

# 2007 Commercial Buildings Energy Consumption Survey (CBECS)

## Building Questionnaire - Form EIA-871A

### 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:

<b>A1</b>	<b>Question name</b>	SASVAR9
<b>ASK</b>		
<b>FILL</b>		
Question text		
<b>RANGE</b>		
<b>NEXT</b>		

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, at least one 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 in order. Once a true statement is reached, go to the question indicated by the arrow (➔).

## WORKSHEET AND RESPONDENT QUESTIONS

<b>WS</b>	<b>Worksheet 1</b>	<i>WS1RS09 – WS1RS99</i>
<b>ASK</b>	All cases not yet done with Section E	
<p>Do you have Worksheet 1 with you and completed?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF First time case started → R1 [Respondent title] IF Restart → R2 [Respondent title]	


<b>R1</b>	<b>Respondent function</b>	<i>RJOBRS09</i>
<b>ASK</b>	All cases on first start	
<p> SHOW CARD R1</p> <p>◆ 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</p> <p>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.</p> <p>Looking at this list, please tell me which of these best describes your job function.</p> <ol style="list-style-type: none"> <li>1 Operations, maintenance, or engineering</li> <li>2 Property management</li> <li>3 Store management</li> <li>4 Mall management</li> <li>5 Administration or company management</li> <li>6 Energy or environmental management</li> <li>7 Building owner</li> <li>8 Business owner</li> <li>9 Accounting, finances, or payroll</li> <li>10 Executive official</li> <li>11 School official</li> <li>12 Religious official</li> <li>13 Support staff</li> <li>14 Other</li> </ol>		
<b>NEXT</b>	IF Other → R3 [Other job function] Anything but Other → A1 [Square footage]	

<b>R2</b>	<b>Respondent function</b>	<i>RJOBRS19 – RJOBRS99</i>
<b>ASK</b>	All restarted cases	
<p>◆ ASK if interview is with a new respondent</p> <p>◆ If interview is with same respondent as previous interview, ENTER "0"</p> <p> SHOW CARD R1</p> <p>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.</p> <p>Looking at this list, please tell me which of these best describes your job position.</p> <ul style="list-style-type: none"> <li>0 Same respondent as previous interview</li> <li>1 Operations, maintenance, or engineering</li> <li>2 Property management</li> <li>3 Store management</li> <li>4 Mall management</li> <li>5 Administration or company management</li> <li>6 Energy or environmental management</li> <li>7 Building owner</li> <li>8 Business owner</li> <li>9 Accounting, finances, or payroll</li> <li>10 Executive official</li> <li>11 School official</li> <li>12 Religious official</li> <li>13 Support staff</li> <li>14 Other</li> </ul>		
<b>NEXT</b>	IF Other → R3 [Other job function] Anything but Other → A1 [Square footage]	

<b>R3</b>	<b>Other job function</b>	<i>RJOBXR09 – RJOBXR99</i>
<b>ASK</b>	IF R1 or R2 [Respondent function] = Other	
What is your job function?		
<b>NEXT</b>	→ A1 [Square footage]	

**SECTION A: BUILDING SIZE AND AGE**


<b>A1</b>	<b>Square footage</b>	<i>SQFT9</i>
<b>ASK</b>	All Buildings	
<b>FILL</b>	<p><b>{Worksheet1Intro}</b>                  IF R has Worksheet 1 = "Please refer to Worksheet 1 for some of these next questions on general characteristics."                  OTHERWISE = BLANK</p>	
		[F1]-HELP
	<p>{Worksheet1Intro}</p> <p>What is the gross or total square footage of all the space in this building both finished and unfinished, including basements, hallways, lobbies, stairways, elevator shafts, and indoor parking levels?</p> <ul style="list-style-type: none"> <li>◆ DEF: [Total square footage = Length of building multiplied by width of building multiplied by the number of floors.]</li> <li>◆ VERIFY number <u>digit by digit</u></li> </ul>	
<b>RANGE</b>	1 to 999,999,999	
<b>NEXT</b>	IF DK/RF → A2 [Square footage category] IF Case is from Federal, hospital, or large buildings lists & Less than 200,001 square feet → A4 [End of interview] IF Enclosed mall → A5 [Food court] IF 1,000 square feet or less → A3 [End of interview] OTHERWISE → A6 [Wall construction material]	


<b>A2</b>	<b>Square footage category</b>	SQFTC9
<b>ASK</b>	IF A1 [Square footage] = DK/RF	
		[F1]-HELP
<p> SHOW CARD A1</p> <p>I understand that it may be difficult to give an exact figure for square footage. However, the size of your building is very important in helping understand its use of energy.</p> <p>Please look at this list and tell me which category best describes the total gross square footage in this building. There are examples provided to help you estimate.</p> <ul style="list-style-type: none"> <li>◆ If respondent gives the category code, VERIFY the response by reading the full answer</li> </ul> <ol style="list-style-type: none"> <li>1 1,000 square feet or less</li> <li>2 1,001 to 5,000 square feet</li> <li>3 5,001 to 10,000 square feet</li> <li>4 10,001 to 25,000 square feet</li> <li>5 25,001 to 50,000 square feet</li> <li>6 50,001 to 100,000 square feet</li> <li>7 100,001 to 200,000 square feet</li> <li>8 200,001 to 500,000 square feet</li> <li>9 500,001 to 1 million square feet</li> <li>10 Over 1 million square feet</li> </ol>		
<b>NEXT</b>	IF Case is from Federal, hospital, or large buildings lists & Less than 200,001 square feet → A4 [End of interview] IF Enclosed mall → A5 [Food court] IF 1,000 square feet or less (1) → A3 [End of interview] IF Over 1,000 square feet (2-10) → A6 [Wall construction material]	


<b>A3</b>	<b>End of interview</b>	
<b>ASK</b>	IF A1 [Square footage] ≤ 1000	
<b>FILL</b>	<b>{CollectWorksheet}</b> IF R has Worksheet 1 = "However, I would like to collect Worksheet 1 and any other worksheets that you may have completed."	
<p>Thank you, that's all the questions that I have at this time, since we are only interviewing buildings that are larger than one thousand square feet. {CollectWorksheet}</p> <p>Thank you for your time and help.</p> <ul style="list-style-type: none"> <li>◆ [F10] to Exit</li> </ul>		
<b>NEXT</b>	TERMINATE	


<b>A4</b>	<b>End of interview</b>
<b>ASK</b>	IF Case is from Federal, hospital, or large buildings lists IF A1 [Square footage] ≤ 200,000 OR A2 [Square footage category] = 1,000 square feet or less; 1,001 to 5,000 square feet; 5,001 to 10,000 square feet; 10,001 to 25,000 square feet; 25,001 to 50,000 square feet; 50,001 to 100,000 square feet; OR 100,001 to 200,000 square feet
<b>FILL</b>	<b>{CollectWorksheet}</b> IF R has Worksheet 1 = “However, I would like to collect Worksheet 1 and any other worksheets that you may have completed.”
<p>Thank you, that’s all the questions that I have at this time. {CollectWorksheet}</p> <p>Thank you for your time and help.</p> <p>◆ [F10] to Exit</p>	
<b>NEXT</b>	TERMINATE

<b>A5</b>	<b>Food court</b>	<i>COURT9</i>
<b>ASK</b>	IF Enclosed mall	
<p>Is there a food court in this mall?</p> <p>◆ EXP: [A food court is a public area with tables and chairs surrounded by various food service establishments which generally offer only counter service.]</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	→ A6 [Wall construction material]	


<b>A6</b>	<b>Wall construction material</b>	<i>WLCNS9</i>
<b>ASK</b>	All Buildings	
 SHOW CARD A2		[F1]-HELP
<p>Here is a list of different types of construction materials. Which best describes the major type of exterior wall construction material used on this building?</p> <ol style="list-style-type: none"> <li>1 Brick, stone, or stucco</li> <li>2 Pre-cast concrete panels</li> <li>3 Concrete block or poured concrete (above grade)</li> <li>4 Aluminum, asbestos, plastic, or wood siding, shingles, tiles, or shakes</li> <li>5 Sheet metal panels</li> <li>6 Window or vision glass (glass that can be seen through)</li> <li>7 Decorative or construction glass</li> <li>8 IF VOLUNTEERED: No one major type</li> <li>9 IF VOLUNTEERED: Other</li> </ol>		
<b>NEXT</b>	→ A7 [Roof construction material]	

<b>A7</b>	<b>Roof construction material</b>	<i>RFCNS9</i>
<b>ASK</b>	All Buildings	
 SHOW CARD A3		[F1]-HELP
<p>Here is a list of different types of roofing materials. Which best describes the building's predominant exterior roof surface?</p> <ol style="list-style-type: none"> <li>1 Built-up (tar, felts, or fiberglass and a ballast, such as stone)</li> <li>2 Slate or tile shingles</li> <li>3 Wood shingles, shakes, or other wooden materials</li> <li>4 Asphalt, fiberglass, or other shingles</li> <li>5 Metal surfacing</li> <li>6 Plastic, rubber, or synthetic sheeting (single or multiple ply)</li> <li>7 Concrete</li> <li>8 IF VOLUNTEERED: No one major type</li> <li>9 IF VOLUNTEERED: Other</li> </ol>		
<b>NEXT</b>	→ A8 [Roof tilt]	

<b>A8</b>	<b>Roof tilt</b>	<i>RFTILT9</i>
<b>ASK</b>	All Buildings	
 SHOW CARD A4  Looking at this card, please tell me which best describes the tilt or pitch of the roof of this building.  1 Flat 2 Shallow pitch 3 Steeper pitch		
<b>NEXT</b>	IF Freestanding → A10 [Percent exterior glass] OTHERWISE → A13 [Number of floors]	

<b>A9</b>	<b>Building shape</b>	<i>BLDSHP9</i>
<b>ASK</b>	IF Freestanding	
 SHOW CARD A6  Here is a card that shows some common building shapes. Which one most resembles the floorplan of this building at ground level? This is sometimes called the "footprint" of the building.  1 Square 2 Wide rectangle 3 Narrow rectangle 4 Rectangle or square with an interior courtyard 5 "H" shaped 6 "U" shaped 7 "E" shaped 8 "T" shaped 9 "L" shaped 10 "+" or cross shaped 11 Other shape		
<b>NEXT</b>	→ A13 [Number of floors]	



<b>A10</b>	<b>Percent exterior glass</b>	<i>GLSSPC9</i>
<b>ASK</b>	IF Freestanding	
 SHOW CARD A5  Which of the ranges on this card best describes the percent of the exterior wall surface of this building that is covered with window glass or glass doors?  1 1 percent or less 2 2 to 10 percent 3 11 to 25 percent 4 26 to 50 percent 5 51 to 75 percent 6 76 to 100 percent		
<b>NEXT</b>	→ A11 [Equal glass on all sides]	

<b>A11</b>	<b>Equal glass on all sides</b>	<i>EQGLSS9</i>
<b>ASK</b>	IF Freestanding	
Is the amount of glass about the same for all sides of the building?  1 Yes 2 No		
<b>NEXT</b>	IF Yes → A9 [Building shape] IF No OR DK/RF → A12 [Glass sides most sunlight]	

<b>A12</b>	<b>Glass sides most sunlight</b>	<i>SUNGLS9</i>
<b>ASK</b>	IF Freestanding & A10 [Percent exterior glass] = No OR DK/RF	
Do the sides receiving direct sunlight have more or less glass area than the sides that do not receive direct sunlight?  1 More glass area 2 Less glass area 3 IF VOLUNTEERED: About the same amount		
<b>NEXT</b>	→ A9 [Building shape]	

<b>A13</b>	<b>Number of floors</b>	<i>NFLOOR9</i>
<b>ASK</b>	All Buildings	
		[F1]-HELP
	How many floors are in the tallest section of the building, including basements, parking levels, or any other floors below ground level, but excluding half-floors, mezzanines, balconies, and lofts?	
	◆ PROBE for estimate if DK	
<b>RANGE</b>	1 to 999	
<b>NEXT</b>	IF Only one floor → A15 [Attic] IF More than one floor → A14 [Number of underground floors]	

<b>A14</b>	<b>Number of underground floors</b>	<i>BASEMNT9</i>
<b>ASK</b>	IF A13 [Number of floors] > 1	
	How many of these floors are below ground (or partially below ground)?	
	◆ PROBE for estimate if DK	
<b>RANGE</b>	0 to 999	
<b>NEXT</b>	→ A15 [Attic]	

<b>A15</b>	<b>Attic</b>	<i>ATTIC9</i>
<b>ASK</b>	All Buildings	
	Does the building have an attic?	
	1 Yes 2 No	
<b>NEXT</b>	IF A13 [Number of floors] = 1 → A20 [Year of construction] IF A13 [Number of floors] > 1 → A16 [Elevators]	


<b>A16</b>	<b>Elevators</b>	<i>ELEVTR9</i>
<b>ASK</b>	IF A13 [Number of floors] >1 OR DK/RF	
	Are there any elevators in this building?	
	1 Yes 2 No	
<b>NEXT</b>	IF Yes → A17 [Number of elevators] IF No OR DK/RF → A18 [Escalators]	

<b>A17</b>	<b>Number of elevators</b>	<i>NELVTR9</i>
<b>ASK</b>	IF A16 [Elevators] = Yes	
<p>How many elevators are there?</p> <p>◆ PROBE for estimate if DK</p>		
<b>RANGE</b>	1 to 99	
<b>NEXT</b>	→ A18 [Escalators]	

<b>A18</b>	<b>Escalators</b>	<i>ESCLTR9</i>
<b>ASK</b>	IF A13 [Number of floors] >1 OR DK/RF	
<p>Are there any escalators in this building?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → A19 [Number of escalators] IF No OR DK/RF → A20 [Year of construction]	

<b>A19</b>	<b>Number of escalators</b>	<i>NESLTR9</i>
<b>ASK</b>	IF A18 [Escalators] = Yes	
<p>How many escalators are there? Count <u>each</u> one, for example, a pair of up and down escalators should be counted as two.</p> <p>◆ PROBE for estimate if DK</p>		
<b>RANGE</b>	1 to 99	
<b>NEXT</b>	→ A20 [Year of construction]	


<b>A20</b>	<b>Year of construction</b>	YRCON9
<b>ASK</b>	All Structures	
		[F1]-HELP
	What year was this building constructed? If there have been major additions, give the year the <u>largest portion</u> of the building was completed.	
<b>RANGE</b>	1600 to 2008	
<b>NEXT</b>	IF DK/RF → A21 [Year of construction category] IF 2007 → A23 [Month ready for occupancy] IF 2008 → A22 [End of interview] IF Before 1999 → A24 [Renovations] OTHERWISE → B1 [One activity in building]	

<b>A21</b>	<b>Year of construction category</b>	YRCONC9
<b>ASK</b>	IF A20 [Year of construction] = DK/RF	
		[F1]-HELP
	 SHOW CARD A7  Please look at this card and tell me which range best describes when this building was constructed.	
	1 Before 1920 2 1920 to 1945 3 1946 to 1959 4 1960 to 1969 5 1970 to 1979 6 1980 to 1989 7 1990 to 1999 8 2000 to 2003 9 2004 to 2007 10 IF VOLUNTEERED: 2008	
<b>NEXT</b>	IF 2008 → A22 [End of interview] IF Before 1999 → A24 [Renovations] IF 2000 to 2007: IF Enclosed mall → B30 [Assign CBECS Activity = Enclosed mall] OTHERWISE → B1 [One activity in building]	

<b>A22</b>	<b>End of interview</b>
<b>ASK</b>	IF A20 [Year of construction] OR A21 [Year of construction category] = 2008
<b>FILL</b>	<b>{CollectWorksheet}</b> IF R has Worksheet 1 = "However, I would like to collect Worksheet 1 and any other worksheets that you may have completed."
<p>Thank you, that's all the questions that I have at this time, since we are only interviewing structures that were ready for occupancy before January 1, 2008. {CollectWorksheet}</p> <p>Thank you for your time and help.</p> <p>◆ [F10] to Exit</p>	
<b>NEXT</b>	TERMINATE


<b>A23</b>	<b>Month ready for occupancy</b>	<i>MONCON9</i>
<b>ASK</b>	IF A20 [Year of construction] = 2007	
<p>In what month of 2007 was this building first ready for occupancy?</p> <ol style="list-style-type: none"> <li>1 January</li> <li>2 February</li> <li>3 March</li> <li>4 April</li> <li>5 May</li> <li>6 June</li> <li>7 July</li> <li>8 August</li> <li>9 September</li> <li>10 October</li> <li>11 November</li> <li>12 December</li> </ol>		[F1]-HELP
<b>NEXT</b>	IF Enclosed mall → B30 [Assign CBECS Activity = Enclosed mall] OTHERWISE → B1 [One activity in building]	

<b>A24</b>	<b>Renovations</b>	<i>RENOV9</i>
<b>ASK</b>	IF A20 [Year of construction] OR A21 [Year of construction category] = Before 1999	
<b>FILL</b>	<b>{Since1980}</b> IF A20 [Year of construction] OR A21 [Year of construction category] = Before 1980 = "since 1980" OTHERWISE = BLANK	
<p>Has any portion of this building undergone major renovations {Since1980}?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → A25 [What renovations] IF No OR DK/RF: IF Enclosed mall → B30 [Assign CBECS Activity = Enclosed mall] OTHERWISE → B1 [One activity in building]	


<b>A25</b>	<b>What renovations</b>	<i>see below</i>																								
<b>ASK</b>	IF A24 [Renovations] = Yes																									
<b>FILL</b>	<b>{Since1980}</b> IF A20 [Year of construction] OR A21 [Year of construction category] = Before 1980 = "since 1980" OTHERWISE = BLANK																									
<p> SHOW CARD A8</p> <p>Please look at this card and tell me which types of renovations have been done {Since1980}.</p> <ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul> <table style="width: 100%; border: none;"> <tr> <td style="width: 80%;">1 Addition or annex</td> <td style="text-align: right;"><i>RENADD9</i></td> </tr> <tr> <td>2 Reduction of enclosed floorspace</td> <td style="text-align: right;"><i>RENRDC9</i></td> </tr> <tr> <td>3 Interior or exterior cosmetic improvements</td> <td style="text-align: right;"><i>RENCOS9</i></td> </tr> <tr> <td>4 Exterior replacement</td> <td style="text-align: right;"><i>RENEXT9</i></td> </tr> <tr> <td>5 Interior wall re-configuration</td> <td style="text-align: right;"><i>RENINT9</i></td> </tr> <tr> <td>6 HVAC equipment upgrade</td> <td style="text-align: right;"><i>RENHVC9</i></td> </tr> <tr> <td>7 Lighting upgrade</td> <td style="text-align: right;"><i>RENLGT9</i></td> </tr> <tr> <td>8 Window replacement</td> <td style="text-align: right;"><i>RENWIN9</i></td> </tr> <tr> <td>9 Plumbing system upgrade</td> <td style="text-align: right;"><i>RENPLB9</i></td> </tr> <tr> <td>10 Insulation upgrade</td> <td style="text-align: right;"><i>RENINS9</i></td> </tr> <tr> <td>11 Structural upgrade</td> <td style="text-align: right;"><i>RENSTR9</i></td> </tr> <tr> <td>12 Other</td> <td style="text-align: right;"><i>RENOth9</i></td> </tr> </table>			1 Addition or annex	<i>RENADD9</i>	2 Reduction of enclosed floorspace	<i>RENRDC9</i>	3 Interior or exterior cosmetic improvements	<i>RENCOS9</i>	4 Exterior replacement	<i>RENEXT9</i>	5 Interior wall re-configuration	<i>RENINT9</i>	6 HVAC equipment upgrade	<i>RENHVC9</i>	7 Lighting upgrade	<i>RENLGT9</i>	8 Window replacement	<i>RENWIN9</i>	9 Plumbing system upgrade	<i>RENPLB9</i>	10 Insulation upgrade	<i>RENINS9</i>	11 Structural upgrade	<i>RENSTR9</i>	12 Other	<i>RENOth9</i>
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12 Other	<i>RENOth9</i>																									
<b>NEXT</b>	IF Other → A26 [Other renovation] OTHERWISE: IF Enclosed mall → B30 [Assign CBECS Activity = Enclosed mall] OTHERWISE → B1 [One activity in building]																									


<b>A26</b>	<b>Other renovation</b>
<b>ASK</b>	IF A25 [What renovations] = Other
<p>Please describe the other type of renovation.</p> <p>◆ RECORD in open box</p>	
<b>NEXT</b>	IF Enclosed mall → B30 [Assign CBECS Activity = Enclosed mall] OTHERWISE → B1 [One activity in building]

**SECTION B: BUILDING ACTIVITY**


<b>B1</b>	<b>One activity in building</b>	ONEACT9
<b>ASK</b>	IF NOT Enclosed mall	
 SHOW CARD B1  Looking at this list of activities, does one <u>single</u> activity account for 75 percent or more of the floorspace in the building?  1 Yes 2 No		[F1]-HELP
<b>NEXT</b>	IF Yes → B2 [Primary activity] IF No OR DK/RF → B3 [Activities in building]	



<b>B2</b>	<b>Primary activity</b>	<i>ACT9</i>
<b>ASK</b>	IF B1 [One activity in building] = Yes	
<div style="text-align: right;">[F1]-HELP</div>  SHOW CARD B1 <p>Which one of the activities listed accounts for 75 percent or more of the floorspace in the building?</p> <ul style="list-style-type: none"> <li>11 Office/Professional</li> <li>12 Data center/Computer "server farm"</li> <li>13 Warehouse/Storage</li> <li>14 Food sales or service</li> <li>15 Retail</li> <li>16 Education</li> <li>17 Religious worship</li> <li>18 Public assembly</li> <li>19 Health care</li> <li>20 Service</li> <li>21 Lodging</li> <li>22 Public order and safety</li> <li>23 Residential</li> <li>24 Industrial</li> <li>25 Agricultural</li> <li>26 Vacant</li> <li>27 Other</li> </ul>		
<b>NEXT</b>	IF Office/Professional → B5 [Office type] IF Data center/Computer "server farm" → B6 [Verify data center] IF Warehouse/Storage → B9 [Warehouse type] IF Food sales or service → B10 [Food sales or service type] IF Retail → B11 [Retail type] IF Education → B13 [Education type] IF Religious worship → B30 [Assign CBECS Activity = Religious worship] IF Public assembly → B14 [Assembly type] IF Health care → B15 [Health care type] IF Service → B16 [Service type] IF Lodging → B18 [Lodging type] IF Public order and safety → B19 [Public order type] IF Residential → B20 [Residential type] IF Industrial → B8 [Used as warehouse] IF Agricultural → B22 [Space for retail sales] IF Vacant → B23 [Vacant for noncommercial] IF Other → B25 [Other type] IF DK/RF → B41 [On a multibuilding complex]	

