➔ I25 [Sq ft of others included] IF Just this establishment OR DK/RF ➔ I26 [District steam bill available]	

I25	Sq ft of others included	STOTS9
ASK	IF I24 [Bills cover only establishment] = Other establishment(s)	
FILL	**{Bills}** IF Only one account = "bill or statement" IF 2 to 10 accounts = "bills or statements"	

What is the approximate square footage of the <u>other</u> establishment(s) included on the {Bills}?

◆ PROBE for estimate if DK

RANGE	1 to 999,999,999
NEXT	➜ I26 [District steam bill available]

I26	District steam bill available	STBILL29
ASK	IF Name given in I16 [District steam supplier name]	

Would it be possible for me to scan one of your district steam bills? There is information on some utility bills that may help energy researchers who use these data.

◆ EXP: [Examples of these items include miscellaneous charges, past months data, and units of measure.]

◆ If available, you will be prompted to scan the bill at the end of the interview, so it is not necessary to stop the interview here

    1   Yes, bill available
    2   No, will not be able to provide bill

NEXT	➜ J1 [Section J Routing]

SECTION J. <u>DISTRICT HOT WATER</u>

J1	Section J Routing
NEXT	IF District hot water used ➜ J2 [WS2 district hot water filled out] OTHERWISE ➜ Terminate interview

J2	WS2 district hot water filled out	*WS2HWCE9*
ASK	IF District hot water used	

Do you have Worksheet 2 with you and filled out for district hot water?

    1   Yes
    2   No

NEXT	IF No OR DK/RF ➜ J3 [Provide district hot water figures] IF Yes ➜ J5 [District hot water consumption]

J3	Provide district hot water figures	*HWFIGS9*
ASK	IF J2 [WS2 district hot water filled out] = No OR DK/RF	

The next questions are about district hot water usage in this establishment during calendar year 2007. Would you be able to give me an approximate figure of how much district hot water was used or how much was spent on it?

    1   Yes
    2   No

NEXT	IF Yes ➜ J5 [District hot water consumption] IF No ➜ J4 [District hot water included in rent] IF DK/RF ➜ Terminate interview

J4	District hot water included in rent	*STNRENT9*
ASK	IF J3 [Provide district hot water figures] = No OR DK/RF & (D14 [From central plant] = No OR D20 [Purchase from offsite = Yes])	

Is the cost of the district hot water used in this establishment included in the rent?

    1   Yes
    2   No

NEXT	IF D14 [From central plant] = No OR D20 [Purchase from offsite = Yes] ➜ J14 [District hot water supplier name] OTHERWISE ➜ Terminate interview

J5	District hot water consumption	HWCNS9

ASK	IF J2 [WS2 district hot water filled out] = Yes OR J3 [Provide district hot water figures] = Yes

[F1]-HELP

Please give me the total amount, in million Btu, of district hot water used in calendar year 2007.

◆ EXP: [If the respondent only knows the consumption for the entire
building including other establishments, ENTER the total consumption
for the building here.]

◆ VERIFY number <u>digit by digit</u>

RANGE	1 to 99,999,999,999,999
NEXT	➔ J6 [District hot water expenditures]

J6	District hot water expenditures	HWEXP9

ASK	IF J2 [WS2 district hot water filled out] = Yes OR J3 [Provide district hot water figures] = Yes

[F1]-HELP

Please give me the total dollars spent on district hot water in calendar year 2007, including state and local taxes.

◆ Do <u>not</u> enter cents

◆ VERIFY number <u>digit by digit</u>

RANGE	1 to 999,999,999
NEXT	IF J5 [District hot water consumption] = DK/RF & J6 [District hot water expenditures] = DK/RF: 　　IF D14 [From central plant] = No OR D20 [Purchase from offsite = Yes] 　　　➔ J14 [District hot water supplier name] 　　OTHERWISE ➔ Terminate interview OTHERWISE ➔ J7 [Starting date for district hot water figures]

J7	Starting date for district hot water figures	HWSTDAT9

ASK	IF J5 [District hot water consumption] given OR J6 [District hot water expenditures] given

[F1]-HELP

What is the starting date for these district hot water usage figures?