<b>B3</b>	<b>Activities in building</b>	<i>ACT19, ACT29, ACT39</i>
<b>ASK</b>	IF B1 [One activity in building] = No OR DK/RF	
 SHOW CARD B1		[F1]-HELP
<p>Which activities occupy the most space in this building? Choose up to three.</p> <p>◆ PROBE for any others (up to three)</p> <ul style="list-style-type: none"> <li>11 Office/Professional</li> <li>12 Data center/Computer "server farm"</li> <li>13 Warehouse/Storage</li> <li>14 Food sales or service</li> <li>15 Retail</li> <li>16 Education</li> <li>17 Religious worship</li> <li>18 Public assembly</li> <li>19 Health care</li> <li>20 Service</li> <li>21 Lodging</li> <li>22 Public order and safety</li> <li>23 Residential</li> <li>24 Industrial</li> <li>25 Agricultural</li> <li>26 Vacant</li> <li>27 Other</li> </ul>		
<b>NEXT</b>	IF Activities given → B4 [Percents for activities] IF DK/RF → B41 [On a multibuilding complex]	


<b>B4</b>	<b>Percents for activities</b>	<i>ACT1PCT8, ACT2PCT8, ACT3PCT8</i>
<b>ASK</b>	For each activity given in B3 [Activities in building]	
<b>FILL</b>	<p><b>{ActivityLabel}</b></p> <p>IF Office/Professional = "office space"</p> <p>IF Data center/Computer "server farm" = "used as a data center"</p> <p>IF Warehouse/Storage = "warehouse space"</p> <p>IF Food sales or service = "used for food sales or service"</p> <p>IF Retail = "used for retail"</p> <p>IF Education = "used for education"</p> <p>IF Religious worship = "used for religious worship"</p> <p>IF Public assembly = "used for public assembly"</p> <p>IF Health care = "used for health care"</p> <p>IF Service = "used for service"</p> <p>IF Lodging = "used for lodging"</p> <p>IF Public order and safety = "used for public order and safety"</p> <p>IF Residential = "residential"</p> <p>IF Industrial = "industrial"</p> <p>IF Agricultural = "agricultural"</p> <p>IF Vacant = "vacant"</p> <p>IF Other = "used for another activity"</p>	
About what percentage of the total space is {ActivityLabel}?		
<b>RANGE</b>	1 to 100	
<b>NEXT</b>	<p>IF There is an activity with a maximum percent, assign that as the CBECS activity [ACTFINL8]</p> <p>IF There are equal maximum percents (e.g. 50% an 50%), assign activity as the most energy-intensive one (based on 2003 CBECS data)</p> <p>THEN:</p> <p>IF Office/Professional → B5 [Office type]</p> <p>IF Data center/Computer "server farm" → B6 [Verify data center]</p> <p>IF Warehouse/Storage → B9 [Warehouse type]</p> <p>IF Food sales or service → B10 [Food sales or service type]</p> <p>IF Retail → B11 [Retail type]</p> <p>IF Education → B13 [Education type]</p> <p>IF Religious worship → B30 [Assign CBECS Activity = Religious worship]</p> <p>IF Public assembly → B14 [Assembly type]</p> <p>IF Health care → B15 [Health care type]</p> <p>IF Service → B16 [Service type]</p> <p>IF Lodging → B18 [Lodging type]</p> <p>IF Public order and safety → B19 [Public order type]</p> <p>IF Residential → B20 [Residential type]</p> <p>IF Industrial → B8 [Used as warehouse]</p> <p>IF Agricultural → B22 [Space for retail sales]</p> <p>IF Vacant → B23 [Vacant for noncommercial]</p> <p>IF Other → B25 [Other type]</p> <p>IF DK/RF → B41 [On a multibuilding complex]</p>	


<b>B5</b>	<b>Office type</b>	<i>OFFCSP8</i>
<b>ASK</b>	IF B2 [Primary activity] OR B4 [Percents for activities] Assigned activity = Office/Professional	
<b>FILL</b>	<p><b>{ActivityExplanation}</b>  IF (B1 [One activity in building] ≠ Yes) = “For the purposes of this survey, I will include your building in the general category of office.”  OTHERWISE = BLANK</p>	
<p> SHOW CARD B2</p> <p>{ActivityExplanation}</p> <p>Looking at this list, what type of office is this?</p> <ol style="list-style-type: none"> <li>1 Administrative or professional office building such as consulting, insurance, law, utility/telephone company, publishing, or college administration</li> <li>2 Government office</li> <li>3 Mixed-use office</li> <li>4 Bank or other financial institution</li> <li>5 Doctor's or dentist's office</li> <li>6 Sales office such as for vehicles or real estate</li> <li>7 Contractor's office such as for construction, plumbing, or HVAC</li> <li>8 Non-profit or social services office</li> <li>9 Research and development office</li> <li>10 City hall or city center</li> <li>11 Religious office</li> <li>12 Call center</li> <li>13 Courthouse or probation office</li> <li>14 Library</li> <li>15 Veterinarian's office</li> <li>16 Vacant</li> <li>17 Other type of office</li> </ol>		
<b>NEXT</b>	IF Administrative or professional office building; Government office; Mixed-use office; Bank or other financial institution; Doctor's or dentist's office; Sales office; Contractor's office; Non-profit or social services office; Research and development office; City hall or city center; Religious office; OR Call center → B30 [Assign CBECS Activity = Office] IF Courthouse or probation office → B30 [Assign CBECS Activity = Public order and safety] IF Library → B30 [Assign CBECS Activity = Public assembly] IF Veterinarian's office → B30 [Assign CBECS Activity = Outpatient health] IF Vacant: IF More than one activity → B30 [Assign CBECS Activity = Vacant] IF Only one activity OR Establishment OR Anchor → B24 [Completely vacant] IF Other type of office → B26 [Specify other activity]	


<b>B6</b>	<b>Verify data center</b>	<i>DATCTR9</i>
<b>ASK</b>	IF B2 [Primary activity] OR B4 [Percents for activities] assigned activity = Data center/Computer "server farm"	
<b>FILL</b>	<b>{ActivityExplanation}</b> IF (B1 [One activity in building] ≠ Yes) = "For the purposes of this survey, I will include your building in the general category of data center." OTHERWISE = BLANK	
		[F1]-HELP
	{ActivityExplanation}  A data center or server farm is a group of networked computer servers that are housed in one location, usually a secure area, and perform no other tasks besides server tasks.  There are usually many computers without screens, stacked in rows of racks, which operate continuously, day and night. Data centers are generally kept very cool and have a backup source of electricity.  Does this accurately describe your building?  1 Yes 2 No	
<b>NEXT</b>	IF Yes → B30 [Assign CBECS Activity = Data center] IF No OR DK/RF → B7 [Classify as office]	

<b>B7</b>	<b>Classify as office</b>	<i>NODCTR9</i>
<b>ASK</b>	IF B6 [Verify data center] = No OR DK/RF	
	Then, for the purposes of this study, I am going to classify your building as an office.  ◆ ENTER "1" to continue	
<b>NEXT</b>	→ B30 [Assign CBECS Activity = Office]	


<b>B8</b>	<b>Used as warehouse</b>	<i>WARECHK9</i>
<b>ASK</b>	IF B2 [Primary activity] OR B4 [Percents for activities] assigned activity = Industrial	
	Is this building used primarily as a warehouse or distribution center?  1 Yes 2 No	
<b>NEXT</b>	IF Yes → B9 [Warehouse type] IF No OR DK/RF → B21 [Space for retail sales]	


<b>B9</b>	<b>Warehouse type</b>	WARESP9
<b>ASK</b>	IF B2 [Primary activity] OR B4 [Percents for activities] assigned activity = Warehouse/Storage	
<b>FILL</b>	<b>{ActivityExplanation}</b> IF (B1 [One activity in building] ≠ Yes) = "For the purposes of this survey, I will include your building in the general category of warehouse." OTHERWISE = BLANK	
 SHOW CARD B3  {ActivityExplanation}  Looking at this list, what type of warehouse is this?  1 Non-refrigerated warehouse 2 Refrigerated warehouse 3 Distribution or shipping center 4 Public rental storage units 5 Vehicle storage and/or maintenance (car barn) 6 Airplane hangar 7 Vacant 8 Other type of warehouse		[F1]-HELP
<b>NEXT</b>	IF Non-refrigerated warehouse; Distribution or shipping center; OR Public rental storage units → B30 [Assign CBECS Activity = Nonrefrigerated warehouse] IF Refrigerated warehouse → B30 [Assign CBECS Activity = Refrigerated warehouse] IF Vehicle storage and/or maintenance → B30 [Assign CBECS Activity = Service] IF Airplane hangar → B30 [Assign CBECS Activity = Other] IF Vacant: IF More than one activity → B30 [Assign CBECS Activity = Vacant] IF Only one activity OR Establishment OR Anchor → B24 [Completely vacant] IF Other type of warehouse → B26 [Specify other activity]	


<b>B10</b>	<b>Food sales or service type</b>	<i>FOODSP9</i>
<b>ASK</b>	IF B2 [Primary activity] OR B4 [Percents for activities] assigned activity = Food sales or service	
<b>FILL</b>	<p><b>{ActivityExplanation}</b>  IF (B1 [One activity in building] ≠ Yes) = “For the purposes of this survey, I will include your building in the general category of food sales or service.”  OTHERWISE = BLANK</p>	
<p> SHOW CARD B4</p> <p>{ActivityExplanation}</p> <p>Looking at this list, what type of food sales or service is this?</p> <ol style="list-style-type: none"> <li>1 Restaurant or cafeteria</li> <li>2 Fast food</li> <li>3 Bar, pub, or lounge</li> <li>4 Grocery store or food market</li> <li>5 Gas station with a convenience store</li> <li>6 Convenience store</li> <li>7 Beer, wine, or liquor store</li> <li>8 Reception hall</li> <li>9 Catering service</li> <li>10 Coffee, doughnut, or bagel shop</li> <li>11 Ice cream or frozen yogurt shop</li> <li>12 Bakery</li> <li>13 Vacant</li> <li>14 Other type of food sales or service</li> </ol>		
<b>NEXT</b>	IF Restaurant or cafeteria; Fast food; Bar, pub, or lounge; Reception hall; Catering service; Coffee, doughnut, or bagel shop; Ice cream or frozen yogurt shop; OR Bakery → B30 [Assign CBECS Activity = Food service] IF Grocery store or food market; Gas station with a convenience store; OR Convenience store → B30 [Assign CBECS Activity = Food sales] IF Beer, wine, or liquor store → B30 [Assign CBECS Activity = Retail] IF Vacant: IF More than one activity → B30 [Assign CBECS Activity = Vacant] IF Only one activity OR Establishment OR Anchor → B24 [Completely vacant] IF Other type of food sales or service → B26 [Specify other activity]	


<b>B11</b>	<b>Retail type</b>	<i>RETLSP9</i>
<b>ASK</b>	IF B2 [Primary activity] OR B4 [Percents for activities] assigned activity = Retail	
<b>FILL</b>	<p><b>{ActivityExplanation}</b>  IF (B1 [One activity in building] ≠ Yes) = “For the purposes of this survey, I will include your building in the general category of retail.”  OTHERWISE = BLANK</p>	
<p> SHOW CARD B5</p> <p>{ActivityExplanation}</p> <p>Looking at this list, what type of retail is this?</p> <ol style="list-style-type: none"> <li>1 Store such as a department store, furniture, clothing, hardware, drugstore, bookstore, building supplies, lumber, home improvement, farm equipment, lawn and garden, floral, crafts, gifts, antiques, pawn shop, or wholesale club</li> <li>2 Bank or other financial institution</li> <li>3 Convenience store</li> <li>4 Beer, wine, or liquor store</li> <li>5 Rental center such as for videos, DVDs, equipment, or vehicles</li> <li>6 Dealership or showroom for vehicles or boats</li> <li>7 Studio or gallery</li> <li>8 Grocery store or food market</li> <li>9 Photo processing shop</li> <li>10 Copy center or printing service</li> <li>11 Distribution or shipping center</li> <li>12 Gas station with a convenience store</li> <li>13 Gas station (without convenience store)</li> <li>14 Post office or postal center</li> <li>15 Recreation such as gymnasium, health club, bowling alley, ice rink, field house, or indoor racquet sports</li> <li>16 Repair shop</li> <li>17 Vacant</li> <li>18 Other type of retail</li> </ol>		
<b>NEXT</b>	IF Store → B12 [Type of store] IF Alcoholic beverage store; Rental center; Dealership or showroom; OR Studio or gallery → B30 [Assign CBECS Activity = Retail] IF Bank or other financial institution → B30 [Assign CBECS Activity = Office] IF Convenience store; Grocery store or food market; OR Gas station with a convenience store → B30 [Assign CBECS Activity = Food sales] IF Photo processing shop; Copy center or printing service; Gas station; Post office or postal center; OR Repair shop → B30 [Assign CBECS Activity = Service] IF Distribution or shipping center → B30 [Assign CBECS Activity = Nonrefrigerated warehouse] IF Recreation → B30 [Assign CBECS Activity = Public assembly] IF Vacant: IF More than one activity → B30 [Assign CBECS Activity = Vacant] IF Only one activity OR Establishment OR Anchor → B24 [Completely vacant] IF Other type of retail → B26 [Specify other activity]	




<b>B12</b>	<b>Type of store</b>	<i>STORE9</i>
<b>ASK</b>	IF B11 [Retail type] = Store	
 SHOW CARD B6		
Looking at this list, please tell me the type of retail store.		
<ul style="list-style-type: none"><li>1 Apparel specialty</li><li>2 Hard lines specialty</li><li>3 Warehouse club</li><li>4 Discount or supercenter</li><li>5 Electronics store</li><li>6 Department store</li><li>7 Drug store</li><li>8 Home center or hardware store</li><li>9 Other type of store</li></ul>		
<b>NEXT</b>	➔ B30 [Assign CBECS Activity = Retail]	

<b>B13</b>	<b>Education type</b>	<i>EDUCSP9</i>
<b>ASK</b>	IF B2 [Primary activity] OR B4 [Percents for activities] assigned activity = Education	
<b>FILL</b>	<p><b>{ActivityExplanation}</b>  IF (B1 [One activity in building] ≠ Yes) = “For the purposes of this survey, I will include your building in the general category of education.”  OTHERWISE = BLANK</p>	
<p> SHOW CARD B7</p> <p>{ActivityExplanation}</p> <p>Looking at this list, what type of education is this?</p> <ol style="list-style-type: none"> <li>1 Elementary or middle school</li> <li>2 High school</li> <li>3 College or university</li> <li>4 Preschool or daycare</li> <li>5 Adult education</li> <li>6 Career or vocational training</li> <li>7 Religious education</li> <li>8 Library</li> <li>9 Laboratory</li> <li>10 Vacant</li> <li>11 Other type of classroom education</li> </ol>		
<b>NEXT</b>	IF Elementary or middle school; High school; College or university; Preschool or daycare; Adult education; Career or vocational training; OR Religious education → B30 [Assign CBECS Activity = Education] IF Library → B30 [Assign CBECS Activity = Public assembly] IF Laboratory → B30 [Assign CBECS Activity = Laboratory] IF Vacant: IF More than one activity → B30 [Assign CBECS Activity = Vacant] IF Only one activity OR Establishment OR Anchor → B24 [Completely vacant] IF Other type of classroom education → B26 [Specify other activity]	


<b>B14</b>	<b>Assembly type</b>	<i>ASSMSP9</i>
<b>ASK</b>	IF B2 [Primary activity] OR B4 [Percents for activities] assigned activity = Public assembly	
<b>FILL</b>	<p><b>{ActivityExplanation}</b>  IF (B1 [One activity in building] ≠ Yes) = “For the purposes of this survey, I will include your building in the general category of public assembly.”  OTHERWISE = BLANK</p>	
<p> SHOW CARD B8</p> <p>{ActivityExplanation}</p> <p>Looking at this list, what type of public assembly is this?</p> <ol style="list-style-type: none"> <li>1 Social or meeting such as a community center, lodge, meeting hall, convention center, or senior center</li> <li>2 Recreation such as a gymnasium, health club, bowling alley, ice rink, field house, or indoor racquet sports</li> <li>3 Entertainment or culture such as a museum, theater, cinema, sports arena, casino, or night club</li> <li>4 Library</li> <li>5 Religious worship</li> <li>6 Funeral home</li> <li>7 Student activities center</li> <li>8 Armory</li> <li>9 Exhibition hall</li> <li>10 Broadcasting studio</li> <li>11 Transportation terminal</li> <li>12 Elementary or middle school</li> <li>13 High school</li> <li>14 Restaurant or cafeteria</li> <li>15 Fast food</li> <li>16 Bar, pub, or lounge</li> <li>17 Vacant</li> <li>18 Other type of public assembly</li> </ol>		
<b>NEXT</b>	IF Social or meeting; Recreation; Entertainment or culture; Library; Funeral home; Student activities center; Armory; Exhibition hall; Broadcasting studio; OR Transportation terminal → B30 [Assign CBECS Activity = Public assembly] IF Religious worship → B30 [Assign CBECS Activity = Religious worship] IF Elementary or middle school; OR High school → B30 [Assign CBECS Activity = Education] IF Restaurant or cafeteria; Fast food; OR Bar → B30 [Assign CBECS Activity = Food service] IF Vacant: IF More than one activity → B30 [Assign CBECS Activity = Vacant] IF Only one activity OR Establishment OR Anchor → B24 [Completely vacant] IF Other type of public assembly → B26 [Specify other activity]	


<b>B15</b>	<b>Health care type</b>	<i>HLTHSP9</i>
<b>ASK</b>	IF B2 [Primary activity] OR B4 [Percents for activities] assigned activity = Health care	
<b>FILL</b>	<p><b>{ActivityExplanation}</b>  IF (B1 [One activity in building] ≠ Yes) = “For the purposes of this survey, I will include your building in the general category of health care.”  OTHERWISE = BLANK</p>	
<p> SHOW CARD B9</p> <p>{ActivityExplanation}</p> <p>Looking at this list, what type of health care is this?</p> <ol style="list-style-type: none"> <li>1 Doctor's or dentist's office</li> <li>2 Clinic or other outpatient health care building</li> <li>3 Hospital (inpatient)</li> <li>4 Outpatient rehabilitation center</li> <li>5 Inpatient rehabilitation center</li> <li>6 Nursing home, assisted living center, or other residential care building</li> <li>7 Retirement home</li> <li>8 Veterinarian's office</li> <li>9 Laboratory</li> <li>10 Vacant</li> <li>11 Other type of health care</li> </ol>		
<b>NEXT</b>	IF Doctor's or dentist's office; Clinic or other outpatient health care building; Outpatient rehabilitation center; OR Veterinarian's office → B30 [Assign CBECS Activity = Outpatient health care] IF Hospital (inpatient); OR Inpatient rehabilitation → B30 [Assign CBECS Activity = Inpatient health care] IF Nursing home, assisted living center, or other residential care building → B30 [Assign CBECS Activity = Nursing] IF Retirement home → B30 [Assign CBECS Activity = Lodging] IF Laboratory → B30 [Assign CBECS Activity = Laboratory] IF Vacant: IF More than one activity → B30 [Assign CBECS Activity = Vacant] IF Only one activity OR Establishment OR Anchor → B24 [Completely vacant] IF Other type of health care → B26 [Specify other activity]	

<b>B16</b>	<b>Service type</b>	<i>SERVSP9</i>
<b>ASK</b>	IF B2 [Primary activity] OR B4 [Percents for activities] assigned activity = Service	
<b>FILL</b>	<p><b>{ActivityExplanation}</b>  IF (B1 [One activity in building] <math>\neq</math> Yes) = "For the purposes of this survey, I will include your building in the general category of service."  OTHERWISE = BLANK</p>	
<p> SHOW CARD B10</p> <p>{ActivityExplanation}</p> <p>Looking at this list, what type of service is this?</p> <ol style="list-style-type: none"> <li>1 Auto service or auto repair shop</li> <li>2 Vehicle storage and/or maintenance (car barn)</li> <li>3 Contractor's office such as construction, plumbing, or HVAC</li> <li>4 Building and grounds maintenance shop</li> <li>5 Repair shop</li> <li>6 Dry cleaner or laundromat</li> <li>7 Post office or postal center</li> <li>8 Bank or other financial institution</li> <li>9 Restaurant or cafeteria</li> <li>10 Fast food</li> <li>11 Bar, pub, or lounge</li> <li>12 Car wash</li> <li>13 Gas station with a convenience store</li> <li>14 Gas station (without convenience store)</li> <li>15 Telephone switching facilities</li> <li>16 Photo processing shop</li> <li>17 Beauty parlor or barber shop</li> <li>18 Tanning salon</li> <li>19 Funeral home</li> <li>20 Airplane hangar</li> <li>21 Copy center or printing shop</li> <li>22 Distribution or shipping center</li> <li>23 Kennel</li> <li>24 Library</li> <li>25 Non-profit or social services office</li> <li>26 Preschool or daycare</li> <li>27 Recreation such as a gymnasium, health club, bowling alley, ice rink, field house, or indoor racquet sports</li> <li>28 Rental center such as for videos, DVDs, equipment, or vehicles</li> <li>29 Public rental storage units</li> <li>30 Student activities center</li> <li>31 Indoor parking garage</li> <li>32 Vacant</li> <li>33 Other type of service</li> </ol>		


<b>NEXT</b>	<p>IF Dry cleaner or Laundromat → B17 [Dry cleaning onsite]</p> <p>IF Auto service or auto repair shop; Building and grounds maintenance shop; Vehicle storage and/or maintenance; Repair shop; Post office or postal center; Car wash; Gas station (without convenience store); Photo processing shop; Beauty parlor or barber shop; Tanning salon; Copy center or printing shop; OR Kennel → B30 [Assign CBECS Activity = Service]</p> <p>IF Contractor's office; Bank or other financial institution; OR Non-profit or social services office → B30 [Assign CBECS Activity = Office]</p> <p>IF Restaurant or cafeteria; Fast food; OR Bar, pub, or lounge → B30 [Assign CBECS Activity = Food service]</p> <p>IF Gas station with convenience store → B30 [Assign CBECS Activity = Food sales]</p> <p>IF Telephone switching facilities OR Airplane hangar → B30 [Assign CBECS Activity = Other]</p> <p>IF Distribution or shipping center OR Public rental storage units → B30 [Assign CBECS Activity = Nonrefrigerated warehouse]</p> <p>IF Funeral home; Library; Recreation; OR Student activities center → B30 [Assign CBECS Activity = Public assembly]</p> <p>IF Preschool or daycare → B30 [Assign CBECS Activity = Education]</p> <p>IF Rental center → B30 [Assign CBECS Activity = Retail]</p> <p>IF Indoor parking garage:  IF B1 [One activity in building] = Yes → B28 [End of interview]  IF B1 [One activity in building] ≠ Yes → B30 [Assign CBECS Activity = Other]</p> <p>IF Vacant:  IF More than one activity → B30 [Assign CBECS Activity = Vacant]  IF Only one activity OR Establishment OR Anchor → B24 [Completely vacant]</p> <p>IF Other type of service → B26 [Specify other activity]</p>
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<b>B17</b>	<b>Dry cleaning onsite</b>	<i>DRYCL9</i>
<b>ASK</b>	IF B16 [Service type] = Dry cleaner or laundromat	
<p>Is the dry cleaning or laundry done in this building, or is it done off-site?</p> <p>1 In this building  2 Off-site</p>		
<b>NEXT</b>	→ B30 [Assign CBECS Activity = Service]	

<b>B18</b>	<b>Lodging type</b>	<i>LODGSP9</i>
<b>ASK</b>	IF B2 [Primary activity] OR B4 [Percents for activities] assigned activity = Lodging	
<b>FILL</b>	<p><b>{ActivityExplanation}</b>  IF (B1 [One activity in building] ≠ Yes) = “For the purposes of this survey, I will include your building in the general category of lodging.”  OTHERWISE = BLANK</p>	
<p> SHOW CARD B11</p> <p>{ActivityExplanation}</p> <p>Looking at this list, what type of lodging is this?</p> <ol style="list-style-type: none"> <li>1 Motel or inn</li> <li>2 Hotel</li> <li>3 Dormitory, fraternity, or sorority</li> <li>4 Retirement home</li> <li>5 Nursing home, assisted living center, or other residential care building</li> <li>6 Convent or monastery</li> <li>7 Shelter, orphanage, or children's home</li> <li>8 Halfway house</li> <li>9 Jail, reformatory, or penitentiary</li> <li>10 Vacant</li> <li>11 Other type of lodging</li> </ol>		
<b>NEXT</b>	IF Motel or inn; Hotel; Dormitory, fraternity, or sorority; Retirement home; Convent or monastery; Shelter, orphanage, or children's home; OR Halfway house → B30 [Assign CBECS Activity = Lodging] IF Nursing home, assisted living center, or other residential care building → B30 [Assign CBECS Activity = Nursing] IF Jail, reformatory, or penitentiary → B30 [Assign CBECS Activity = Public order and safety] IF Vacant: IF More than one activity → B30 [Assign CBECS Activity = Vacant] IF Only one activity OR Establishment OR Anchor → B24 [Completely vacant] IF Other type of lodging → B26 [Specify other activity]	

<b>B19</b>	<b>Public order type</b>	<i>ORDRSP9</i>
<b>ASK</b>	IF B2 [Primary activity] OR B4 [Percents for activities] assigned activity = Public order and safety	
<b>FILL</b>	<p><b>{ActivityExplanation}</b>  IF (B1 [One activity in building] ≠ Yes) = “For the purposes of this survey, I will include your building in the general category of public order and safety.”  OTHERWISE = BLANK</p>	
<p> SHOW CARD B12</p> <p>{ActivityExplanation}</p> <p>Looking at this list, what type of public order and safety is this?</p> <ol style="list-style-type: none"> <li>1 Police station</li> <li>2 Fire station</li> <li>3 Combination police and fire station</li> <li>4 Jail, reformatory, or penitentiary</li> <li>5 Courthouse or probation office</li> <li>6 Halfway house</li> <li>7 Armory</li> <li>8 City hall or city center</li> <li>9 Vacant</li> <li>10 Other type of public order and safety</li> </ol>		
<b>NEXT</b>	IF Police station; Fire station; Combination police and fire station; Jail, reformatory, or penitentiary; OR Courthouse or probation office → B30 [Assign CBECS Activity = Public order and safety] IF Halfway house → B30 [Assign CBECS Activity = Lodging] IF Armory → B30 [Assign CBECS Activity = Public assembly] IF City hall or city center → B30 [Assign CBECS Activity = Office] IF Vacant: IF More than one activity → B30 [Assign CBECS Activity = Vacant] IF Only one activity OR Establishment OR Anchor → B24 [Completely vacant] IF Other type of public order and safety → B26 [Specify other activity]	




<b>B20</b>	<b>Residential type</b>	<i>RESDSP9</i>
<b>ASK</b>	IF B2 [Primary activity] OR B4 [Percents for activities] assigned activity = Residential	
<b>FILL</b>	<b>{ActivityExplanation}</b> IF (B1 [One activity in building] ≠ Yes) = “For the purposes of this survey, I will include your building in the general category of residential.” OTHERWISE = BLANK	
 SHOW CARD B13  {ActivityExplanation}  Looking at this list, what type of residential is this?  <ol style="list-style-type: none"> <li>1 Hotel</li> <li>2 Motel or inn</li> <li>3 Retirement home</li> <li>4 Shelter, orphanage, or children's home</li> <li>5 Convent or monastery</li> <li>6 Dormitory, fraternity, or sorority</li> <li>7 Nursing home, assisted living center, or other residential care building</li> <li>8 Halfway house</li> <li>9 Other type of residential</li> </ol>		
<b>NEXT</b>	IF Hotel; Motel or inn; Retirement home; Shelter, orphanage, or children's home; Convent or monastery; Dormitory, fraternity, or sorority; OR Halfway house → B30 [Assign CBECS Activity = Lodging] IF Nursing home, assisted living center, or other residential care building → B30 [Assign CBECS Activity = Nursing] IF Other type of residential → B27 [End of interview]	

<b>B21</b>	<b>Space for retail sales</b>	<i>INDRET9</i>
<b>ASK</b>	IF (B2 [Primary activity] OR B4 [Percents for activities] assigned activity = Industrial) & B8 [Used as warehouse] = No OR DK/RF	
		[F1]-HELP
Is any of the space in this building used for retail sales of the products that are made here?  <ol style="list-style-type: none"> <li>1 Yes</li> <li>2 No</li> </ol>		
<b>NEXT</b>	IF Yes → B30 [Assign CBECS Activity = Other] IF No OR DK/RF → B27 [End of interview]	

<b>B22</b>	<b>Space for retail sales</b>	<i>AGRRET9</i>
<b>ASK</b>	IF B2 [Primary activity] OR B4 [Percents for activities] assigned activity = Agricultural	
	[F1]-HELP	
	Is any of the space in this building used for retail sales of the products that are grown here?	
	1 Yes 2 No	
<b>NEXT</b>	IF Yes → B30 [Assign CBECS Activity = Other] IF No OR DK/RF → B27 [End of interview]	

<b>B23</b>	<b>Vacant for noncommercial</b>	<i>VACUSE9</i>
<b>ASK</b>	IF B2 [Primary activity] OR B4 [Percents for activities] Assigned activity = Vacant	
	Was the vacant space used for or intended to be used for either agricultural, industrial, manufacturing, or residential purposes or as a parking garage?	
	1 Yes 2 No	
<b>NEXT</b>	IF Yes → B29 [End of interview] IF No OR DK/RF: IF B1 [One activity in building] ≠ Yes → B30 [Assign CBECS Activity = Vacant] OTHERWISE → B24 [Completely vacant]	

<b>B24</b>	<b>Completely vacant</b>	<i>VACANT9</i>
<b>ASK</b>	IF B1 [One activity in building] ≠ Yes & B2 [Primary activity] = Vacant	
	Is this building <u>completely</u> vacant?	
	1 Yes 2 No	
<b>NEXT</b>	→ B30 [Assign CBECS Activity = Vacant]	

<b>B25</b>	<b>Other type</b>	<i>OTHRSP9</i>
<b>ASK</b>	IF B2 [Primary activity] OR B4 [Percents for activities] assigned activity = Other	
<b>FILL</b>	<p><b>{ActivityExplanation}</b>  IF (B1 [One activity in building] ≠ Yes) = “For the purposes of this survey, I will include your building in the general category of other types of buildings.”  OTHERWISE = BLANK</p>	
<p> SHOW CARD B14</p> <p>{ActivityExplanation}</p> <p>Looking at this list, what type of other activity is this?</p> <ol style="list-style-type: none"> <li>1 Airplane hangar</li> <li>2 Broadcasting studio</li> <li>3 Crematorium</li> <li>4 Entertainment or culture such as a museum, theater, cinema, sports arena, casino or night club</li> <li>5 Funeral home</li> <li>6 Laboratory</li> <li>7 Library</li> <li>8 Recreation such as a gymnasium, health club, bowling alley, ice rink, field house, or indoor racquet sports</li> <li>9 Telephone switching facilities</li> <li>10 Transportation terminal</li> <li>11 Vehicle storage and/or maintenance (car barn)</li> <li>12 Veterinarian's office</li> <li>13 Vacant</li> <li>14 Indoor parking garage</li> <li>15 Agricultural building with some retail space</li> <li>16 Manufacturing or industrial building with some retail space</li> <li>17 Other type of building</li> <li>18 50 percent commercial (for coding use only)</li> </ol>		
<b>NEXT</b>	IF Airplane hangar; Crematorium; Telephone switching facilities; Agricultural building with some retail space; Manufacturing or industrial building with some retail space; OR 50 percent commercial → B30 [Assign CBECS Activity = Other] IF Broadcasting studio; Entertainment or culture; Funeral home; Library; Recreation; OR Transportation terminal → B30 [Assign CBECS Activity = Public assembly] IF Laboratory → B30 [Assign CBECS Activity = Laboratory] IF Vehicle storage and/or maintenance → B30 [Assign CBECS Activity = Service] IF Veterinarian's office → B30 [Assign CBECS Activity = Outpatient health care] IF Vacant: IF More than one activity → B30 [Assign CBECS Activity = Vacant] IF Only one activity OR Establishment OR Anchor → B24 [Completely vacant] IF Indoor parking garage: IF B1 [One activity in building] = Yes → B28 [End of interview] IF B1 [One activity in building] ≠ Yes → B30 [Assign CBECS Activity = Other] IF Other type of building → B26 [Specify other activity]	

<b>B26</b>	<b>Specify other activity</b>
<b>ASK</b>	<p>F B5 [Office type] = Other type of office OR  IF B9 [Warehouse type] = Other type of warehouse OR  IF B10 [Food sales or service type] = Other type of food sales or service OR  IF B11 [Retail type] = Other type of retail OR  IF B13 [Education type] = Other type of classroom education OR  IF B14 [Assembly type] = Other type of public assembly OR  IF B15 [Health care type] = Other type of health care OR  IF B16 [Service type] = Other type of service OR  IF B18 [Lodging type] = Other type of lodging OR  IF B19 [Public order type] = Other type of public order and safety OR  IF B25 [Other type] = Other type of building</p>
<p>Please describe this other type of activity.</p> <p>◆ RECORD in open box</p>	
<b>NEXT</b>	<p>IF Previous question was:</p> <p>B5 [Office type] → B30 [Assign CBECS Activity = Office]  B9 [Warehouse type] → B30 [Assign CBECS Activity = Nonrefrigerated warehouse]  B10 [Food sales or service type] → B30 [Assign CBECS Activity = Food sales]  B11 [Retail type] → B30 [Assign CBECS Activity = Retail]  B13 [Education type] → B30 [Assign CBECS Activity = Education]  B14 [Assembly type] → B30 [Assign CBECS Activity = Public assembly]  B15 [Health care type] → B30 [Assign CBECS Activity = Outpatient health care]  B16 [Service type] → B30 [Assign CBECS Activity = Service]  B18 [Lodging type] → B30 [Assign CBECS Activity = Lodging]  B19 [Public order type] → B30 [Assign CBECS Activity = Public order and safety]  B25 [Other type] → B30 [Assign CBECS Activity = Other]</p>

<b>B27</b>	<b>End of interview</b>
<b>ASK</b>	IF B20 [Residential type] = Other type of residential OR B21 [Space for retail sales] = No OR DK/RF OR B22 [Space for retail sales] = No OR DK/RF
<b>FILL</b>	<b>{CollectWorksheet}</b> IF R has Worksheet 1 = "However, I would like to collect Worksheet 1 and any other worksheets that you may have completed."
<p>Thank you, that's all the questions that I have at this time, since we are only interviewing commercial buildings. {CollectWorksheet}</p> <p>Thank you for your time and help.</p> <p>◆ [F10] to Exit</p>	
<b>NEXT</b>	TERMINATE

<b>B28</b>	<b>End of interview</b>
<b>ASK</b>	IF B16 [Service type] OR B25 [Other type] = Indoor parking garage
<b>FILL</b>	<b>{CollectWorksheet}</b> IF R has Worksheet 1 = "However, I would like to collect Worksheet 1 and any other worksheets that you may have completed."
<p>Thank you, that's all the questions that I have at this time, since this study does not cover parking garages. {CollectWorksheet}</p> <p>Thank you for your time and help.</p> <p>◆ [F10] to Exit</p>	
<b>NEXT</b>	TERMINATE

<b>B29</b>	<b>End of interview</b>
<b>ASK</b>	IF B23 [Vacant for noncommercial] = Yes
<b>FILL</b>	<b>{CollectWorksheet}</b> IF R has Worksheet 1 = "However, I would like to collect Worksheet 1 and any other worksheets that you may have completed."
<p>Thank you, that's all the questions that I have at this time, since we are only interviewing buildings intended for commercial use. {CollectWorksheet}</p> <p>Thank you for your time and help.</p> <p>◆ [F10] to Exit</p>	
<b>NEXT</b>	TERMINATE

<b>B30</b>	<b>Assign CBECS Activity</b>	<i>PBA9</i>
<b>NEXT</b>	<p>IF Office IN B3 [Activities in building] OR CBECS Activity = Office → B31 [Open plan office space] OTHERWISE:</p> <ol style="list-style-type: none"> <li>1 <b>Vacant</b> → B41 [On a multibuilding complex]</li> <li>2 <b>Office</b> → B31 [Open plan office space]</li> <li>3 <b>Data center</b> → B41 [On a multibuilding complex]</li> <li>4 <b>Laboratory</b> → B41 [On a multibuilding complex]</li> <li>5 <b>Nonrefrigerated warehouse</b> → B41 [On a multibuilding complex]</li> <li>6 <b>Food sales</b> → B41 [On a multibuilding complex]</li> <li>7 <b>Public order and safety</b> → B41 [On a multibuilding complex]</li> <li>8 <b>Outpatient health care</b> → B41 [On a multibuilding complex]</li> <li>11 <b>Refrigerated warehouse</b> → B41 [On a multibuilding complex]</li> <li>12 <b>Religious worship</b> → B34 [Religious worship seating capacity]</li> <li>13 <b>Public assembly</b> → B35 [Assembly seating capacity]</li> <li>14 <b>Education</b> → B36 [Number of classroom seats]</li> <li>15 <b>Food service</b> → B37 [Food service seating capacity]</li> <li>16 <b>Inpatient health care</b> → B38 [Licensed bed capacity]</li> <li>17 <b>Nursing</b> → B39 [Licensed bed capacity]</li> <li>18 <b>Lodging</b> → B40 [Number of guest rooms]</li> <li>25 <b>Retail</b> → B41 [On a multibuilding complex]</li> <li>26 <b>Service</b> → B41 [On a multibuilding complex]</li> <li>27 <b>Enclosed mall</b> → B41 [On a multibuilding complex]</li> <li>91 <b>Other</b> → B41 [On a multibuilding complex]</li> </ol>	

<b>B31</b>	<b>Open plan office space</b>	<i>CUBE9</i>
<b>ASK</b>	IF Office IN B3 [Activities in building] OR CBECS Activity = Office	
<p>Is any of the office space in this building set up as open plan offices, such as cubicles?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → B32 [Percent open plan] IF No OR DK/RF → B41 [On a multibuilding complex]	

<b>B32</b>	<b>Percent open plan</b>	<i>CUBEC9</i>
<b>ASK</b>	IF B31 [Open plan office space] = Yes	
<p>For the office areas in your building, approximately what percentage would you say is open plan (that is, cubicles)? Would you say 1 to 20 percent, 21 to 50, or more than 50 percent of the office space is open plan?</p> <p>1 1 to 20 percent 2 21 to 50 percent 3 More than 50 percent</p>		
<b>NEXT</b>	→ B33 [Location of open plan]	

<b>B33</b>	<b>Location of open plan</b>	<i>CUBELOC9</i>
<b>ASK</b>	IF B31 [Open plan office space] = Yes	
<p>Is most of the open plan office space located near the perimeter of the building, that is, within about 15 feet of the exterior walls, or in the core of the building?</p> <p>1 Near perimeter of building 2 In core of building 3 IF VOLUNTEERED: Entire building is open plan</p>		
<b>NEXT</b>	→ B41 [On a multibuilding complex]	

<b>B34</b>	<b>Religious worship seating capacity</b>	<i>RWSEAT9</i>
<b>ASK</b>	IIF B30 [CBECS Activity] = Religious worship	
		[F1]-HELP
	What is the total seating capacity of the religious worship areas in this building?  ◆ PROBE for estimate if DK	
<b>RANGE</b>	0 to 99,999	
<b>NEXT</b>	→ B41 [On a multibuilding complex]	

<b>B35</b>	<b>Assembly seating capacity</b>	<i>PBSEAT9</i>
<b>ASK</b>	IF B30 [CBECS Activity] = Public assembly	
		[F1]-HELP
	What is the fixed seating capacity of the public assembly areas in this building?  ◆ PROBE for estimate if DK	
<b>RANGE</b>	0 to 99,999	
<b>NEXT</b>	→ B41 [On a multibuilding complex]	

<b>B36</b>	<b>Number of classroom seats</b>	<i>EDSEAT9</i>
<b>ASK</b>	IF B30 [CBECS Activity] = Education	
		[F1]-HELP
	How many students can be seated in all of the classrooms in this building at one time?  ◆ PROBE for estimate if DK	
<b>RANGE</b>	0 to 99,999	
<b>NEXT</b>	→ B41 [On a multibuilding complex]	



<b>B37</b>	<b>Food service seating capacity</b>	<i>FDSEAT9</i>
<b>ASK</b>	IF B30 [CBECS Activity] = Food service	
		[F1]-HELP
	What is the total seating capacity of the food service areas in this building? ◆ PROBE for estimate if DK	
<b>RANGE</b>	0 to 99,999	
<b>NEXT</b>	→ B41 [On a multibuilding complex]	


<b>B38</b>	<b>Licensed bed capacity</b>	<i>HCBED9</i>
<b>ASK</b>	IF B30 [CBECS Activity] = Inpatient health care	
		[F1]-HELP
	What is the inpatient licensed bed capacity in this building? ◆ PROBE for estimate if DK	
<b>RANGE</b>	0 to 99,999	
<b>NEXT</b>	→ B41 [On a multibuilding complex]	

<b>B39</b>	<b>Licensed bed capacity</b>	<i>NRSBED9</i>
<b>ASK</b>	IF B30 [CBECS Activity] = Nursing	
		[F1]-HELP
	What is the skilled or residential care licensed bed capacity in this building? ◆ PROBE for estimate if DK	
<b>RANGE</b>	0 to 99,999	
<b>NEXT</b>	→ B41 [On a multibuilding complex]	

<b>B40</b>	<b>Number of guest rooms</b>	<i>LODGRM8</i>
<b>ASK</b>	IF B30 [CBECS Activity] = Lodging	
<p>[F1]-HELP</p> <p>How many guest rooms or occupant rooms are there in this building?</p> <p>◆ PROBE for estimate if DK</p>		
<b>RANGE</b>	0 to 99,999	
<b>NEXT</b>	→ B41 [On a multibuilding complex]	

<b>B41</b>	<b>On a multibuilding complex</b>	<i>FACIL9</i>
<b>ASK</b>	All Buildings	
<p>[F1]-HELP</p> <p>Is this building part of a multibuilding campus or complex?</p> <p>◆ DEF: [A campus or complex is a group of two or more buildings on the same site that are owned or operated by a single organization or individual. It may also be referred to as a multibuilding facility.]</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → B42 [Federal complex] IF No OR DK/RF → C1 [Government owned]	

<b>B42</b>	<b>Federal complex</b>	<i>FEDFAC9</i>
<b>ASK</b>	IF B41 [On a multibuilding complex] = Yes	
<p>[F1]-HELP</p> <p>Is this <u>campus or complex</u> owned by the Federal government?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	→ B43 [Type of complex]	

<b>B43</b>	<b>Type of complex</b>	<i>FACACT9</i>
<b>ASK</b>	IF B41 [On a multibuilding complex] = Yes	
 SHOW CARD B15		[F1]-HELP
<p>Looking at this list, what is the primary business or function of this group of buildings as a whole?</p> <ol style="list-style-type: none"> <li>1 College, university, or junior college</li> <li>2 Primary or secondary school [GRADES K-12]</li> <li>3 Other type of school</li> <li>4 Office complex</li> <li>5 Retail complex</li> <li>6 Storage complex</li> <li>7 Religious campus or complex</li> <li>8 Hospital or other health care complex</li> <li>9 Lodging or resort complex</li> <li>10 Post office complex</li> <li>11 Other type of government complex</li> <li>12 Industrial complex</li> <li>13 Transportation complex such as a terminal, depot, or airport</li> <li>14 Other type of campus or complex</li> </ol>		
<b>NEXT</b>	IF Industrial complex → B44 [Manufacturing industrial] IF Any other type → B47 [Central physical plant]	

<b>B44</b>	<b>Manufacturing industrial</b>	<i>MANIND9</i>
<b>ASK</b>	IF B43 [Type of complex] = Industrial complex	
<p>Is it a <u>manufacturing</u> industrial complex?</p> <p>◆ DEF: [Manufacturing industrial complexes involve the production or processing of goods, merchandise, raw materials, or food.]</p> <ol style="list-style-type: none"> <li>1 Yes</li> <li>2 No</li> </ol>		[F1]-HELP
<b>NEXT</b>	IF Yes → B45 [Same owner as manufacturing] IF No OR DK/RF → B47 [Central physical plant]	

<b>B45</b>	<b>Same owner as manufacturing</b>	<i>MANFAC9</i>
<b>ASK</b>	IF B44 [Manufacturing industrial] = Yes	
		HELP <F1
<p>Does this building have the same owner and operator as the manufacturing campus or complex?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → B46 [End of interview] IF No OR DK/RF → B47 [Central physical plant]	

<b>B46</b>	<b>End of interview</b>	
<b>ASK</b>	IF B45 [Same owner as manufacturing] = Yes	
<b>FILL</b>	<b>{CollectWorksheet}</b> IF R has Worksheet 1 = "However, I would like to collect Worksheet 1 and any other worksheets that you may have completed."	
<p>Thank you, that's all the questions that I have at this time, since this study does not include buildings on manufacturing facilities. {CollectWorksheet}</p> <p>Thank you for your time and help.</p> <p>◆ [F10] to Exit</p>		
<b>NEXT</b>	TERMINATE	