- ◆ ENTER date as MMDDYYYY

- ◆ If the day is not known, ENTER "15"

NEXT	➜ J8 [Ending date for district hot water figures]

J8	Ending date for district hot water figures	HWENDAT9

ASK	IF J5 [District hot water consumption] given OR J6 [District hot water expenditures] given

[F1]-HELP

What is the ending date [for these district hot water usage figures]?

- ◆ ENTER date as MMDDYYYY

- ◆ VERIFY that this is the last day of the last billing period

- ◆ If the day is not known, ENTER "15"

NEXT	➜ J9 [Other estabs hot water included]

J9	Other estabs hot water included	HWOTBD9

ASK	IF J5 [District hot water consumption] given OR J6 [District hot water expenditures] given

Is any consumption from other establishments included in these figures?

    1   Yes
    2   No

NEXT	IF Yes ➜ J10 [Sq ft of other included] IF No OR DK/RF ➜ J13 [District hot water bill available]

J10	Sq ft of other included	HWOTSF9

ASK	IF J9 [Other estabs hot water included] = Yes

What is the approximate square footage of the <u>other</u> establishments that are included in these figures?

◆ PROBE for estimate if DK

RANGE	1 to 999,999,999

NEXT	IF A1 [Square footage] known & Number given > A1 [Square footage] & Number given < A1 [Square footage] x 50 ➔ J11 [Verify sq ft is other estabs] OTHERWISE ➔ J13 [District hot water bill available]

J11	Verify sq ft is other estabs	HWOTVY9

ASK	IF Number given IN J10 [Sq ft of other included] & A1 [Square footage] known
	    & J10 [Sq ft of other included] > A1 [Square footage]
	    & J10 [Sq ft of other included] < A1 [Square footage] x 50

FILL	{SqFt} = A1 [Square footage] square feet {OtherSqFt} = J10 [Sq ft of other included] {TotalSqFt} = A1 [Square footage] square feet + J10 [Sq ft of other included]

So, just to verify, the consumption figures you just gave me are for both this {SqFt} square foot establishment <u>and</u> {OtherSqFt} square feet of additional space, for a total of {TotalSqFt} square feet, is that correct?

    1   Yes, consumption is for {TotalSqFt} square feet
    2   No, the square footage just given was the total including this establishment - consumption is for {OtherSqFt} square feet
    3   No, consumption is for some other number of square feet

NEXT	IF No, consumption is for some other number of square feet ➔ J12 [What sq ft included] OTHERWISE ➔ J13 [District hot water bill available]

J12	What sq ft included	HWTOSF9

ASK	IF J11 [Verify sq ft is other estabs] = No, consumption is for some other number of square feet

What is the total floorspace included in the district hot water usage figures?

◆ PROBE for estimate if DK

RANGE	1 to 999,999,999

NEXT	➔ J13 [District hot water bill available]

J13	District hot water bill available	HWBILL9
ASK	IF J5 [District hot water consumption] given OR J6 [District hot water expenditures] given	

Would it be possible for me to scan one of your district hot water bills? There is information on some utility bills that may help energy researchers who use these data.

- ◆ EXP: [Examples of these items include miscellaneous charges, past months data, and units of measure.]

- ◆ If available, you will be prompted to scan the bill at the end of the interview, so it is not necessary to stop the interview here

    1   Yes, bill available
    2   No, will not be able to provide bill

NEXT	➔ Terminate interview

J14	District hot water supplier name	HWSUP9

ASK	IF D14 [From central plant] = No OR D20 [Purchase from offsite = Yes]
	    &
	    (J3 [Provide district hot water figures] = No OR DK/RF
	    OR
	    J5 [District hot water consumption] = DK/RF & J6 [District hot water expenditures] = DK/RF)	

We should be able to obtain this information directly from your district hot water supplier, so I just need to collect some information about your district hot water accounts.