<b>B47</b>	<b>Central physical plant</b>	<i>PLANT9</i>
<b>ASK</b>	IF B43 [Type of complex] = Anything except Industrial complex OR B41 [Same owner as manufacturing] = No OR DK/RF	
		[F1]-HELP
<p>Does this campus or complex have a central physical plant that produces district hot water, district steam, district chilled water, or electricity?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → B48 [Plant produces district steam] IF No OR DK/RF → C1 [Government owned]	

<b>B48</b>	<b>Plant produces district steam</b>	<i>FACDST9</i>
<b>ASK</b>	IF B47 [Central physical plant] = Yes	
<p>Does the central physical plant produce... District steam?</p> <p>1 Yes 2 No</p>		[F1]-HELP
<b>NEXT</b>	→ B49 [Plant produces district hot water]	

<b>B49</b>	<b>Plant produces district hot water</b>	<i>FACDHW9</i>
<b>ASK</b>	IF B47 [Central physical plant] = Yes	
<p>(Does the central physical plant produce...) District hot water?</p> <p>1 Yes 2 No</p>		[F1]-HELP
<b>NEXT</b>	→ B50 [Plant produces district chilled water]	

<b>B50</b>	<b>Plant produces district chilled water</b>	<i>FACDCW9</i>
<b>ASK</b>	IF B47 [Central physical plant] = Yes	
<p>(Does the central physical plant produce...) District chilled water?</p> <p>1 Yes 2 No</p>		[F1]-HELP
<b>NEXT</b>	→ B51 [Plant produces electricity]	


<b>B51</b>	<b>Plant produces electricity</b>	<i>FACELC9</i>
<b>ASK</b>	IF B47 [Central physical plant] = Yes	
<p>(Does the central physical plant produce...)</p> <p>Electricity?</p> <p>1 Yes</p> <p>2 No</p>		[F1]-HELP
<b>NEXT</b>	→ B52 [Central plant in building]	

<b>B52</b>	<b>Central plant in building</b>	<i>BLDPLT9</i>
<b>ASK</b>	IF B47 [Central physical plant] = Yes	
<p>Is the central physical plant for this campus or complex located in the building?</p> <p>1 Yes</p> <p>2 No</p>		[F1]-HELP
<b>NEXT</b>	→ C1 [Government owned]	

**SECTION C. OCCUPANCY AND OPERATING HOURS**

<b>C1</b>	<b>Government owned</b>	<i>GOVOWN9</i>
<b>ASK</b>	All Buildings	
<b>FILL</b>	<p><b>{BldgIntro}</b>                  IF B41 [On a multibuilding complex] = Yes = "For the rest of this survey, I will be asking you only about the <u>building</u>, not the entire campus or complex."                  OTHERWISE = BLANK  <b>{SchoolExample}</b>                  IF B13 [Education type] = Elementary or middle school OR High school = ", such as a local school district"                  OTHERWISE = BLANK</p>	
		[F1]-HELP
	<p>{BldgIntro}</p> <p>Is this building owned by a government agency {SchoolExample}?</p> <p>1 Yes 2 No</p>	
<b>NEXT</b>	IF Yes → C2 [Type of government] IF No OR DK/RF → C3 [Owner]	

<b>C2</b>	<b>Type of government</b>	<i>GOVTYP9</i>
<b>ASK</b>	IF C1 [Government owned] = Yes	
		[F1]-HELP
	<p>Is it owned by the Federal government, a State government, or a local government?</p> <p>1 Federal 2 State 3 Local</p>	
<b>NEXT</b>	→ C5 [Number of businesses]	

<b>C3</b>	<b>Owner</b>	<i>OWNER9</i>
<b>ASK</b>	IF C1 [Government owned] ≠ Yes	
 SHOW CARD C1  Looking at this list, please tell me which of these best describes the owner of this building. <ol style="list-style-type: none"> <li>1 Property management company</li> <li>2 Other corporation, partnership, LLC, or LLP</li> <li>3 Individual owner(s)</li> <li>4 Religious organization</li> <li>5 Non-profit organization (other than religious or government)</li> <li>6 Private academic institution</li> <li>7 Other</li> </ol>		
<b>NEXT</b>	IF Other → C4 [Other owner] OTHERWISE: IF B24 [Completely vacant] ≠ Yes → C5 [Number of businesses] IF B24 [Completely vacant]: IF Owner known → C10 [Owner operates] IF DK/RF → C17 [Months in use]	


<b>C4</b>	<b>Other owner</b>
<b>ASK</b>	IF C3 [Owner] = Other
Please describe this other owner.  ◆ RECORD in open box	
<b>NEXT</b>	→ C5 [Number of businesses]

<b>C5</b>	<b>Number of businesses</b>	<i>NOCC9</i>
<b>ASK</b>	IF B24 [Completely vacant] ≠ Yes	
<b>RANGE</b>	0 to 9,999	
		[F1]-HELP
How many different businesses or organizations use space full-time in this building?		
<b>NEXT</b>	IF Zero → C6 [Any occupants] IF DK/RF → C8 [Number of businesses category] IF Number given → C9 [Owner occupies]	



<b>C6</b>	<b>Any occupants</b>	VACCHK9
<b>ASK</b>	IF C5 [Number of businesses] = Zero & B24 [Completely vacant] ≠ Yes	
		[F1]-HELP
	I do not have this building recorded as being completely vacant. Unless a building is completely vacant and unused, it should be considered to have at least one occupant. At this time, is any space used by a company, business, school, organization, non-profit company, religious organization, government agency or establishment?	
	1 Yes 2 No	
<b>NEXT</b>	IF Yes → C7 [Re-ask number of businesses] IF No → C17 [Months in use] IF DK/RF → C8 [Number of businesses category]	


<b>C7</b>	<b>Re-ask number of businesses</b>	NOCC29
<b>ASK</b>	IF C5 [Number of businesses] = Zero & C6 [Any occupants] = Yes	
		[F1]-HELP
	How many businesses or organizations are there?	
<b>RANGE</b>	1 to 9,999	
<b>NEXT</b>	IF DK/RF → C8 [Number of businesses category] IF Number given → C9 [Owner occupies]	


<b>C8</b>	<b>Number of businesses category</b>	NOCCAT9
<b>ASK</b>	IF C5 [Number of businesses] = DK/RF OR C6 [Any occupants] = DK/RF OR C7 [Re-ask number of businesses] = DK/RF	
		[F1]-HELP
	 SHOW CARD C2	
	Which category on this list best describes the number of businesses or organizations that currently use space full time in this building?	
	0 Zero 1 One 2 2 to 5 3 6 to 10 4 11 to 20 5 21 to 50 6 51 to 100 7 More than 100	
<b>NEXT</b>	→ C9 [Owner occupies]	

<b>C9</b>	<b>Owner occupies</b>	OWNOCC9
<b>ASK</b>	IF C1 [Government owned] ≠ DK/RF OR C3 [Owner] ≠ DK/RF	
<b>FILL</b>	<b>{IsAreBusinesses}</b> IF One business/organization = “Is this business or organization” IF More than one business/organization = “Are any of these businesses or organizations” IF DK/RF number of businesses/organizations = “Are any of the businesses or organizations”	
	{IsAreBusinesses} owned, operated, or managed by the owner, or by an employee or representative of the owner?  1 Yes 2 No	
<b>NEXT</b>	→ C10 [Owner operates]	

<b>C10</b>	<b>Owner operates</b>
<b>ASK</b>	IF C1 [Government owned] ≠ DK/RF OR C3 [Owner] ≠ DK/RF
	Is the building owner responsible for the operation and maintenance of the energy systems?  1 Yes 2 No
<b>NEXT</b>	IF Yes → C11 [Owner has purchasing power] IF No → C13 [Nonowner operator] IF DK/RF → C17 [Months in use]

<b>C11</b>	<b>Owner has purchasing power</b>
<b>ASK</b>	IF C10 [Owner operates] = Yes
	Does the building owner also have direct input on decisions regarding purchases of energy-related equipment?  1 Yes 2 No
<b>NEXT</b>	IF Yes OR DK/RF → C17 [Months in use] IF No → C12 [Nonowner has purchasing power]

<b>C12</b>	<b>Nonowner has purchasing power</b>
<b>ASK</b>	IF C11 [Owner has purchasing power] = No
 SHOW CARD C3  Looking at this list, please tell me who does have direct input (on decisions regarding purchases of energy-related equipment). <ol style="list-style-type: none"> <li>1 Property management company/leasing agent</li> <li>2 Facilities personnel employed directly by the owner</li> <li>3 Facilities/energy management consultant</li> <li>4 Volunteer member of the organization</li> <li>5 Manager with general supervisory duties</li> <li>6 Other</li> </ol>	
<b>NEXT</b>	IF Other → C16 [Other with purchasing power] OTHERWISE → C17 [Months in use]

<b>C13</b>	<b>Nonowner operator</b>
<b>ASK</b>	IF C10 [Owner operates] = No
 SHOW CARD C4  Looking at this next list, please tell me who <u>is</u> responsible for the operation and maintenance of the energy systems. <ol style="list-style-type: none"> <li>1 Property management company/leasing agent</li> <li>2 Facilities personnel employed directly by the owner</li> <li>3 Facilities/energy management consultant</li> <li>4 Volunteer member of the organization</li> <li>5 Manager with general supervisory duties</li> <li>6 Other</li> </ol>	
<b>NEXT</b>	IF Other → C14 [Other operator] OTHERWISE → C15 [Who has purchasing power]

<b>C14</b>	<b>Other operator</b>
<b>ASK</b>	IF C13 [Nonowner operator] = Other
Please describe who is responsible for the operation and maintenance of the energy systems.  ◆ RECORD in open box	
<b>NEXT</b>	→ C15 [Who has purchasing power]

<b>C15</b>	<b>Who has purchasing power</b>
<b>ASK</b>	IF C10 [Owner operates] = No
<p>Who has the most direct input on decisions regarding purchases of energy-related equipment - the building owner or the party responsible for the energy systems?</p> <ol style="list-style-type: none"> <li>1 Building owner</li> <li>2 Party responsible for building operations</li> <li>3 IF VOLUNTEERED: Both (either they have equal input, or are the same person)</li> <li>4 IF VOLUNTEERED: Other</li> </ol>	
<b>NEXT</b>	IF Other → C16 [Other with purchasing power] OTHERWISE → C17 [Months in use]

<b>C16</b>	<b>Other with purchasing power</b>
<b>ASK</b>	IF C15 [Who has purchasing power] = Other
<p>Please describe who has the most direct input on decisions regarding purchases of energy-related equipment.</p> <p>◆ RECORD in open box</p>	
<b>NEXT</b>	→ C17 [Months in use]

<b>C17</b>	<b>Months in use</b>	<i>MONUSE9</i>
<b>ASK</b>	All Buildings	
		[F1]-HELP
Thinking of calendar year 2007, for how many months was this building in use?		
<b>RANGE</b>	0 to 12	
<b>NEXT</b>	IF Zero → D1 [Heating] IF 1-3 months: IF B24 [Completely vacant] = Yes → C18 [Previous use] IF C6 [Any occupants] = No OR C8 [Number of businesses category] = Zero → D1 [Heating] OTHERWISE → C20 [Open 24 hours a day] IF 4-12 months: IF B24 [Completely vacant] = Yes → C18 [Previous use] OTHERWISE → C19 [Space vacant 3 months in row] IF DK/RF → C19 [Space vacant 3 months in row]	

<b>C18</b>	<b>Previous use</b>
<b>ASK</b>	IF B24 [Completely vacant] = Yes AND C17 [Months in use] > 0
<p>Since this building was not completely vacant for all of 2007, I'd just like to remind you to think about the equipment and the energy that was used during the time that the building <u>was</u> in use when answering this questionnaire.</p> <p>Also, would you please briefly tell me what the building was used for during the months that it <u>was</u> used in 2007.</p> <p>◆ RECORD in open box</p>	
<b>NEXT</b>	IF C17 [Months in use] = 1-3 months → D1 [Heating] IF C17 [Months in use] = 4-12 months OR DK/RF → C19 [Space vacant 3 months in row]

<b>C19</b>	<b>Space vacant 3 months in row</b>	<i>PORVAC9</i>
<b>ASK</b>	IF C17 [Months in use] = 4-12 OR DK/RF	
<p style="text-align: right;">[F1]-HELP</p> <p>Was any space in the building vacant or unoccupied for at least 3 <u>consecutive</u> months during calendar year 2007?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF B24 [Completely vacant] = Yes OR C6 [Any occupants] = No OR C8 [Number of businesses category] = Zero → D1 [Heating] OTHERWISE → C20 [Open 24 hours a day]	


<b>C20</b>	<b>Open 24 hours a day</b>	<i>OPEN249</i>
<b>ASK</b>	IF B24 [Completely vacant] ≠ Yes & C6 [Any occupants] ≠ No & C8 [Number of businesses category] ≠ Zero & C17 [Months in use] ≠ Zero	
<p style="text-align: right;">[F1]-HELP</p> <p>Now I have some questions about the hours that this building is normally open.</p> <p>"Normally open" means the hours when the usual activities occur. Do <u>not</u> consider the building to be open if <u>only</u> maintenance, housekeeping, or security personnel are present.</p> <p>Is this building normally open 24 hours a day, seven days a week?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → C26 [Number of employees] IF No OR DK/RF → C21 [Open during week]	

<b>C21</b>	<b>Open during week</b>	<i>OPNMF9</i>
<b>ASK</b>	IF C20 [Open 24 hours a day] = No OR DK/RF	
		[F1]-HELP
Thinking of Monday through Friday, is this building open all five days, open some of these days, or is it not open at all Monday through Friday?		
<ol style="list-style-type: none"> <li>1 All five days</li> <li>2 Some of these days</li> <li>3 Not open at all Monday through Friday</li> </ol>		
<b>NEXT</b>	→ C22 [Open on weekend]	


<b>C22</b>	<b>Open on weekend</b>	<i>OPNWE9</i>
<b>ASK</b>	IF C20 [Open 24 hours a day] = No OR DK/RF	
		[F1]-HELP
Is this building normally open at all on the weekend?		
◆ EXP: [If only open one day of the weekend, consider to be open.]		
<ol style="list-style-type: none"> <li>1 Yes</li> <li>2 No</li> </ol>		
<b>NEXT</b>	IF C21 [Open during week] = Not open at all Monday through Friday & C22 [Open on weekend] = No → C23 [No operating hours] OTHERWISE → C24 [Total hours open per week]	

<b>C23</b>	<b>No operating hours</b>	<i>NOHRS9</i>
<b>ASK</b>	IF C21 [Open during week] = Not open at all Monday through Friday & C22 [Open on weekend] = No	
		[F1]-HELP
I would just like to confirm that this building does not have any normal operating hours?		
<ol style="list-style-type: none"> <li>1 True, no operating hours</li> <li>2 False, there are operating hours</li> </ol>		
<b>NEXT</b>	IF True, no operating hours → C26 [Number of employees] IF False, there are operating hours OR DK/RF → C24 [Total hours open per week]	

<b>C24</b>	<b>Total hours open per week</b>	<i>WKHRS9</i>
<b>ASK</b>	IF (C21 [Open during week] = All five days OR Some of these days) OR C22 [Open on weekend] = Yes OR C23 [No operating hours] = False, there are operating hours	
<p>How many total hours per week is the building normally open?</p> <ul style="list-style-type: none"> <li>◆ DEF: ["Normally open" means the hours when the usual activities occur.]</li> <li>◆ EXP: [If the hours vary for different parts of the building, ask for the hours for most of the building, based on square footage.]</li> </ul>		[F1]-HELP
<b>RANGE</b>	0 to 168	
<b>NEXT</b>	Number given → C26 [Number of employees] DK/RF → C25 [Weekly hours category]	

<b>C25</b>	<b>Weekly hours category</b>	<i>WKHRSC9</i>
<b>ASK</b>	IF C24 [Total hours open per week] = DK/RF	
<p> SHOW CARD C5</p> <p>Which category on this list best describes the total hours per week that the building is normally open?</p> <ul style="list-style-type: none"> <li>◆ DEF: ["Normally open" means the hours when the usual activities occur.]</li> <li>◆ EXP: [If the hours vary for different parts of the building, ask for the hours for most of the building, based on square footage.]</li> </ul> <p>1 1 to 39 2 40 to 48 3 49 to 60 4 61 to 84 5 85 to 167 6 168</p>		[F1]-HELP
<b>NEXT</b>	→ C26 [Number of employees]	

<b>C26</b>	<b>Number of employees</b>	<i>NWKER9</i>
<b>ASK</b>	IF B24 [Completely vacant] ≠ Yes & C6 [Any occupants] ≠ No & C8 [Number of businesses category] ≠ Zero & C17 [Months in use] ≠ Zero	
		[F1]-HELP
<p>How many employees work <u>in the building</u> during the main shift, that is, when most employees are present?</p> <p>◆ 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.]</p>		
<b>RANGE</b>	0 to 99,999	
<b>NEXT</b>	Number given → D1 [Heating] DK/RF → C27 [Number of employees category]	

<b>C27</b>	<b>Number of employees category</b>	<i>NWKERC9</i>
<b>ASK</b>	IF C26 [Number of employees] = DK/RF	
		[F1]-HELP
 SHOW CARD C6		
<p>Which category on this list best describes how many employees work <u>in the building</u> during the main shift?</p> <ul style="list-style-type: none"> <li>1 None</li> <li>2 1 to 4</li> <li>3 5 to 9</li> <li>4 10 to 19</li> <li>5 20 to 49</li> <li>6 50 to 99</li> <li>7 100 to 249</li> <li>8 250 to 499</li> <li>9 500 to 999</li> <li>10 1,000 to 2,499</li> <li>11 2,500 to 4,999</li> <li>12 5,000 or More</li> </ul>		
<b>NEXT</b>	→ D1 [Heating]	



## SECTION D. ENERGY USE AND EQUIPMENT

<b>D1</b>	<b>Heating</b>	<i>HT19</i>
<b>ASK</b>	All Buildings	
<b>FILL</b>	<b>{Worksheet1Intro}</b> 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 building for any of these purposes during calendar year 2007.  Was any energy used for heating the building?  1 Yes 2 No	
<b>NEXT</b>	→ D2 [Cooling]	

<b>D2</b>	<b>Cooling</b>	<i>COOL9</i>
<b>ASK</b>	All Buildings	
		[F1]-HELP
	(Was any energy used...)  For air conditioning?  1 Yes 2 No	
<b>NEXT</b>	→ D3 [Water heating]	


<b>D3</b>	<b>Water heating</b>	<i>WATR9</i>
<b>ASK</b>	All Buildings	
		[F1]-HELP
	(Was any energy used...)  For heating water for purposes such as washing hands, dishes, or clothes?  1 Yes 2 No	
<b>NEXT</b>	→ D4 [Cooking]	

<b>D4</b>	<b>Cooking</b>	<i>COOK9</i>
<b>ASK</b>	All Buildings	
<p>(Was any energy used...)</p> <p>For cooking?</p> <p>1 Yes</p> <p>2 No</p>		[F1]-HELP
<b>NEXT</b>	→ D4 [Manufacturing]	

<b>D5</b>	<b>Manufacturing</b>	<i>MANU9</i>
<b>ASK</b>	All Buildings	
<p>(Was any energy used...)</p> <p>For manufacturing?</p> <p>1 Yes</p> <p>2 No</p>		[F1]-HELP
<b>NEXT</b>	IF No & D1 [Heating] = No & D2 [Cooling] = No & D3 [Water heating] = No & D4 [Cooking] = No → D6 [Any energy used] OTHERWISE → D7 [Electricity generation capability]	

<b>D6</b>	<b>Any energy used</b>	<i>ANYENGY9</i>
<b>ASK</b>	IF D1 [Heating] = No & D2 [Cooling] = No & D3 [Water heating] = No & D4 [Cooking] = No & D4 [Manufacturing] = No	
<p>I did not record any uses of energy for this building. Did this building use <u>any</u> energy in 2007 for other purposes, such as lighting or appliances?</p> <p>1 Yes, some energy was used in 2007</p> <p>2 True, no energy was used</p>		
<b>NEXT</b>	IF Yes, some energy was used OR DK/RF → D7 [Electricity generation capability] IF True, no energy was used → E63 [Window glass type]	

<b>D7</b>	<b>Electricity generation capability</b>	<i>CAPGEN9</i>
<b>ASK</b>	IF D1 [Heating] = Yes OR D2 [Cooling] = Yes OR D3 [Water heating] = Yes OR D4 [Cooking] = Yes OR D4 [Manufacturing] = Yes OR D6 [Any energy used] = Yes, some energy was used OR DK/RF	
		[F1]-HELP
Does this building have the ability to generate electricity, including for emergency backup?		
1 Yes 2 No		
<b>NEXT</b>	➔ D8 [Energy sources used]	

<b>D8</b>	<b>Energy sources used</b> <span style="float: right;"><i>see below</i></span>																											
<b>ASK</b>	IF D1 [Heating] = Yes OR D2 [Cooling] = Yes OR D3 [Water heating] = Yes OR D4 [Cooking] = Yes OR D4 [Manufacturing] = Yes OR D6 [Any energy used] = Yes, some energy was used OR DK/RF																											
<div style="text-align: right;">[F1]-HELP</div>  SHOW CARD D1 <p>Looking at this list, please tell me which of these energy sources were used <u>in this building</u> for any purpose in 2007.</p> <ul style="list-style-type: none"> <li>◆ EXP: [Include fuel oil, diesel, or kerosene if it was purchased or delivered in 2007, even if it was not used during that time.]</li> <li>◆ EXP: [Do not include any fuels used in vehicles outside the building.]</li> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul> <table style="width: 100%; border: none;"> <tr> <td style="width: 10%;">11</td> <td style="width: 80%;">Electricity</td> <td style="width: 10%; text-align: right;"><i>ELUSED9</i></td> </tr> <tr> <td>12</td> <td>Natural gas</td> <td style="text-align: right;"><i>NGUSED9</i></td> </tr> <tr> <td>13</td> <td>Fuel oil, diesel, or kerosene</td> <td style="text-align: right;"><i>FKUSED9</i></td> </tr> <tr> <td>14</td> <td>Bottled gas, also known as LPG or propane</td> <td style="text-align: right;"><i>PRUSED9</i></td> </tr> <tr> <td>15</td> <td>District steam piped in from a separate building or utility</td> <td style="text-align: right;"><i>STUSED9</i></td> </tr> <tr> <td>16</td> <td>District hot water piped in from a separate building or utility</td> <td style="text-align: right;"><i>HWUSED9</i></td> </tr> <tr> <td>17</td> <td>District chilled water piped in from a separate building or utility</td> <td style="text-align: right;"><i>CWUSED9</i></td> </tr> <tr> <td>18</td> <td>Wood, coal, or solar</td> <td></td> </tr> <tr> <td>24</td> <td>Other source or sources</td> <td style="text-align: right;"><i>OTUSED9</i></td> </tr> </table>		11	Electricity	<i>ELUSED9</i>	12	Natural gas	<i>NGUSED9</i>	13	Fuel oil, diesel, or kerosene	<i>FKUSED9</i>	14	Bottled gas, also known as LPG or propane	<i>PRUSED9</i>	15	District steam piped in from a separate building or utility	<i>STUSED9</i>	16	District hot water piped in from a separate building or utility	<i>HWUSED9</i>	17	District chilled water piped in from a separate building or utility	<i>CWUSED9</i>	18	Wood, coal, or solar		24	Other source or sources	<i>OTUSED9</i>
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24	Other source or sources	<i>OTUSED9</i>																										
<b>NEXT</b>	IF Fuel, oil, diesel, or kerosene selected → D9 [Fuel oil, diesel, or kerosene] IF Wood, coal, or solar 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 & B47 [Central physical plant] = Yes & B52 [Central plant in building] = No → D14 [From central plant] IF DK/RF: IF D7 [Electricity generation capability] = Yes → D70 [Energy for generation] IF D7 [Electricity generation capability] ≠ Yes → E1 [Section E Routing] <b>OTHERWISE:</b> IF D1 [Heating] = Yes → D16 [Source for main heating] IF D2 [Cooling] = Yes → D42 [Sources for cooling] IF D3 [Water heating] = Yes → D62 [Sources for water heating] IF D4 [Cooking] = Yes → D66 [Sources for cooking] IF D4 [Manufacturing] = Yes → D68 [Sources for manufacturing] IF D7 [Electricity generation capability] = Yes → D70 [Energy for generation] <b>OTHERWISE</b> → D76 [Any other sources]																											

<b>D9</b>	<b>Fuel oil, diesel, or kerosene</b>	<i>FKTYPE9</i>
<b>ASK</b>	IF Fuel oil, diesel, or kerosene IN D8 [Energy sources used]	
		[F1]-HELP
	<p>◆ VERIFY if volunteered in previous question</p> <p>You mentioned fuel oil, diesel, or kerosene. Which of these were used [in this building in 2007]?</p> <p>◆ ENTER all that apply</p> <ul style="list-style-type: none"> <li>1 Fuel oil</li> <li>2 Diesel</li> <li>3 Kerosene</li> </ul>	
<b>NEXT</b>	IF Wood, coal, or solar 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 IN D8 [Energy sources used] & B47 [Central physical plant] = Yes & B52 [Central plant in building] = No → D14 [From central plant] OTHERWISE: IF D1 [Heating] = Yes → D16 [Source for main heating] IF D2 [Cooling] = Yes → D42 [Sources for cooling] IF D3 [Water heating] = Yes → D62 [Sources for water heating] IF D4 [Cooking] = Yes → D66 [Sources for cooking] IF D4 [Manufacturing] = Yes → D68 [Sources for manufacturing] IF D7 [Electricity generation capability] = Yes → D70 [Energy for generation] OTHERWISE → D76 [Any other sources]	

<b>D10</b>	<b>Wood, coal, or solar</b>	<i>see below</i>
<b>ASK</b>	IF Wood, coal, or solar IN D8 [Energy sources used]	
	<p>◆ VERIFY if volunteered in previous question</p> <p>You mentioned wood, coal, or solar. Which of these were used [in this building in 2007]?</p> <p>◆ ENTER all that apply</p> <ul style="list-style-type: none"> <li>1 Wood</li> <li>2 Coal</li> <li>3 Solar</li> </ul>	
		<i>WOUSED9</i> <i>COUSED9</i> <i>SOUSED9</i>
<b>NEXT</b>	IF Other source or sources IN D8 [Energy sources used] → D11 [Other energy source 1] IF District steam or District hot water IN D8 [Energy sources used] & B47 [Central physical plant] = Yes & B52 [Central plant in building] = No → D14 [From central plant] OTHERWISE: IF D1 [Heating] = Yes → D16 [Source for main heating] IF D2 [Cooling] = Yes → D42 [Sources for cooling] IF D3 [Water heating] = Yes → D62 [Sources for water heating] IF D4 [Cooking] = Yes → D66 [Sources for cooking] IF D4 [Manufacturing] = Yes → D68 [Sources for manufacturing] IF D7 [Electricity generation capability] = Yes → D70 [Energy for generation] OTHERWISE → D76 [Any other sources]	

<b>D11</b>	<b>Other energy source 1</b>	<i>OTUSDX19</i>
<b>ASK</b>	IF Other source or sources IN D8 [Energy sources used]	
<p>What was the first other energy source used [in this building in 2007]?</p> <p>◆ ENTER the first energy source used</p>		
<b>NEXT</b>	➔ D12 [Other energy source 2]	

<b>D12</b>	<b>Other energy source 2</b>	<i>OTUSDX29</i>
<b>ASK</b>	IF Other source or sources IN D8 [Energy sources used]	
<p>Were there any other energy sources used [in this building in 2007]?</p> <p>◆ ENTER the next energy source</p> <p>◆ &lt;ENTER&gt; if no others</p>		
<b>NEXT</b>	<p>IF Source entered here ➔ D13 [Other energy source 3]</p> <p>IF No source entered here:</p> <p>IF District steam or District hot water IN D8 [Energy sources used] &amp; B47 [Central physical plant] = Yes &amp; B52 [Central plant in building] = No ➔ D14 [From central plant]</p> <p>OTHERWISE:</p> <p>IF D1 [Heating] = Yes ➔ D16 [Source for main heating]</p> <p>IF D2 [Cooling] = Yes ➔ D42 [Sources for cooling]</p> <p>IF D3 [Water heating] = Yes ➔ D62 [Sources for water heating]</p> <p>IF D4 [Cooking] = Yes ➔ D66 [Sources for cooking]</p> <p>IF D4 [Manufacturing] = Yes ➔ D68 [Sources for manufacturing]</p> <p>IF D7 [Electricity generation capability] = Yes ➔ D70 [Energy for generation]</p> <p>OTHERWISE ➔ D76 [Any other sources]</p>	

<b>D13</b>	<b>Other energy source 3</b>	<i>OTUSDX39</i>
<b>ASK</b>	IF Source was entered in D12 [Other energy source 2]	
<p>Were there any other energy sources used [in this building in 2007]?</p> <ul style="list-style-type: none"> <li>◆ ENTER the next energy source</li> <li>◆ &lt;ENTER&gt; if no others</li> </ul>		
<b>NEXT</b>	<p>IF District steam or District hot water IN D8 [Energy sources used] &amp; B47 [Central physical plant] = Yes &amp; B52 [Central plant in building] = No → D14 [From central plant]</p> <p>OTHERWISE:</p> <p>IF D1 [Heating] = Yes → D16 [Source for main heating]</p> <p>IF D2 [Cooling] = Yes → D42 [Sources for cooling]</p> <p>IF D3 [Water heating] = Yes → D62 [Sources for water heating]</p> <p>IF D4 [Cooking] = Yes → D66 [Sources for cooking]</p> <p>IF D4 [Manufacturing] = Yes → D68 [Sources for manufacturing]</p> <p>IF D7 [Electricity generation capability] = Yes → D70 [Energy for generation]</p> <p>OTHERWISE → D76 [Any other sources]</p>	

<b>D14</b>	<b>From central plant</b>	<i>DHFRPL9</i>
<b>ASK</b>	IF District steam or District hot water IN D8 [Energy sources used] & B47 [Central physical plant] = Yes & B52 [Central plant in building] = No	
<p>Is the district steam or hot water piped in from a central plant that is part of the same campus or complex as your building?</p> <ul style="list-style-type: none"> <li>1 Yes</li> <li>2 No</li> </ul>		
<b>NEXT</b>	<p>IF No OR DK/RF → D15 [Purchase from offsite]</p> <p>IF Yes:</p> <p>IF D1 [Heating] = Yes → D16 [Source for main heating]</p> <p>IF D2 [Cooling] = Yes → D42 [Sources for cooling]</p> <p>IF D3 [Water heating] = Yes → D62 [Sources for water heating]</p> <p>IF D4 [Cooking] = Yes → D66 [Sources for cooking]</p> <p>IF D4 [Manufacturing] = Yes → D68 [Sources for manufacturing]</p> <p>IF D7 [Electricity generation capability] = Yes → D70 [Energy for generation]</p> <p>OTHERWISE → D76 [Any other sources]</p>	

<b>D15</b>	<b>Purchase from offsite</b>	<i>DHOFF9</i>
<b>ASK</b>	IF D14 [From central plant] = No OR DK/RF	
<p>Is it [the district steam or hot water] purchased from somewhere off-site, such as a commercial or municipal plant?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF D1 [Heating] = Yes → D16 [Source for main heating] IF D2 [Cooling] = Yes → D42 [Sources for cooling] IF D3 [Water heating] = Yes → D62 [Sources for water heating] IF D4 [Cooking] = Yes → D66 [Sources for cooking] IF D4 [Manufacturing] = Yes → D68 [Sources for manufacturing] IF D7 [Electricity generation capability] = Yes → D70 [Energy for generation] OTHERWISE → D76 [Any other sources]	

<b>D16</b>	<b>Source for main heating</b>	<i>see below</i>																																							
<b>ASK</b>	IF D1 [Heating] = Yes																																								
<b>FILL</b>	<b>{Ht1SourcesList}</b> = List of all energy sources used <b>{Electricity} – {Other3}</b> = If a source is used, it appears in this list; if not, the line is blank <b>{FuelOilType}</b> = Type or types specified in D9 [Fuel oil, diesel, or kerosene] <b>{Other1} – {Other3}</b> = Sources specified in D11 [Other energy source 1] – D13 [Other energy source 3]																																								
<p>What was the <u>main</u> energy source for heating? [Was it {Ht1SourcesList}??]</p> <ul style="list-style-type: none"> <li>◆ DEF: [The main energy source for heating is the energy source used to heat most of the square footage in this building most of the time.]</li> <li>◆ EXP: [Do not include electricity if it is used only to run fan motors.]</li> <li>◆ Only sources already selected are shown here</li> </ul> <table style="width: 100%; border: none;"> <tr> <td style="width: 10%;">11</td> <td style="width: 70%;">{Electricity}</td> <td style="width: 20%; text-align: right;"><i>ELHT19</i></td> </tr> <tr> <td>12</td> <td>{Natural gas}</td> <td style="text-align: right;"><i>NGHT19</i></td> </tr> <tr> <td>13</td> <td>{FuelOilType}</td> <td style="text-align: right;"><i>FKHT19</i></td> </tr> <tr> <td>14</td> <td>{Bottled gas}</td> <td style="text-align: right;"><i>PRHT19</i></td> </tr> <tr> <td>15</td> <td>{District steam}</td> <td style="text-align: right;"><i>STHT19</i></td> </tr> <tr> <td>16</td> <td>{District hot water}</td> <td style="text-align: right;"><i>HWHT19</i></td> </tr> <tr> <td>18</td> <td>{Wood}</td> <td style="text-align: right;"><i>WOHT19</i></td> </tr> <tr> <td>19</td> <td>{Coal}</td> <td style="text-align: right;"><i>COHT19</i></td> </tr> <tr> <td>20</td> <td>{Solar}</td> <td style="text-align: right;"><i>SOHT19</i></td> </tr> <tr> <td>21</td> <td>{Other1}</td> <td style="text-align: right;"><i>OTHT19</i></td> </tr> <tr> <td>22</td> <td>{Other2}</td> <td style="text-align: right;"><i>OTHT19</i></td> </tr> <tr> <td>23</td> <td>{Other3}</td> <td style="text-align: right;"><i>OTHT19</i></td> </tr> <tr> <td>24</td> <td>Some other energy source</td> <td></td> </tr> </table>			11	{Electricity}	<i>ELHT19</i>	12	{Natural gas}	<i>NGHT19</i>	13	{FuelOilType}	<i>FKHT19</i>	14	{Bottled gas}	<i>PRHT19</i>	15	{District steam}	<i>STHT19</i>	16	{District hot water}	<i>HWHT19</i>	18	{Wood}	<i>WOHT19</i>	19	{Coal}	<i>COHT19</i>	20	{Solar}	<i>SOHT19</i>	21	{Other1}	<i>OTHT19</i>	22	{Other2}	<i>OTHT19</i>	23	{Other3}	<i>OTHT19</i>	24	Some other energy source	
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<b>NEXT</b>	IF Some other energy source → D17 [Other source for main heating] IF Anything but Some other energy source OR DK/RF: IF More than one energy source used → D18 [Other sources for heating] IF Only one energy source used → D19 [Other sources for heating]																																								



<b>D17</b>	<b>Other source for main heating</b>	<i>see below</i>																														
<b>ASK</b>	IF D16 [Source for main heating] = Some other energy source																															
<p>What was the other energy source used for <u>main</u> space heating?</p> <table> <tr><td>11</td><td>Electricity</td><td><i>ELHT19</i></td></tr> <tr><td>12</td><td>Natural gas</td><td><i>NGHT19</i></td></tr> <tr><td>13</td><td>Fuel oil/Diesel/Kerosene</td><td><i>FKHT19</i></td></tr> <tr><td>14</td><td>Bottled gas</td><td><i>PRHT19</i></td></tr> <tr><td>15</td><td>District steam</td><td><i>STHT19</i></td></tr> <tr><td>16</td><td>District hot water</td><td><i>HWHT19</i></td></tr> <tr><td>18</td><td>Wood</td><td><i>WOHT19</i></td></tr> <tr><td>19</td><td>Coal</td><td><i>COHT19</i></td></tr> <tr><td>20</td><td>Solar</td><td><i>SOHT19</i></td></tr> <tr><td>24</td><td>Some other energy source</td><td><i>OTHT19</i></td></tr> </table>			11	Electricity	<i>ELHT19</i>	12	Natural gas	<i>NGHT19</i>	13	Fuel oil/Diesel/Kerosene	<i>FKHT19</i>	14	Bottled gas	<i>PRHT19</i>	15	District steam	<i>STHT19</i>	16	District hot water	<i>HWHT19</i>	18	Wood	<i>WOHT19</i>	19	Coal	<i>COHT19</i>	20	Solar	<i>SOHT19</i>	24	Some other energy source	<i>OTHT19</i>
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<b>NEXT</b>	➔ D18 [Other sources for heating]																															

<b>D18</b>	<b>Other sources for heating</b>	<i>HT29 &amp; see below</i>																																										
<b>ASK</b>	IF D1 [Heating] = Yes & More than one energy source used																																											
<b>FILL</b>	<p><b>{Ht2SourcesList}</b> = List of all energy sources used, minus the one used for main heating  <b>{Electricity} – {Other3}</b> = If a source is used (other than for main space heating), it appears in this list; if not, the line is blank  <b>{FuelOilType}</b> = Type or types specified in D9 [Fuel oil, diesel, or kerosene]  <b>{Other1} – {Other3}</b> = Sources specified in D11 [Other energy source 1] – D13 [Other energy source 3]</p>																																											
<p>Which other energy sources, if any, were used for heating? [{Ht2SourcesList}]</p> <ul style="list-style-type: none"> <li>◆ EXP: [Do not include electricity if it is used only to run fan motors.]</li> <li>◆ Only sources already selected are shown here</li> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul> <table> <tr><td>11</td><td>{Electricity}</td><td><i>ELHT29</i></td></tr> <tr><td>12</td><td>{Natural gas}</td><td><i>NGHT29</i></td></tr> <tr><td>13</td><td>{FuelOilType}</td><td><i>FKHT29</i></td></tr> <tr><td>14</td><td>{Bottled gas}</td><td><i>PRHT29</i></td></tr> <tr><td>15</td><td>{District steam}</td><td><i>STHT29</i></td></tr> <tr><td>16</td><td>{District hot water}</td><td><i>HWHT29</i></td></tr> <tr><td>18</td><td>{Wood}</td><td><i>WOHT29</i></td></tr> <tr><td>19</td><td>{Coal}</td><td><i>COHT29</i></td></tr> <tr><td>20</td><td>{Solar}</td><td><i>SOHT29</i></td></tr> <tr><td>21</td><td>{Other1}</td><td><i>OTHT29</i></td></tr> <tr><td>22</td><td>{Other2}</td><td><i>OTHT29</i></td></tr> <tr><td>23</td><td>{Other3}</td><td><i>OTHT29</i></td></tr> <tr><td>24</td><td>Some other energy source</td><td></td></tr> <tr><td>99</td><td>No other sources for heating</td><td></td></tr> </table>			11	{Electricity}	<i>ELHT29</i>	12	{Natural gas}	<i>NGHT29</i>	13	{FuelOilType}	<i>FKHT29</i>	14	{Bottled gas}	<i>PRHT29</i>	15	{District steam}	<i>STHT29</i>	16	{District hot water}	<i>HWHT29</i>	18	{Wood}	<i>WOHT29</i>	19	{Coal}	<i>COHT29</i>	20	{Solar}	<i>SOHT29</i>	21	{Other1}	<i>OTHT29</i>	22	{Other2}	<i>OTHT29</i>	23	{Other3}	<i>OTHT29</i>	24	Some other energy source		99	No other sources for heating	
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<b>NEXT</b>	IF Some other energy source ➔ D20 [Other source for heating] IF Anything but Some other energy source OR DK/RF ➔ D21 [Percent heated]																																											

<b>D19</b>	<b>Other sources for heating</b>	<i>HT29</i>
<b>ASK</b>	IF D1 [Heating] = Yes & Only one energy source used	
<p>Were there any other energy sources used for heating?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → D20 [Other source for heating] IF No OR DK/RF → D21 [Percent heated]	


<b>D20</b>	<b>Other source for heating</b>																															
<b>ASK</b>	IF D18 [Other sources for heating] = Some other energy source OR D19 [Other sources for heating] = Yes																															
<p>What was the other energy source used for secondary space heating?</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 10%;">11</td> <td style="width: 70%;">Electricity</td> <td style="width: 20%; text-align: right;"><i>ELHT29</i></td> </tr> <tr> <td>12</td> <td>Natural gas</td> <td style="text-align: right;"><i>NGHT29</i></td> </tr> <tr> <td>13</td> <td>Fuel oil/Diesel/Kerosene</td> <td style="text-align: right;"><i>FKHT29</i></td> </tr> <tr> <td>14</td> <td>Bottled gas</td> <td style="text-align: right;"><i>PRHT29</i></td> </tr> <tr> <td>15</td> <td>District steam</td> <td style="text-align: right;"><i>STHT29</i></td> </tr> <tr> <td>16</td> <td>District hot water</td> <td style="text-align: right;"><i>HWHT29</i></td> </tr> <tr> <td>18</td> <td>Wood</td> <td style="text-align: right;"><i>WOHT29</i></td> </tr> <tr> <td>19</td> <td>Coal</td> <td style="text-align: right;"><i>COHT29</i></td> </tr> <tr> <td>20</td> <td>Solar</td> <td style="text-align: right;"><i>SOHT29</i></td> </tr> <tr> <td>24</td> <td>Some other energy source</td> <td style="text-align: right;"><i>OTHT29</i></td> </tr> </table>			11	Electricity	<i>ELHT29</i>	12	Natural gas	<i>NGHT29</i>	13	Fuel oil/Diesel/Kerosene	<i>FKHT29</i>	14	Bottled gas	<i>PRHT29</i>	15	District steam	<i>STHT29</i>	16	District hot water	<i>HWHT29</i>	18	Wood	<i>WOHT29</i>	19	Coal	<i>COHT29</i>	20	Solar	<i>SOHT29</i>	24	Some other energy source	<i>OTHT29</i>
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<b>NEXT</b>	→ D21 [Percent heated]																															


**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 D17 [Other source for main heating] OR D20 [Other source for heating], those sources are then also considered to be used.