What is the name of the supplier that provided district hot water in calendar year 2007?

NEXT	IF Name given ➔ J15 [Street address] IF DK/RF ➔ Terminate interview

J15	Street address	STAD19
ASK	IF Name given in J14 [District hot water supplier name]	
FILL	{Supplier} = J14 [District hot water supplier name]	

What is the address for {Supplier}, beginning with the street?

NEXT	➔ J16 [P.O. Box or Suite]

J16	P.O. Box or Suite	HWAD29
ASK	IF Name given in J14 [District hot water supplier name]	

Is there a post office box or suite number?

◆   If not, press <ENTER>

NEXT	➔ J17 [City]

J17	City	HWCTY9
ASK	IF Name given in J14 [District hot water supplier name]	

What is the city?

NEXT	➔ J18 [State abbreviation]

J18	State abbreviation	HWSTA9
ASK	IF Name given in J14 [District hot water supplier name]	

What is the state?

◆   ENTER the two letter abbreviation

NEXT	➔ J19 [Zip code]

J19	Zip code	HWZIP9
ASK	IF Name given in J14 [District hot water supplier name]	

And what is the zip code?

NEXT	➔ J20 [Number district hot water accounts]

J20	Number district hot water accounts	HWNAC9
ASK	IF Name given in J14 [District hot water supplier name]	
FILL	{Supplier} = J14 [District hot water supplier name]	
How many different district hot water accounts does this establishment have with {Supplier}?		
RANGE	1 to 999	
NEXT	IF 1 to 10 accounts ➔ J21 [District hot water account number] IF More than 10 accounts OR DK/RF ➔ J24 [District hot water bill available]	

J21	District hot water account number	HWAC19—HWAC109
ASK	IF J20 [Number district hot water accounts] = 1 to 10 Ask as many times as account numbers given, or until DK/RF	
FILL	{FirstNext} IF Only one account = BLANK IF First account given = "first" OTHERWISE = "next" {Supplier} = J14 [District hot water supplier name]	
Please give me the {FirstNext} district hot water account number for {Supplier}. ◆ VERIFY number <u>digit by digit</u>		
NEXT	➔ J22 [Bills cover only establishment]	

J22	Bills cover only establishment	HWOTB9
ASK	IF Name given in J14 [District hot water supplier name]	
FILL	{Bills} IF Only one account = "Does the bill or statement" IF 2 to 10 accounts = "Do the bills or statements" {Supplier} = J14 [District hot water supplier name]	
{Bills} from {Supplier} cover just this establishment or are other establishments covered as well? 1 Just this establishment 2 Other establishment(s)		
NEXT	IF Other establishments ➔ J23 [Sq ft of others included] IF Just this establishment OR DK/RF ➔ J24 [District hot water bill available]	

J23	Sq ft of others included	HWOTS9

ASK	IF J22 [Bills cover only establishment] = Other establishments

FILL	{Bills} IF Only one account = "bill or statement" IF 2 to 10 accounts = "bills or statements"

What is the approximate square footage of the <u>other</u> establishments included on the {Bills}?

♦   PROBE for estimate if DK

RANGE	1 to 999,999,999

NEXT	➔ J24 [District hot water bill available]

J24	District hot water bill available	HWBILL29

ASK	IF Name given in J14 [District hot water supplier name]

Would it be possible for me to scan one of your district hot water bills? There is information on some utility bills that may help energy researchers who use these data.

♦   EXP: [Examples of these items include miscellaneous
    charges, past months data, and units of measure.]

♦   If available, you will be prompted to scan the bill at the end of
    the interview, so it is not necessary to stop the interview here

    1   Yes, bill available
    2   No, will not be able to provide bill

NEXT	➔ Terminate interview