<b>D21</b>	<b>Percent heated</b>	<i>HEATP9</i>
<b>ASK</b>	IF D1 [Heating] = Yes	
<b>FILL</b>	<b>{SqFt}</b> IF A1 [Square footage] known = "A1 [Square footage]" IF A1 [Square footage] = DK/RF = "floorspace"	
		[F1]-HELP
What percentage of the {SqFt} in this building was heated to at least 50 degrees Fahrenheit in the past 12 months, including basements and enclosed garages if they were heated to at least 50 degrees?		
<ul style="list-style-type: none"> <li>◆ If heated square footage is known, but not the percent, RECORD square footage in comments, then code DK</li> <li>◆ PROBE for estimate if DK</li> </ul>		
<b>RANGE</b>	0 to 100	
<b>NEXT</b>	IF Zero → D22 [Heated to less than 50 degrees] IF Anything else → D23 [Heating equipment types]	


<b>D22</b>	<b>Heated to less than 50 degrees</b>	<i>HTLS509</i>
<b>ASK</b>	IF D21 [Percent heated] = Zero	
Was any of this building heated to less than 50 degrees Fahrenheit?		
<ul style="list-style-type: none"> <li>◆ EXP: [Areas may be heated to less than 50 degrees to prevent pipes from freezing.]</li> </ul>		
1 Yes 2 No		
<b>NEXT</b>	IF Yes OR DK/RF → D23 [Heating equipment types] IF No: IF D2 [Cooling] = Yes → D42 [Sources for cooling] IF D3 [Water heating] = Yes → D62 [Sources for water heating] IF D4 [Cooking] = Yes → D66 [Sources for cooking] IF D4 [Manufacturing] = Yes → D68 [Sources for manufacturing] IF D7 [Electricity generation capability] = Yes → D70 [Energy for generation] OTHERWISE → D76 [Any other sources]	

<b>D23</b>	<b>Heating equipment types</b>	<i>see below</i>														
<b>ASK</b>	IF D21 [Percent heated] > 0 OR D22 [Heated to less than 50 degrees] = Yes OR DK/RF															
 SHOW CARD D2		[F1]-HELP														
<p>Looking at this list of heating equipment types, please tell me which types are used in this building.</p> <ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul> <table style="width: 100%; border: none;"> <tr> <td style="width: 80%;">1 Furnaces that heat air directly, without using steam or hot water</td> <td style="width: 20%; text-align: right;"><i>FURNAC9</i></td> </tr> <tr> <td>2 Packaged central unit (roof mounted)</td> <td style="text-align: right;"><i>PKGHT9</i></td> </tr> <tr> <td>3 Boilers inside (or adjacent to) the building that produce steam or hot water</td> <td style="text-align: right;"><i>BOILER9</i></td> </tr> <tr> <td>4 District steam or hot water piped in from outside the building</td> <td style="text-align: right;"><i>STHW9</i></td> </tr> <tr> <td>5 Heat pumps</td> <td style="text-align: right;"><i>HTPMPH9</i></td> </tr> <tr> <td>6 Individual space heaters, other than heat pumps</td> <td style="text-align: right;"><i>SLFCO9</i></td> </tr> <tr> <td>7 Other heating equipment</td> <td style="text-align: right;"><i>OTHTEQ9</i></td> </tr> </table>			1 Furnaces that heat air directly, without using steam or hot water	<i>FURNAC9</i>	2 Packaged central unit (roof mounted)	<i>PKGHT9</i>	3 Boilers inside (or adjacent to) the building that produce steam or hot water	<i>BOILER9</i>	4 District steam or hot water piped in from outside the building	<i>STHW9</i>	5 Heat pumps	<i>HTPMPH9</i>	6 Individual space heaters, other than heat pumps	<i>SLFCO9</i>	7 Other heating equipment	<i>OTHTEQ9</i>
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<b>NEXT</b>	IF Furnaces → D24 [Type of furnace] IF Packaged central unit → D27 [Type of packaged heating] IF Boilers → D29 [Type of boiler system] IF District steam or hot water → D30 [Type of district system] IF Heat pumps → D31 [Heat pump heating system] IF Individual space heaters → D33 [Type of individual heater] IF Other heating equipment → D34 [Other heat specify] IF DK/RF → D40 [Reduce heating]															


<b>D24</b>	<b>Type of furnace</b>
<b>ASK</b>	IF Furnaces IN D23 [Heating equipment types]
[F1]-HELP	
 SHOW CARD D3	
<p>Looking at this list, please tell me the type or types of furnace systems used in the building.</p> <p>◆ ENTER all that apply</p> <ol style="list-style-type: none"> <li>1 Residential-type split system</li> <li>2 Packaged central unit (roof mounted)</li> <li>3 Individual room furnace (freestanding or floor-mounted)</li> </ol>	
<b>NEXT</b>	IF Packaged central unit → D25 [Classify as packaged] IF Individual room furnace → D26 [Classify as space heater] OTHERWISE: IF Packaged central unit IN D23 [Heating equipment types] → D27 [Type of packaged heating] IF Boilers IN D23 [Heating equipment types] → D29 [Type of boiler system] IF District steam or hot water IN D23 [Heating equipment types] → D30 [Type of district system] IF Heat pumps IN D23 [Heating equipment types] → D31 [Heat pump heating system] IF Individual space heaters IN D23 [Heating equipment types] → D33 [Type of individual heater] IF Other heating equipment IN D23 [Heating equipment types] → D34 [Other heat specify] OTHERWISE: Assign Furnace as Main heating equipment, THEN IF More than one energy source used for heating → D35 [Explain sources for heating] OTHERWISE → D39 [Heating ventilation types]


<b>D25</b>	<b>Classify as packaged</b>
<b>ASK</b>	IF Packaged central unit IN D24 [Type of furnace]
<p>For the purposes of this study, I am going to refer to your packaged central furnace as a "packaged unit."</p> <p>◆ ENTER "1" to continue</p>	
<b>NEXT</b>	IF Individual room furnace IN D24 [Type of furnace] → D26 [Classify as space heater] OTHERWISE: IF Packaged central unit IN D23 [Heating equipment types] → D27 [Type of packaged heating] IF Boilers IN D23 [Heating equipment types] → D29 [Type of boiler system] IF District steam or hot water IN D23 [Heating equipment types] → D30 [Type of district system] IF Heat pumps IN D23 [Heating equipment types] → D31 [Heat pump heating system] IF Individual space heaters IN D23 [Heating equipment types] → D33 [Type of individual heater] IF Other heating equipment IN D23 [Heating equipment types] → D34 [Other heat specify] OTHERWISE: IF More than one heating equipment type → D36 [Percent heated by each type] IF Only one heating equipment, assign as Main heating equipment, THEN: IF ONLY Boiler, Furnace, OR District heat as heating equipment but more than one energy source used for heating → D35 [Explain sources for heating] IF Any type except District steam or hot water & (A20 [Year of construction] < 1990 OR A21 [Year of construction category] ≠ 2000 to 2003 OR 2004 to 2007) → D38 [Main heating replaced] OTHERWISE → D39 [Heating ventilation types]


<b>D26</b>	<b>Classify as space heater</b>
<b>ASK</b>	IF D24 [Type of furnace] = Individual room furnace
<p>For the purposes of this study, I am going to refer to your individual room furnace as an "individual space heater."</p> <p>◆ ENTER "1" to continue</p>	
<b>NEXT</b>	<p>IF Packaged central unit IN D23 [Heating equipment types] → D27 [Type of packaged heating]  IF Boilers IN D23 [Heating equipment types] → D29 [Type of boiler system]  IF District steam or hot water IN D23 [Heating equipment types] → D30 [Type of district system]  IF Heat pumps IN D23 [Heating equipment types] → D31 [Heat pump heating system]  IF Individual space heaters IN D23 [Heating equipment types] → D33 [Type of individual heater]  IF Other heating equipment IN D23 [Heating equipment types] → D34 [Other heat specify]  <b>OTHERWISE:</b>  IF More than one heating equipment type → D36 [Percent heated by each type]  IF Only one heating equipment, assign as Main heating equipment, THEN:  IF ONLY Boiler, Furnace, OR District heat as heating equipment but more than one energy source used for heating → D35 [Explain sources for heating]  IF Any type except District steam or hot water &amp; (A20 [Year of construction] &lt; 1990 OR A21 [Year of construction category] ≠ 2000 to 2003 OR 2004 to 2007)  → D38 [Main heating replaced]  <b>OTHERWISE</b> → D39 [Heating ventilation types]</p>

<b>D27</b>	<b>Type of packaged unit</b>
<b>ASK</b>	IF Packaged central unit IN D23 [Heating equipment types]
<p style="text-align: right;">[F1]-HELP</p> <p> SHOW CARD D4</p> <p>Looking at this card, please tell me if the packaged unit is a central roof mounted unit or a packaged heat pump.</p> <ol style="list-style-type: none"> <li>1 Packaged central unit (roof mounted)</li> <li>2 Packaged heat pump</li> <li>3 [IF VOLUNTEERED] Both central and packaged heat pumps</li> </ol>	
<b>NEXT</b>	<p>IF Packaged heat pump or Both central and packaged heat pumps → D28 [Classify as heat pump]  <b>OTHERWISE:</b>  IF Boilers IN D23 [Heating equipment types] → D29 [Type of boiler system]  IF District steam or hot water IN D23 [Heating equipment types] → D30 [Type of district system]  IF Heat pumps IN D23 [Heating equipment types] → D31 [Heat pump heating system]  IF Individual space heaters IN D23 [Heating equipment types] → D33 [Type of individual heater]  IF Other heating equipment IN D23 [Heating equipment types] → D34 [Other heat specify]  <b>OTHERWISE:</b>  IF More than one heating equipment type → D36 [Percent heated by each type]  IF Only one heating equipment, assign as Main heating equipment, THEN:  IF ONLY Boiler, Furnace, OR District heat as heating equipment but more than one energy source used for heating → D35 [Explain sources for heating]  IF Any type except District steam or hot water &amp; (A20 [Year of construction] &lt; 1990 OR A21 [Year of construction category] ≠ 2000 to 2003 OR 2004 to 2007)  → D38 [Main heating replaced]  <b>OTHERWISE</b> → D39 [Heating ventilation types]</p>


<b>D28</b>	<b>Classify as heat pump</b>
<b>ASK</b>	IF D27 [Type of packaged heating] = Packaged heat pump OR Both central and packaged heat pumps
<p>For the purposes of this study, I am going to refer to your packaged unit heat pump as a "heat pump."</p> <p>◆ ENTER "1" to continue</p>	
<b>NEXT</b>	<p>IF Boilers IN D23 [Heating equipment types] → D29 [Type of boiler system]  IF District steam or hot water IN D23 [Heating equipment types] → D30 [Type of district system]  IF Heat pumps IN D23 [Heating equipment types] → D31 [Heat pump heating system]  IF Individual space heaters IN D23 [Heating equipment types] → D33 [Type of individual heater]  IF Other heating equipment IN D23 [Heating equipment types] → D34 [Other heat specify]  <b>OTHERWISE:</b>  IF More than one heating equipment type → D36 [Percent heated by each type]  IF Only one heating equipment, assign as Main heating equipment, THEN:  IF ONLY Boiler, Furnace, OR District heat as heating equipment but more than one energy source used for heating → D35 [Explain sources for heating]  IF Any type except District steam or hot water &amp; (A20 [Year of construction] &lt; 1990 OR A21 [Year of construction category] ≠ 2000 to 2003 OR 2004 to 2007) → D38 [Main heating replaced]  <b>OTHERWISE</b> → D39 [Heating ventilation types]</p>


<b>D29</b>	<b>Type of boiler system</b>
<b>ASK</b>	IF Boilers IN D23 [Heating equipment types]
<p style="text-align: right;">[F1]-HELP</p> <p> SHOW CARD D5</p> <p>Looking at this list, please tell me the type or types of distribution systems used with the boiler.</p> <p>◆ ENTER all that apply</p> <ol style="list-style-type: none"> <li>1 Radiators</li> <li>2 Fan coil units in rooms (or areas)</li> <li>3 Central air handling system</li> </ol>	
<b>NEXT</b>	<p>IF District steam or hot water IN D23 [Heating equipment types] → D30 [Type of district system]  IF Heat pumps IN D23 [Heating equipment types] → D31 [Heat pump heating system]  IF Individual space heaters IN D23 [Heating equipment types] → D33 [Type of individual heater]  IF Other heating equipment IN D23 [Heating equipment types] → D34 [Other heat specify]  <b>OTHERWISE:</b>  IF More than one heating equipment type → D36 [Percent heated by each type]  IF Only one heating equipment, assign as Main heating equipment, THEN:  IF ONLY Boiler, Furnace, OR District heat as heating equipment but more than one energy source used for heating → D35 [Explain sources for heating]  IF Any type except District steam or hot water &amp; (A20 [Year of construction] &lt; 1990 OR A21 [Year of construction category] ≠ 2000 to 2003 OR 2004 to 2007) → D38 [Main heating replaced]  <b>OTHERWISE</b> → D39 [Heating ventilation types]</p>

<b>D30</b>	<b>Type of district system</b>
<b>ASK</b>	IF District steam or hot water IN D23 [Heating equipment types]
[F1]-HELP	
 SHOW CARD D5	
<p>Looking at this list, please tell me the type or types of distribution systems used with the district steam or hot water.</p> <p>◆ ENTER all that apply</p> <ol style="list-style-type: none"> <li>1 Radiators</li> <li>2 Fan coil units in rooms (or areas)</li> <li>3 Central air handling system</li> </ol>	
<b>NEXT</b>	IF Heat pumps IN D23 [Heating equipment types] → D31 [Heat pump heating system] IF Individual space heaters IN D23 [Heating equipment types] → D33 [Type of individual heater] IF Other heating equipment IN D23 [Heating equipment types] → D34 [Other heat specify] OTHERWISE: IF More than one heating equipment type → D36 [Percent heated by each type] IF Only one heating equipment, assign as Main heating equipment, THEN: IF ONLY Boiler, Furnace, OR District heat as heating equipment but more than one energy source used for heating → D35 [Explain sources for heating] IF Any type except District steam or hot water & (A20 [Year of construction] < 1990 OR A21 [Year of construction category] ≠ 2000 to 2003 OR 2004 to 2007) → D38 [Main heating replaced] OTHERWISE → D39 [Heating ventilation types]

<b>D31</b>	<b>Heat pump heating system</b>	<i>see below</i>						
<b>ASK</b>	IF Heat pumps IN D23 [Heating equipment types]							
[F1]-HELP								
 SHOW CARD D6								
<p>Please look at the first list on this card and tell me which heat pump systems are used for heating in this building.</p> <p>◆ ENTER all that apply</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 80%;">1 Packaged unit</td> <td style="width: 20%; text-align: right;"><i>PKGHPS9</i></td> </tr> <tr> <td>2 Residential-type split system</td> <td style="text-align: right;"><i>SPLHPS9</i></td> </tr> <tr> <td>3 Individual room heat pump</td> <td style="text-align: right;"><i>RMHPS9</i></td> </tr> </table>			1 Packaged unit	<i>PKGHPS9</i>	2 Residential-type split system	<i>SPLHPS9</i>	3 Individual room heat pump	<i>RMHPS9</i>
1 Packaged unit	<i>PKGHPS9</i>							
2 Residential-type split system	<i>SPLHPS9</i>							
3 Individual room heat pump	<i>RMHPS9</i>							
<b>NEXT</b>	→ D32 [Heat pump heating type]							




<b>D32</b>	<b>Heat pump heating type</b>	<i>see below</i>									
<b>ASK</b>	IF Heat pumps IN D23 [Heating equipment types]										
 SHOW CARD D6		[F1]-HELP									
Looking at the second list on this card, which types of heat pumps are these?											
◆ ENTER all that apply											
<table border="0"> <tr> <td>1</td> <td>Air source heat pump</td> <td><i>AIRHPT9</i></td> </tr> <tr> <td>2</td> <td>Ground source or ground water heat pump</td> <td><i>GRDHPT9</i></td> </tr> <tr> <td>3</td> <td>Water loop heat pump</td> <td><i>WTRHPT9</i></td> </tr> </table>			1	Air source heat pump	<i>AIRHPT9</i>	2	Ground source or ground water heat pump	<i>GRDHPT9</i>	3	Water loop heat pump	<i>WTRHPT9</i>
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2	Ground source or ground water heat pump	<i>GRDHPT9</i>									
3	Water loop heat pump	<i>WTRHPT9</i>									
<b>NEXT</b>	IF Individual space heaters IN D23 [Heating equipment types] → D33 [Type of individual heater] IF Other heating equipment IN D23 [Heating equipment types] → D34 [Other heat specify] OTHERWISE: IF More than one heating equipment type → D36 [Percent heated by each type] IF Only one heating equipment, assign as Main heating equipment, THEN: IF ONLY Boiler, Furnace, OR District heat as heating equipment but more than one energy source used for heating → D35 [Explain sources for heating] IF Any type except District steam or hot water & (A20 [Year of construction] < 1990 OR A21 [Year of construction category] ≠ 2000 to 2003 OR 2004 to 2007) → D38 [Main heating replaced] OTHERWISE → D39 [Heating ventilation types]										

<b>D33</b>	<b>Type of individual heater</b>										
<b>ASK</b>	IF Individual space heaters IN D23 [Heating equipment types]										
 SHOW CARD D7											
Looking at this list, please tell me the type or types of individual heaters used in the building.											
◆ ENTER all that apply											
<table border="0"> <tr> <td>1</td> <td>Infrared radiant heater (permanent)</td> </tr> <tr> <td>2</td> <td>Baseboard heater (permanent)</td> </tr> <tr> <td>3</td> <td>Portable space heater</td> </tr> <tr> <td>4</td> <td>Wall heater</td> </tr> <tr> <td>5</td> <td>Individual furnace</td> </tr> </table>		1	Infrared radiant heater (permanent)	2	Baseboard heater (permanent)	3	Portable space heater	4	Wall heater	5	Individual furnace
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<b>NEXT</b>	IF Other heating equipment IN D23 [Heating equipment types] → D34 [Other heat specify] OTHERWISE: IF More than one heating equipment type → D36 [Percent heated by each type] IF Only one heating equipment, assign as Main heating equipment, THEN: IF ONLY Boiler, Furnace, OR District heat as heating equipment but more than one energy source used for heating → D35 [Explain sources for heating] IF Any type except District steam or hot water & (A20 [Year of construction] < 1990 OR A21 [Year of construction category] ≠ 2000 to 2003 OR 2004 to 2007) → D38 [Main heating replaced] OTHERWISE → D39 [Heating ventilation types]										


<b>D34</b>	<b>Other heat specify</b>
<b>ASK</b>	IF Other heating equipment IN D23 [Heating equipment types]
<p>Please describe the other type of heating equipment.</p> <p>◆ RECORD in open box</p>	
<b>NEXT</b>	<p>IF More than one heating equipment type → D36 [Percent heated by each type]</p> <p>IF Only one heating equipment, assign as Main heating equipment, THEN:</p> <p>IF ONLY Boiler, Furnace, OR District heat as heating equipment but more than one energy source used for heating → D35 [Explain sources for heating]</p> <p>IF Any type except District steam or hot water &amp; (A20 [Year of construction] &lt; 1990 OR A21 [Year of construction category] ≠ 2000 to 2003 OR 2004 to 2007)</p> <p>→ D38 [Main heating replaced]</p> <p>OTHERWISE → D40 [Reduce heating]</p>

<b>D35</b>	<b>Explain sources for heating</b>
<b>ASK</b>	IF ONLY Boiler, Furnace, OR District heat as heating equipment but more than one energy source used for heating
<b>FILL</b>	<p><b>{HeatEquip}</b></p> <p>IF Boilers = “boiler”</p> <p>IF Furnace = “furnace”</p> <p>IF District heat = “district heating system”</p> <p><b>{HeatSources}</b> = list of the energy sources given for heating</p>
<p>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}.</p> <p>◆ RECORD in open box</p>	
<b>NEXT</b>	<p>IF Any type except District steam or hot water &amp; (A20 [Year of construction] &lt; 1990 OR A21 [Year of construction category] ≠ 2000 to 2003 OR 2004 to 2007)</p> <p>→ D38 [Main heating replaced]</p> <p>OTHERWISE → D39 [Heating ventilation types]</p>


<b>D36</b>	<b>Percent heated by each type</b> <i>FURNP9, BOILP9, PKGHP9, SLFCNP9, HTPHP9, STHWP9, OTHTP9</i>
<b>ASK</b>	For each equipment type given in D23 [Heating equipment types]
<b>FILL</b>	<p><b>{Introduction}</b> IF First equipment = "The next questions are about the percent of floorspace heated by the equipment you just mentioned. Please keep in mind:" OTHERWISE = BLANK</p> <p><b>{Explanation}</b> IF First equipment and D21 [Percent heated] <math>\neq</math> 100 = "We are talking only about the <u>heated portion</u> of the floorspace, so these percents must add up to at least 100, but since more than one type of equipment can heat the same area, it is also possible for them to add up to <u>more</u> than 100." IF First equipment and D21 [Percent heated] = 100 = "These percents must add up to at least 100, but since more than one type of equipment can heat the same area, it is also possible for them to add up to <u>more</u> than 100." OTHERWISE = BLANK</p> <p><b>{Equipment}</b> IF Furnaces that heat air directly IN D23 [Heating equipment types] = "furnace" IF Boilers inside the building IN D23 [Heating equipment types] = "boiler" IF Packaged heating units IN D23 [Heating equipment types] = "packaged heating" IF Individual space heaters IN D23 [Heating equipment types] = "space heater" IF Heat pumps IN D23 [Heating equipment types] = "heat pump" IF District steam or hot water IN D23 [Heating equipment types] = "district steam or hot water" IF Other heating equipment IN D23 [Heating equipment types] = "other heating equipment"</p>
<p> SHOW CARD D8</p> <p>{Introduction}</p> <p>{Explanation}</p> <p>What percent of the heated area in this building is served by the {Equipment}?</p> <p>◆ PROBE for estimate if DK</p>	
<b>RANGE</b>	0 to 100
<b>NEXT</b>	<p>IF There are equal maximum percents OR DK/RF → D37 [Main heating equipment] IF There is an equipment with a maximum percent, assign that equipment as the Main heating equipment [MAINHT9]. THEN: IF Main equipment NOT District steam or hot water &amp; (A20 [Year of construction] &lt; 1990 OR A21 [Year of construction category] <math>\neq</math> 2000 to 2003) → D38 [Main heating replaced] OTHERWISE → D39 [Heating ventilation types]</p>

<b>D37</b>	<b>Main heating equipment</b>	<i>MNHTEQ9</i>
<b>ASK</b>	IF D36 [Percent heated by each type] has equal maximum percents OR DK/RF	
<b>FILL</b>	<b>{EquipmentList}</b> = List of the equipments with equal maximum percents <b>{Furnace} – {Other heating equipment}</b> = Each equipment with an equal maximum percent appears on this list; otherwise the line is blank	
<p>Which do you consider to be your main heating equipment – {EquipmentList} ?</p> <p>◆ Only equipment types with equal percentages are shown here</p> <ol style="list-style-type: none"> <li>1 {Furnace}</li> <li>2 {Boiler}</li> <li>3 {Packaged heating}</li> <li>4 {Space heater}</li> <li>5 {Heat pump}</li> <li>6 {District steam or hot water}</li> <li>7 {Other heating equipment}</li> </ol>		
<b>NEXT</b>	IF Main equipment NOT (District steam or hot water OR DK/RF) & (A20 [Year of construction] < 1990 OR A21 [Year of construction category] ≠ 2000 to 2003) → D38 [Main heating replaced] OTHERWISE → D39 [Heating ventilation types]	

<b>D38</b>	<b>Main heating replaced</b>	<i>NWMNHT9</i>
<b>ASK</b>	IF Main heating equipment known & NOT District steam or hot water & (A20 [Year of construction] < 1990 OR A21 [Year of construction category] ≠ 2000 to 2003 OR 2004 to 2007)	
<b>FILL</b>	<b>{MainHeatEquip}</b> IF Main heating equipment = Furnace = "Has the furnace" IF Main heating equipment = Boiler = "Has the boiler" IF Main heating equipment = Packaged heating = "Has the packaged heating unit" IF Main heating equipment = Individual space heater = "Have any of the individual space heaters" IF Main heating equipment = Heat pump = "Has the heat pump" IF Main heating equipment = Other = "Has the other type of heating equipment"	
<p>{MainHeatEquip} been replaced since 1990?</p> <p>◆ EXP: [If there is more than one of this equipment type and at least one has been replaced, answer "Yes."]</p> <ol style="list-style-type: none"> <li>1 Yes</li> <li>2 No</li> </ol>		
<b>NEXT</b>	→ D39 [Heating ventilation types]	

<b>D39</b>	<b>Heating ventilation types</b>
<b>ASK</b>	IF D23 [Heating equipment types] ≠ DK/RF
[F1]-HELP	
 SHOW CARD D9	
<p>Looking at this list of mechanical ventilation equipment types, please tell me which types are used with the heating system.</p> <ol style="list-style-type: none"> <li>1 No mechanical ventilation equipment</li> <li>2 Central air handling unit(s) with outside air system and constant air volume control</li> <li>3 Central air handling unit(s) with outside air system and variable air volume (VAV) control</li> <li>4 Packaged unit(s) with outside air damper</li> <li>5 Through-the wall packaged units</li> <li>6 Stand-alone exhaust fans (or relief blowers)</li> <li>7 Dedicated outside air system</li> </ol> <p>◆ PROBE for any others</p> <p>◆ ENTER all that apply</p>	
<b>NEXT</b>	➔ D40 [Reduce heating]


<b>D40</b>	<b>Reduce heating</b>	<i>RDHTNF9</i>
<b>ASK</b>	IF D21 [Percent heated] > 0 OR D22 [Heated to less than 50 degrees] = Yes	
<b>FILL</b>	<b>{TimesNotInFullUse}</b> IF C20 [Open 24 hours a day] = Yes OR C24 [Total hours open per week] = 168 OR C25 [Weekly hours category] = 168 = "Are there any periods during a normal 24 hour day when there is" OTHERWISE = "When this building is not in full use, is there"	
[F1]-HELP		
{TimesNotInFullUse} a change in the temperature setting for heating? <ol style="list-style-type: none"> <li>1 Yes</li> <li>2 No</li> </ol>		
<b>NEXT</b>	IF Yes ➔ D41 [How reduce heating] IF No OR DK/RF: IF D2 [Cooling] = Yes ➔ D42 [Sources for cooling] IF D3 [Water heating] = Yes ➔ D62 [Sources for water heating] IF D4 [Cooking] = Yes ➔ D66 [Sources for cooking] IF D4 [Manufacturing] = Yes ➔ D68 [Sources for manufacturing] IF D7 [Electricity generation capability] = Yes ➔ D70 [Energy for generation] OTHERWISE ➔ D76 [Any other sources]	

<b>D41</b>	<b>How reduce heating</b>	<i>HWRDHT9 &amp; see below</i>
<b>ASK</b>	IF D40 [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)" <span style="float: right;"><i>EMCS9</i></span>		
<b>NEXT</b>	IF D2 [Cooling] = Yes → D42 [Sources for cooling] IF D3 [Water heating] = Yes → D62 [Sources for water heating] IF D4 [Cooking] = Yes → D66 [Sources for cooking] IF D4 [Manufacturing] = Yes → D68 [Sources for manufacturing] IF D7 [Electricity generation capability] = Yes → D70 [Energy for generation] OTHERWISE → D76 [Any other sources]	


<b>D42</b>	<b>Sources for cooling</b>	<i>see below</i>																																	
<b>ASK</b>	IF D2 [Cooling] = Yes																																		
<b>FILL</b>	<b>{CoolSourcesList}</b> = List of all possible air conditioning energy sources used <b>{Electricity}</b> – <b>{Other3}</b> = If a source is used, it appears in this list; if not, the line is blank <b>{FuelOilType}</b> = Type or types specified in D9 [Fuel oil, diesel, or kerosene] <b>{Other1}</b> – <b>{Other3}</b> = Sources specified in D11 [Other energy source 1] – D13 [Other energy source 3]																																		
Which energy sources were used for air conditioning? [{CoolSourcesList}]  <ul style="list-style-type: none"> <li>◆ Only sources already selected are shown here</li> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul> <table style="width: 100%; border: none;"> <tr> <td style="width: 10%;">11</td> <td style="width: 70%;">{Electricity}</td> <td style="width: 20%; text-align: right;"><i>ELCOOL8</i></td> </tr> <tr> <td>12</td> <td>{Natural gas}</td> <td style="text-align: right;"><i>NGCOOL9</i></td> </tr> <tr> <td>13</td> <td>{FuelOilType}</td> <td style="text-align: right;"><i>FKCOOL9</i></td> </tr> <tr> <td>14</td> <td>{Bottled gas}</td> <td style="text-align: right;"><i>PRCOOL9</i></td> </tr> <tr> <td>15</td> <td>{District steam}</td> <td style="text-align: right;"><i>STCOOL9</i></td> </tr> <tr> <td>16</td> <td>{District hot water}</td> <td style="text-align: right;"><i>HWCOOL9</i></td> </tr> <tr> <td>17</td> <td>{District chilled water}</td> <td style="text-align: right;"><i>CWCOOL9</i></td> </tr> <tr> <td>21</td> <td>{Other1}</td> <td style="text-align: right;"><i>OTCOOL9</i></td> </tr> <tr> <td>22</td> <td>{Other2}</td> <td style="text-align: right;"><i>OTCOOL9</i></td> </tr> <tr> <td>23</td> <td>{Other3}</td> <td style="text-align: right;"><i>OTCOOL9</i></td> </tr> <tr> <td>24</td> <td>Some other energy source</td> <td></td> </tr> </table>			11	{Electricity}	<i>ELCOOL8</i>	12	{Natural gas}	<i>NGCOOL9</i>	13	{FuelOilType}	<i>FKCOOL9</i>	14	{Bottled gas}	<i>PRCOOL9</i>	15	{District steam}	<i>STCOOL9</i>	16	{District hot water}	<i>HWCOOL9</i>	17	{District chilled water}	<i>CWCOOL9</i>	21	{Other1}	<i>OTCOOL9</i>	22	{Other2}	<i>OTCOOL9</i>	23	{Other3}	<i>OTCOOL9</i>	24	Some other energy source	
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23	{Other3}	<i>OTCOOL9</i>																																	
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<b>NEXT</b>	IF Some other energy source selected → D43 [Other source for cooling] OTHERWISE → D44 [Percent cooled]																																		


<b>D43</b>	<b>Other source for cooling</b>	<i>see below</i>																								
<b>ASK</b>	IF Some other energy source IN D42 [Sources for cooling]																									
<p>What was the other energy source used for air conditioning?</p> <table border="0"> <tr> <td>11</td> <td>Electricity</td> <td><i>ELCOOL9</i></td> </tr> <tr> <td>12</td> <td>Natural gas</td> <td><i>NGCOOL9</i></td> </tr> <tr> <td>13</td> <td>Fuel oil/Diesel/Kerosene</td> <td><i>FKCOOL9</i></td> </tr> <tr> <td>14</td> <td>Bottled gas</td> <td><i>PRCOOL9</i></td> </tr> <tr> <td>15</td> <td>District steam</td> <td><i>STCOOL9</i></td> </tr> <tr> <td>16</td> <td>District hot water</td> <td><i>HWCOOL9</i></td> </tr> <tr> <td>17</td> <td>District chilled water</td> <td><i>CWCOOL9</i></td> </tr> <tr> <td>24</td> <td>Some other energy source</td> <td><i>OTCOOL9</i></td> </tr> </table>			11	Electricity	<i>ELCOOL9</i>	12	Natural gas	<i>NGCOOL9</i>	13	Fuel oil/Diesel/Kerosene	<i>FKCOOL9</i>	14	Bottled gas	<i>PRCOOL9</i>	15	District steam	<i>STCOOL9</i>	16	District hot water	<i>HWCOOL9</i>	17	District chilled water	<i>CWCOOL9</i>	24	Some other energy source	<i>OTCOOL9</i>
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<b>NEXT</b>	➔ D44 [Percent cooled]																									


<b>D44</b>	<b>Percent cooled</b>	<i>COOLP9</i>
<b>ASK</b>	IF D1 [Cooling] = Yes	
<b>FILL</b>	<b>{SqFtIn}</b> IF A1 [Square footage] known = A1 [Square footage] IF A1 [Square footage] = DK/RF = "floorspace"	
		[F1]-HELP
<p>What percentage of the {SqFt} in this building was cooled by air conditioning equipment in 2007?</p> <ul style="list-style-type: none"> <li>◆ If cooled square footage is known, but not the percent, RECORD square footage in comments, then code DK</li> <li>◆ PROBE for estimate if DK</li> </ul>		
<b>RANGE</b>	0 to 100	
<b>NEXT</b>	IF 1-100, DK/RF ➔ D45 [Cooling equipment types] IF Zero: IF D3 [Water heating] = Yes ➔ D62 [Sources for water heating] IF D4 [Cooking] = Yes ➔ D66 [Sources for cooking] IF D4 [Manufacturing] = Yes ➔ D68 [Sources for manufacturing] IF D7 [Electricity generation capability] = Yes ➔ D70 [Energy for generation] OTHERWISE ➔ D76 [Any other sources]	


<b>D45</b>	<b>Cooling equipment types</b>	<i>see below</i>																
<b>ASK</b>	IF D44 [Percent cooled] > 0																	
<p style="text-align: right;">[F1]-HELP</p> <p> SHOW CARD D11</p> <p>Looking at this list of cooling equipment types, please tell me which types are used in this building.</p> <ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul> <table border="0" style="width: 100%;"> <tr> <td style="width: 70%;">1 Residential-type central air conditioners, other than heat pumps, that cool air directly and circulate it without using chilled water</td> <td style="width: 30%; text-align: right;"><i>RCAC9</i></td> </tr> <tr> <td>2 Packaged air conditioning units, other than heat pumps</td> <td style="text-align: right;"><i>PKGCL9</i></td> </tr> <tr> <td>3 Central chillers inside the building that chill water for air conditioning</td> <td style="text-align: right;"><i>CHILLR9</i></td> </tr> <tr> <td>4 District chilled water piped in from outside the building</td> <td style="text-align: right;"><i>CHWT9</i></td> </tr> <tr> <td>5 Heat pumps for cooling</td> <td style="text-align: right;"><i>HTPMPC9</i></td> </tr> <tr> <td>6 Individual room air conditioners, other than heat pumps</td> <td style="text-align: right;"><i>ACWNWL9</i></td> </tr> <tr> <td>7 "Swamp" coolers or evaporative coolers</td> <td style="text-align: right;"><i>EVAPCL9</i></td> </tr> <tr> <td>8 Other cooling equipment</td> <td style="text-align: right;"><i>OTCLEQ9</i></td> </tr> </table>			1 Residential-type central air conditioners, other than heat pumps, that cool air directly and circulate it without using chilled water	<i>RCAC9</i>	2 Packaged air conditioning units, other than heat pumps	<i>PKGCL9</i>	3 Central chillers inside the building that chill water for air conditioning	<i>CHILLR9</i>	4 District chilled water piped in from outside the building	<i>CHWT9</i>	5 Heat pumps for cooling	<i>HTPMPC9</i>	6 Individual room air conditioners, other than heat pumps	<i>ACWNWL9</i>	7 "Swamp" coolers or evaporative coolers	<i>EVAPCL9</i>	8 Other cooling equipment	<i>OTCLEQ9</i>
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<b>NEXT</b>	<p>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 → D58 [Reduce cooling]  OTHERWISE:  IF Any source(s) other than electricity or chilled water reported in D42 [Sources for cooling] OR D31 [Other sources for cooling] → D52 [Cool source explanation]  OTHERWISE:  IF More than one selected → D53 [Percent cooled by each type]  IF Only one selected, assign as Main cooling equipment. THEN:  IF NOT District chilled water &amp; NOT Packaged cooling (if the Main heating equipment was Packaged heating) &amp; NOT Heat pump (if the main heating equipment was Heat pump) &amp; (A20 [Year of construction] &lt; 1990 OR A21 [Year of construction category] ≠ 2000 to 2003 OR 2004 to 2007) → D55 [Main cooling replaced]  IF D1 [Heating] = Yes &amp; D39 [Heating ventilation types] ≠ (No ventilation OR DK)  → D56 [Cooling ventilation same as heating]  OTHERWISE → D57 [Cooling ventilation types]</p>																	




<b>D46</b>	<b>Type of packaged cooling</b>	<i>see below</i>
<b>ASK</b>	IF Packaged air conditioning units IN D45 [Cooling equipment types]	
 SHOW CARD D12		[F1]-HELP
<p>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.</p> <ol style="list-style-type: none"> <li>1 Packaged central unit (roof mounted)</li> <li>2 Split system, with outdoor (condensor) and indoor (evaporator/blower) units</li> <li>3 [IF VOLUNTEERED] Both central unit and split system</li> </ol>		
<b>NEXT</b>	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 D42 [Sources for cooling] OR D31 [Other sources for cooling] → D52 [Cool source explanation] OTHERWISE: IF More than one type in D45 [Cooling equipment types] → D53 [Percent cooled by each type] IF Only one type in D45 [Cooling equipment types], assign as Main cooling equipment. THEN: IF NOT District chilled water & NOT Packaged cooling (if the Main heating equipment was Packaged heating) & NOT Heat pump (if the main heating equipment was Heat pump) & (A20 [Year of construction] < 1990 OR A21 [Year of construction category] ≠ 2000 to 2003 OR 2004 to 2007) → D55 [Main cooling replaced] IF D1 [Heating] = Yes & D39 [Heating ventilation types] ≠ (No ventilation OR DK) → D56 [Cooling ventilation same as heating] OTHERWISE → D57 [Cooling ventilation types]	

<b>D47</b>	<b>Type of chiller system</b>	<i>see below</i>
<b>ASK</b>	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. <ol style="list-style-type: none"> <li>1 Central air handling system</li> <li>2 Fan coil units in rooms (or area)</li> <li>3 [IF VOLUNTEERED] Both air handling and fan coil units</li> </ol>	
<b>NEXT</b>	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 More than one type in D45 [Cooling equipment types] → D53 [Percent cooled by each type] IF Only one type in D45 [Cooling equipment types], assign as Main cooling equipment. THEN: IF NOT District chilled water & NOT Packaged cooling (if the Main heating equipment was Packaged heating) & NOT Heat pump (if the main heating equipment was Heat pump) & (A20 [Year of construction] < 1990 OR A21 [Year of construction category] ≠ 2000 to 2003 OR 2004 to 2007) → D55 [Main cooling replaced] IF D1 [Heating] = Yes & D39 [Heating ventilation types] ≠ (No ventilation OR DK) → D56 [Cooling ventilation same as heating] OTHERWISE → D57 [Cooling ventilation types]	


<b>D48</b>	<b>Type of chilled water system</b>	<i>see below</i>
<b>ASK</b>	IF District chilled water IN D45 [Cooling equipment types]	
		[F1]-HELP
 SHOW CARD D13		
<p>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.</p> <ol style="list-style-type: none"> <li>1 Central air handling system</li> <li>2 Fan coil units in rooms (or area)</li> <li>3 [IF VOLUNTEERED] Both air handling and fan coil units</li> </ol>		
<b>NEXT</b>	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 D42 [Sources for cooling] OR D31 [Other sources for cooling] & District chiller NOT IN D45 [Cooling equipment types] → D52 [Cool source explanation] OTHERWISE: IF More than one type in D45 [Cooling equipment types] → D53 [Percent cooled by each type] IF Only one type in D45 [Cooling equipment types], assign as Main cooling equipment. THEN: IF NOT District chilled water & NOT Packaged cooling (if the Main heating equipment was Packaged heating) & NOT Heat pump (if the main heating equipment was Heat pump) & (A20 [Year of construction] < 1990 OR A21 [Year of construction category] ≠ 2000 to 2003 OR 2004 to 2007) → D55 [Main cooling replaced] IF D1 [Heating] = Yes & D39 [Heating ventilation types] ≠ (No ventilation OR DK) → D56 [Cooling ventilation same as heating] OTHERWISE → D57 [Cooling ventilation types]	

<b>D49</b>	<b>Heat pump cooling system</b>	<i>see below</i>						
<b>ASK</b>	IF Heat pumps IN D45 [Cooling equipment types] & Heat pumps NOT IN D23 [Heating equipment types]							
		[F1]-HELP						
 SHOW CARD D6								
<p>Please look at the first list on this card and tell me which heat pump systems are used for cooling in this building.</p> <p>◆ ENTER all that apply</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">1 Packaged unit</td> <td style="width: 50%; text-align: right;"><i>PKGCPSS9</i></td> </tr> <tr> <td>2 Residential-type split system</td> <td style="text-align: right;"><i>SPLCPSS9</i></td> </tr> <tr> <td>3 Individual room heat pump</td> <td style="text-align: right;"><i>RMCPSS9</i></td> </tr> </table>			1 Packaged unit	<i>PKGCPSS9</i>	2 Residential-type split system	<i>SPLCPSS9</i>	3 Individual room heat pump	<i>RMCPSS9</i>
1 Packaged unit	<i>PKGCPSS9</i>							
2 Residential-type split system	<i>SPLCPSS9</i>							
3 Individual room heat pump	<i>RMCPSS9</i>							
<b>NEXT</b>	→ D50 [Heat pump cooling type]							

<b>D50</b>	<b>Heat pump cooling type</b>	<i>see below</i>						
<b>ASK</b>	IF Heat pumps in D45 [Cooling equipment types] & Heat pumps NOT IN D23 [Heating equipment types]							
		[F1]-HELP						
 SHOW CARD D6								
Looking at the second list on this card, which types of heat pumps are these?								
<p>◆ ENTER all that apply</p> <table> <tr> <td>1 Air source heat pump</td> <td><i>AIRCPT9</i></td> </tr> <tr> <td>2 Ground source or ground water heat pump</td> <td><i>GRDCPT9</i></td> </tr> <tr> <td>3 Water loop heat pump</td> <td><i>WTRCPT9</i></td> </tr> </table>			1 Air source heat pump	<i>AIRCPT9</i>	2 Ground source or ground water heat pump	<i>GRDCPT9</i>	3 Water loop heat pump	<i>WTRCPT9</i>
1 Air source heat pump	<i>AIRCPT9</i>							
2 Ground source or ground water heat pump	<i>GRDCPT9</i>							
3 Water loop heat pump	<i>WTRCPT9</i>							
<b>NEXT</b>	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 D42 [Sources for cooling] OR D31 [Other sources for cooling] & District chiller NOT IN D45 [Cooling equipment types] → D52 [Cool source explanation] OTHERWISE: IF More than one type in D45 [Cooling equipment types] → D53 [Percent cooled by each type] IF Only one type in D45 [Cooling equipment types], assign as Main cooling equipment. THEN: IF NOT District chilled water & NOT Packaged cooling (if the Main heating equipment was Packaged heating) & NOT Heat pump (if the main heating equipment was Heat pump) & (A20 [Year of construction] < 1990 OR A21 [Year of construction category] ≠ 2000 to 2003 OR 2004 to 2007) → D55 [Main cooling replaced] IF D1 [Heating] = Yes & D39 [Heating ventilation types] ≠ (No ventilation OR DK) → D56 [Cooling ventilation same as heating] OTHERWISE → D57 [Cooling ventilation types]							

<b>D51</b>	<b>Other cool specify</b>
<b>ASK</b>	IF Other cooling equipment in D45 [Cooling equipment types]
Please describe the other type of cooling equipment.	
<p>◆ RECORD in open box</p>	
<b>NEXT</b>	IF Any source(s) other than electricity or chilled water reported in D42 [Sources for cooling] OR D31 [Other sources for cooling] & District chiller NOT IN D45 [Cooling equipment types] → D52 [Cool source explanation] OTHERWISE: IF More than one type in D45 [Cooling equipment types] → D53 [Percent cooled by each type] IF Only one type in D45 [Cooling equipment types], assign as Main cooling equipment. THEN: IF NOT District chilled water & NOT Packaged cooling (if the Main heating equipment was Packaged heating) & NOT Heat pump (if the main heating equipment was Heat pump) & (A20 [Year of construction] < 1990 OR A21 [Year of construction category] ≠ 2000 to 2003 OR 2004 to 2007) → D55 [Main cooling replaced] IF D1 [Heating] = Yes & D39 [Heating ventilation types] ≠ (No ventilation OR DK) → D56 [Cooling ventilation same as heating] OTHERWISE → D57 [Cooling ventilation types]

<b>D52</b>	<b>Cool source explanation</b>
<b>ASK</b>	IF Any source(s) other than electricity or chilled water reported in D42 [Sources for cooling] OR D31 [Other sources for cooling] & Central chillers NOT IN D45 [Cooling equipment types]
<b>FILL</b>	<p><b>{CoolSources}</b> = List of the energy sources given for cooling, other than electricity or chilled water  <b>{IsAre}</b> =  IF Only one cooling source in list = "is"  IF More than one cooling source in list = "are"</p> <p>Among the sources for cooling, I have recorded that {CoolSources} {IsAre} used. Because it is somewhat unusual to use sources other than electricity or chilled water for cooling, will you please briefly describe how the {CoolSources} {IsAre} used with the cooling equipment.</p> <p>◆ RECORD in open box</p>
<b>NEXT</b>	<p>IF More than one type in D45 [Cooling equipment types] → D53 [Percent cooled by each type]  IF Only one type in D45 [Cooling equipment types], assign as Main cooling equipment. THEN:  IF NOT District chilled water &amp; NOT Packaged cooling (if the Main heating equipment was Packaged heating) &amp; NOT Heat pump (if the main heating equipment was Heat pump)  &amp; (A20 [Year of construction] &lt; 1990 OR A21 [Year of construction category] ≠ 2000 to 2003 OR 2004 to 2007)  → D55 [Main cooling replaced]  IF D1 [Heating] = Yes &amp; D39 [Heating ventilation types] ≠ (No ventilation OR DK)  → D56 [Cooling ventilation same as heating]  OTHERWISE → D57 [Cooling ventilation types]</p>


<b>D53</b>	<b>Percent cooled by each type</b> <span style="float: right;"><i>PKGCP9, RCACP9, ACWNCP9, HTPCP9, CHWTP9, CHILP9, EVAPP9, OTCLP9</i></span>
<b>ASK</b>	For each equipment type given in D45 [Cooling equipment types]
<b>FILL</b>	<p><b>{Introduction}</b>  IF First equipment = "The next questions are about the percent of floorspace cooled by the equipment you just mentioned. Please keep in mind:"  OTHERWISE = BLANK</p> <p><b>{Explanation}</b>  IF First equipment and D44 [Percent cooled] <math>\neq</math> 100 = "We are talking only about the <u>cooled portion</u> of the floorspace, so these percents must add up to at least 100, but since more than one type of equipment can cool the same area, it is also possible for them to add up to <u>more</u> than 100."  IF First equipment and D44 [Percent cooled] = 100 = "These percents must add up to at least 100, but since more than one type of equipment can cool the same area, it is also possible for them to add up to <u>more</u> than 100."  OTHERWISE = BLANK</p> <p><b>{Equipment}</b>  IF Packaged air conditioning units IN D45 [Cooling equipment types] = "packaged cooling"  IF Residential-type central air conditioners IN D45 [Cooling equipment types] = "central air conditioner"  IF Individual room air conditioners IN D45 [Cooling equipment types] = "room air conditioner"  IF Heat pumps for cooling IN D45 [Cooling equipment types] = "heat pump"  IF District chilled water IN D45 [Cooling equipment types] = "district chilled water"  IF Central chillers inside the building IN D45 [Cooling equipment types] = "central chiller"  IF "Swamp" coolers or evaporative coolers IN D45 [Cooling equipment types] = "swamp cooler"  IF Other cooling equipment IN D45 [Cooling equipment types] = "other cooling equipment"</p>
 SHOW CARD D14  {Introduction}  {Explanation}  What percent of the cooled area in this building is served by the {Equipment}?  ◆ PROBE for estimate if DK	
<b>RANGE</b>	0 to 100
<b>NEXT</b>	IF there are equal maximum percents OR DK/RF → D54 [Main cooling equipment] IF there is an equipment with a maximum percent, assign that equipment as the Main cooling equipment [MAINCL9]. THEN: IF (Main equipment NOT District chilled water OR DK/RF) & (Main cooling equipment NOT Packaged cooling if the Main heating equipment was Packaged heating) & (Main cooling equipment NOT Heat pump if the main heating equipment was Heat pump) & (A20 [Year of construction] < 1990 OR A21 [Year of construction category] $\neq$ 2000 to 2003 OR 2004 to 2007) → D55 [Main cooling replaced] IF D1 [Heating] = Yes & D39 [Heating ventilation types] $\neq$ (No ventilation OR DK) → D56 [Cooling ventilation same as heating] OTHERWISE → D57 [Cooling ventilation types]

<b>D54</b>	<b>Main cooling equipment</b>	<i>MNCLEQ9</i>
<b>ASK</b>	IF D53 [Percent cooled by each type] has equal maximum percents OR DK/RF	
<b>FILL</b>	<p><b>{EquipmentList}</b> = List of the equipments with equal maximum percents  <b>{Packaged cooling}</b> – <b>{Other cooling equipment}</b> = Each equipment with an equal maximum percent appears on this list; otherwise the line is blank</p>	
<p>Which do you consider to be your main cooling equipment – {EquipmentList} ?</p> <p>◆ Only equipment types with equal percentages are shown here</p> <ol style="list-style-type: none"> <li>1 {Packaged cooling}</li> <li>2 {Central air conditioner}</li> <li>3 {Room air conditioner}</li> <li>4 {Heat pump}</li> <li>5 {District chilled water}</li> <li>6 {Central chiller}</li> <li>7 {Swamp coolers}</li> <li>8 {Other cooling equipment}</li> </ol>		
<b>NEXT</b>	<p>IF (Main equipment NOT District chilled water OR DK/RF) &amp; (Main cooling equipment NOT Packaged cooling if the Main heating equipment was Packaged heating)  &amp; (Main cooling equipment NOT Heat pump if the main heating equipment was Heat pump)  &amp; (A20 [Year of construction] &lt; 1990 OR A21 [Year of construction category] ≠ 2000 to 2003 OR 2004 to 2007) → D55 [Main cooling replaced]  IF D1 [Heating] = Yes &amp; D39 [Heating ventilation types] ≠ (No ventilation OR DK)  → D56 [Cooling ventilation same as heating]  OTHERWISE → D57 [Cooling ventilation types]</p>	


<b>D55</b>	<b>Main cooling replaced</b>	<i>NWMNCL9</i>
<b>ASK</b>	IF Main cooling equipment known & NOT District chilled water & (Main cooling equipment NOT Packaged cooling if the Main heating equipment was Packaged heating) & (Main cooling equipment NOT Heat pump if the main heating equipment was Heat pump) & (A20 [Year of construction] < 1990 OR A21 [Year of construction category] ≠ 2000 to 2003)	
<b>FILL</b>	<b>{MainCoolEquip}</b> IF Main cooling equipment = Packaged cooling = “Has the packaged air conditioning unit” IF Main cooling equipment = Central air conditioner = “Has the central air conditioner” IF Main cooling equipment = Room air conditioner = “Have any of the room air conditioners” IF Main cooling equipment = Heat pump = “Has the heat pump” IF Main cooling equipment = Central chiller = “Has the central chiller” IF Main cooling equipment = Swamp coolers = “Has the swamp cooler” IF Main cooling equipment = Other cooling equipment = “Has the other type of cooling equipment”	
{MainCoolEquip} been replaced since 1990?  ◆ EXP: [If there is more than one of this equipment type and at least one has been replaced, the answer is "Yes."]  1 Yes 2 No		
<b>NEXT</b>	IF D1 [Heating] = Yes & D39 [Heating ventilation types] ≠ (No ventilation OR DK) → D56 [Cooling ventilation same as heating] OTHERWISE → D57 [Cooling ventilation types]	

<b>D56</b>	<b>Cooling ventilation same as heating</b>
<b>ASK</b>	IF D1 [Heating] = Yes & D39 [Heating ventilation types] ≠ (No ventilation OR DK) & D45 [Cooling equipment types] ≠ DK/RF
Is the ventilation system for cooling the same as the one for heating?  1 Yes 2 No	
<b>NEXT</b>	IF Yes → D58 [Reduce cooling] IF No → D57 [Cooling ventilation types]



<b>D57</b>	<b>Cooling ventilation types</b>
<b>ASK</b>	IF D56 [Cooling ventilation same as heating] = No
[F1]-HELP	
 SHOW CARD D15	
<p>Looking at this list of mechanical ventilation equipment types, please tell me which types are used with the cooling system.</p> <ol style="list-style-type: none"> <li>1 No mechanical ventilation equipment</li> <li>2 Central air handling unit(s) with outside air system and constant air volume control</li> <li>3 Central air handling unit(s) with outside air system and variable air volume (VAV) control</li> <li>4 Packaged unit(s) with outside air damper</li> <li>5 Through-the wall packaged units</li> <li>6 Stand-alone exhaust fans (or relief blowers)</li> <li>7 Dedicated outside air system</li> <li>8 Fans, including ceiling fans</li> </ol> <p>◆ PROBE for any others</p> <p>◆ ENTER all that apply</p>	
<b>NEXT</b>	➔ D58 [Reduce cooling]

<b>D58</b>	<b>Reduce cooling</b>	<i>RDCLNF9</i>
<b>ASK</b>	IF D44 [Percent cooled] > 0	
<b>FILL</b>	<b>{TimesNotInFullUse}</b> IF C20 [Open 24 hours a day] = Yes OR C24 [Total hours open per week] = 168 OR C25 [Weekly hours category] = 168 = "Are there any periods during a normal 24 hour day when there is" OTHERWISE = "When this building is not in full use, is there"	[F1]-HELP
<p>{TimesNotInFullUse} a change in the temperature setting for cooling?</p> <ol style="list-style-type: none"> <li>1 Yes</li> <li>2 No</li> </ol>		
<b>NEXT</b>	IF Yes ➔ D59 [How reduce cooling] IF No OR DK/RF: IF More than just room air conditioner as cooling equipment ➔ D60 [Economizer cycle] OTHERWISE: IF D3 [Water heating] = Yes ➔ D62 [Sources for water heating] IF D4 [Cooking] = Yes ➔ D66 [Sources for cooking] IF D4 [Manufacturing] = Yes ➔ D68 [Sources for manufacturing] IF D7 [Electricity generation capability] = Yes ➔ D70 [Energy for generation] OTHERWISE ➔ D76 [Any other sources]	

<b>D59</b>	<b>How reduce cooling</b>	<i>HWRDCL9 &amp; see below</i>
<b>ASK</b>	IF D58 [Reduce cooling] = Yes	
 SHOW CARD D10  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)" <span style="float: right;"><i>EMCS9</i></span>		
<b>NEXT</b>	IF More than just room air conditioner as cooling equipment → D60 [Economizer cycle] OTHERWISE: IF D3 [Water heating] = Yes → D62 [Sources for water heating] IF D4 [Cooking] = Yes → D66 [Sources for cooking] IF D4 [Manufacturing] = Yes → D68 [Sources for manufacturing] IF D7 [Electricity generation capability] = Yes → D70 [Energy for generation] OTHERWISE → D76 [Any other sources]	

<b>D60</b>	<b>Economizer cycle</b>	<i>ECN9</i>
<b>ASK</b>	IF D44 [Percent cooled] > 0 & Cooling equipment used other than just Room air conditioner	
<div style="text-align: right;">[F1]-HELP</div> <p>Does this building have any equipment that uses outside air for cooling, often called an "economizer cycle"?</p> 1 Yes 2 No		
<b>NEXT</b>	→ D61 [Regular HVAC maintenance]	

<b>D61</b>	<b>Regular HVAC maintenance</b>	<i>MAINT9</i>
<b>ASK</b>	IF ((D21 [Percent heated > 0 OR D22 [Heated to less than 50 degrees] = Yes) OR D44 [Percent cooled] > 0 & Heating or cooling equipment used other than just Space heater and/or Room air conditioner	
<b>FILL</b>	<b>{HeatCool}</b> IF Heating only = "heating" IF Cooling only = "cooling" IF Heating & Cooling = "heating and cooling"	
Is there any regularly scheduled maintenance and repair for the {HeatCool} system?  1 Yes 2 No		[F1]-HELP
<b>NEXT</b>	IF D3 [Water heating] = Yes → D62 [Sources for water heating] IF D4 [Cooking] = Yes → D66 [Sources for cooking] IF D4 [Manufacturing] = Yes → D68 [Sources for manufacturing] IF D7 [Electricity generation capability] = Yes → D70 [Energy for generation] OTHERWISE → D76 [Any other sources]	

<b>D62</b>	<b>Sources for water heating</b>	<i>see below</i>																																							
<b>ASK</b>	IF D3 [Water heating] = Yes																																								
<b>FILL</b>	<b>{WatrSourcesList}</b> = List of all energy sources used <b>{Electricity} – {Other3}</b> = If a source is used, it appears in this list; if not, the line is blank <b>{FuelOilType}</b> = Type or types specified in D9 [Fuel oil, diesel, or kerosene] <b>{Other1} – {Other3}</b> = Sources specified in D11 [Other energy source 1] – D13 [Other energy source 3]																																								
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<b>D63</b>	<b>Other water heating source</b>	<i>see below</i>																														
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<b>D64</b>	<b>Water heating equipment</b>	<i>WTHTEQ9</i>
<b>ASK</b>	IF D3 [Water heating] = Yes	
<p style="text-align: right;">[F1]-HELP</p> <p>Does this building have one or more centralized water heaters, one or more "point-of-use" water heaters, or both of these types [of water heaters]?</p> <ol style="list-style-type: none"> <li>1 One or more centralized water heaters</li> <li>2 One or more "point-of-use" water heaters</li> <li>3 Both types</li> </ol>		
<b>NEXT</b>	IF CBECS Activity = Lodging ➔ D65 [Instant hot water] OTHERWISE: IF D4 [Cooking] = Yes ➔ D66 [Sources for cooking] IF D4 [Manufacturing] = Yes ➔ D68 [Sources for manufacturing] IF D7 [Electricity generation capability] = Yes ➔ D70 [Energy for generation] OTHERWISE ➔ D76 [Any other sources]	

<b>D65</b>	<b>Instant hot water</b>	<i>INSTWT9</i>
<b>ASK</b>	IF D3 [Water heating] = Yes & CBECS Activity = Lodging	
<p>Is the water hot <u>as soon as</u> you turn on the faucet?</p> <ol style="list-style-type: none"> <li>1 Yes</li> <li>2 No</li> </ol>		
<b>NEXT</b>	IF D4 [Cooking] = Yes ➔ D66 [Sources for cooking] IF D4 [Manufacturing] = Yes ➔ D68 [Sources for manufacturing] IF D7 [Electricity generation capability] = Yes ➔ D70 [Energy for generation] OTHERWISE ➔ D76 [Any other sources]	


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<b>D69</b>	<b>Other manufacturing source</b>	<i>see below</i>																														
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<b>NEXT</b>	<p>IF D7 [Electricity generation capability] = Yes → D70 [Energy for generation]  IF D7 [Electricity generation capability] ≠ Yes → D76 [Any other sources]</p>																															

<b>D70</b>	<b>Energy for generation</b>	<i>GENR9</i>
<b>ASK</b>	IF D7 [Electricity generation capability] = Yes	
<p>Was any energy actually <u>used</u> for generating electricity in this building during 2007, even if just a small amount was used for emergency backup or for testing generators?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → D71 [Sources for electricity generation] IF No OR DK/RF → D76 [Any other sources]	

<b>D71</b>	<b>Sources for electricity generation</b>	<i>see below</i>																														
<b>ASK</b>	IF D70 [Energy for generation] = Yes																															
<b>FILL</b>	{Other1} – {Other3} = Sources specified in D11 [Other energy source 1] – D13 [Other energy source 3]																															
<p> SHOW CARD D16</p> <p>Looking at this first list, please tell me which energy sources were used for electricity generation.</p> <ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul> <table style="width: 100%; border: none;"> <tr> <td style="width: 15%;">12</td> <td style="width: 70%;">Natural gas</td> <td style="width: 15%; text-align: right;"><i>NGGENR9</i></td> </tr> <tr> <td>13</td> <td>Fuel oil/Diesel/Kerosene</td> <td style="text-align: right;"><i>FKGENR9</i></td> </tr> <tr> <td>14</td> <td>Bottled gas/LPG/Propane</td> <td style="text-align: right;"><i>PRGENR9</i></td> </tr> <tr> <td>18</td> <td>Wood</td> <td style="text-align: right;"><i>WOGENR9</i></td> </tr> <tr> <td>19</td> <td>Coal</td> <td style="text-align: right;"><i>COGENR9</i></td> </tr> <tr> <td>20</td> <td>Solar</td> <td style="text-align: right;"><i>SOGENR9</i></td> </tr> <tr> <td>21</td> <td>{Other1}</td> <td style="text-align: right;"><i>OTGENR9</i></td> </tr> <tr> <td>22</td> <td>{Other2}</td> <td style="text-align: right;"><i>OTGENR9</i></td> </tr> <tr> <td>23</td> <td>{Other3}</td> <td style="text-align: right;"><i>OTGENR9</i></td> </tr> <tr> <td>24</td> <td>Some other energy source</td> <td style="text-align: right;"><i>OTGENR9</i></td> </tr> </table>			12	Natural gas	<i>NGGENR9</i>	13	Fuel oil/Diesel/Kerosene	<i>FKGENR9</i>	14	Bottled gas/LPG/Propane	<i>PRGENR9</i>	18	Wood	<i>WOGENR9</i>	19	Coal	<i>COGENR9</i>	20	Solar	<i>SOGENR9</i>	21	{Other1}	<i>OTGENR9</i>	22	{Other2}	<i>OTGENR9</i>	23	{Other3}	<i>OTGENR9</i>	24	Some other energy source	<i>OTGENR9</i>
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<b>NEXT</b>	→ D72 [Generation technologies]																															



<b>D72</b>	<b>Generation technologies</b>	<i>see below</i>								
<b>ASK</b>	IF D70 [Energy for generation] = Yes									
<p> SHOW CARD D16</p> <p>Looking again at this card, were any of the technologies on this second list used for generating electricity?</p> <ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul> <table style="width: 100%; border: none;"> <tr> <td style="width: 80%;">1 Photovoltaic cells</td> <td style="text-align: right;"><i>PHOTVL9</i></td> </tr> <tr> <td>2 Fuel cells</td> <td style="text-align: right;"><i>FUELCL9</i></td> </tr> <tr> <td>3 Microturbines</td> <td style="text-align: right;"><i>MCROT9</i></td> </tr> <tr> <td>4 IF VOLUNTEERED: None of these</td> <td></td> </tr> </table>			1 Photovoltaic cells	<i>PHOTVL9</i>	2 Fuel cells	<i>FUELCL9</i>	3 Microturbines	<i>MCROT9</i>	4 IF VOLUNTEERED: None of these	
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2 Fuel cells	<i>FUELCL9</i>									
3 Microturbines	<i>MCROT9</i>									
4 IF VOLUNTEERED: None of these										
<b>NEXT</b>	➔ D73 [Use of generated electricity]									

<b>D73</b>	<b>Use of generated electricity</b>	<i>GENUSE9</i>
<b>ASK</b>	IF D70 [Energy for generation] = Yes	
[F1]-HELP		
<p>During 2007, was the electricity generated in this building used: primarily for emergency back-up, during periods of high electricity demand, or whenever electricity was used?</p> <ul style="list-style-type: none"> <li>1 Primarily for emergency back-up</li> <li>2 During periods of high electricity demand</li> <li>3 Whenever electricity was used</li> </ul>		
<b>NEXT</b>	IF Primarily for emergency back-up OR DK/RF ➔ D76 [Any other sources] IF During periods of high electricity demand OR Whenever electricity was used ➔ D74 [Cogeneration system]	

<b>D74</b>	<b>Cogeneration system</b>	<i>COGEN9</i>
<b>ASK</b>	IF D73 [Use of generated electricity] = During periods of high electricity demand OR Whenever electricity was used	
[F1]-HELP		
<p>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 <u>is used</u> in this or another building for space heating, water heating, or industrial processes?</p> <ul style="list-style-type: none"> <li>1 Yes</li> <li>2 No</li> </ul>		
<b>NEXT</b>	➔ D75 [Deliver electricity to grid]	

<b>D75</b>	<b>Deliver electricity to grid</b>	<i>GRID9</i>
<b>ASK</b>	IF D73 [Use of generated electricity] = During periods of high electricity demand OR Whenever electricity was used	
<p>Is the generation system interconnected with an electric utility so that it is able to deliver or sell electricity <u>to the grid</u>?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	➔ D76 [Any other sources]	

<b>D76</b>	<b>Any other sources</b>	
<b>ASK</b>	IF D8 [Energy sources used] was answered	
<b>FILL</b>	<b>{SourcesList}</b> = List of all energy sources used	
<p>As a final check, were there any energy sources used in this building other than {Sources List} ?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	<p>IF Yes ➔ D77 [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 ➔ D80 [How purchase electricity] IF Natural gas used ➔ D82 [How purchase natural gas] IF Bottled gas used ➔ D83 [Bottled gas amount] IF Wood used ➔ D85 [Amount wood burned] OTHERWISE ➔ E1 [Section E Routing] IF No ➔ D79 [{Energy source} use]</p>	

<b>D77</b>	<b>Other sources</b>	<i>see below</i>																																	
<b>ASK</b>	IF D76 [Any other sources] =Yes																																		
<b>FILL</b>	<b>{Electricity} – {Solar}</b> = If a source has NOT been mentioned, it appears in this list; if it has, the line is blank																																		
<p>What other sources were used?</p> <ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul> <table style="width: 100%; border: none;"> <tr> <td style="width: 10%;">11</td> <td style="width: 70%;">{Electricity}</td> <td style="width: 20%; text-align: right;"><i>ELUSED9</i></td> </tr> <tr> <td>12</td> <td>{Natural gas}</td> <td style="text-align: right;"><i>NGUSED9</i></td> </tr> <tr> <td>13</td> <td>{Fuel/Diesel/Kerosene}</td> <td style="text-align: right;"><i>FKUSED9</i></td> </tr> <tr> <td>14</td> <td>{Bottled gas}</td> <td style="text-align: right;"><i>PRUSED9</i></td> </tr> <tr> <td>15</td> <td>{District steam}</td> <td style="text-align: right;"><i>STUSED9</i></td> </tr> <tr> <td>16</td> <td>{District hot water}</td> <td style="text-align: right;"><i>HWUSED9</i></td> </tr> <tr> <td>17</td> <td>{District chilled water}</td> <td style="text-align: right;"><i>CWUSED9</i></td> </tr> <tr> <td>18</td> <td>{Wood}</td> <td style="text-align: right;"><i>WOUSED9</i></td> </tr> <tr> <td>19</td> <td>{Coal}</td> <td style="text-align: right;"><i>COUSED9</i></td> </tr> <tr> <td>20</td> <td>{Solar}</td> <td style="text-align: right;"><i>SOUSED9</i></td> </tr> <tr> <td>24</td> <td>Other</td> <td style="text-align: right;"><i>OTUSED9</i></td> </tr> </table>			11	{Electricity}	<i>ELUSED9</i>	12	{Natural gas}	<i>NGUSED9</i>	13	{Fuel/Diesel/Kerosene}	<i>FKUSED9</i>	14	{Bottled gas}	<i>PRUSED9</i>	15	{District steam}	<i>STUSED9</i>	16	{District hot water}	<i>HWUSED9</i>	17	{District chilled water}	<i>CWUSED9</i>	18	{Wood}	<i>WOUSED9</i>	19	{Coal}	<i>COUSED9</i>	20	{Solar}	<i>SOUSED9</i>	24	Other	<i>OTUSED9</i>
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<b>NEXT</b>	➔ D78 [{Energy source} use]																																		

<b>D78</b>	<b>{Energy source} use</b> <i>see below where {XX} is the energy source abbreviation</i>																
<b>ASK</b>	For each source selected in D77 [Other sources]																
<b>FILL</b>	<p><b>{EnergySource}</b>  IF Electricity IN D77 [Other sources] = “electricity”  IF Natural gas IN D77 [Other sources] = “natural gas”  IF Fuel oil/Diesel/Kerosene IN D77 [Other sources] = “fuel oil/diesel/kerosene”  IF Bottled gas IN D77 [Other sources] = “bottled gas”  IF District steam IN D77 [Other sources] = “district steam”  IF District hot water IN D77 [Other sources] = “district hot water”  IF Wood IN D77 [Other sources] = “wood”  IF Coal IN D77 [Other sources] = “coal”  IF Solar IN D77 [Other sources] = “solar”  IF Other IN D77 [Other sources] = “other fuel”</p> <p><b>{Cooling}</b>  Does not appear as a choice for Wood use, Coal use, OR Solar use</p> <p><b>{Electricity generation}</b>  Does not appear as a choice for Electricity use, District steam use, OR District hot water use</p>																
<p>What was the {EnergySource} used for?</p> <table border="0"> <tr> <td>1 Heating</td> <td>{XX}HT19/HT29</td> </tr> <tr> <td>2 {Cooling}</td> <td>{XX}COOL9</td> </tr> <tr> <td>3 Water heating</td> <td>{XX}WATR9</td> </tr> <tr> <td>4 Cooking</td> <td>{XX}COOK9</td> </tr> <tr> <td>5 Manufacturing</td> <td>{XX}MANU9</td> </tr> <tr> <td>6 {Electricity generation}</td> <td>{XX}GENR9</td> </tr> <tr> <td>7 Some other use</td> <td>{XX}OTH9</td> </tr> <tr> <td>8 Incorrectly recorded--source not used</td> <td></td> </tr> </table>		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	
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<b>NEXT</b>	<p>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 → D80 [How purchase electricity]  IF Natural gas used → D82 [How purchase natural gas]  IF Bottled gas used → D83 [Bottled gas amount]  IF Wood used → D85 [Amount wood burned]  OTHERWISE → E1 [Section E Routing]  IF No → D79 [{Energy source} use]</p>																


<b>D79</b>	<b>{Energy source} use</b> <i>see below where {XX} is the energy source abbreviation</i>																
<b>ASK</b>	For every energy source given in D8 [Energy sources used] that was not assigned an end use (other than electricity or district chilled water)																
<b>FILL</b>	<p><b>{EnergySource}</b>  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")</p> <p><b>{Cooling}</b>  Does not appear as a choice for Wood use, Coal use, OR Solar use</p> <p><b>{Electricity generation}</b>  Does not appear as a choice for District steam use OR District hot water use</p>																
<p>I have recorded that {EnergySource} was used in this building but not how it was used. What was the {EnergySource} used for?</p> <table> <tr> <td>1 Heating</td> <td>{XX}HT19/HT29</td> </tr> <tr> <td>2 {Cooling}</td> <td>{XX}COOL9</td> </tr> <tr> <td>3 Water heating</td> <td>{XX}WATR9</td> </tr> <tr> <td>4 Cooking</td> <td>{XX}COOK9</td> </tr> <tr> <td>5 Manufacturing</td> <td>{XX}MANU9</td> </tr> <tr> <td>6 {Electricity generation}</td> <td>{XX}GENR9</td> </tr> <tr> <td>7 Some other use</td> <td>{XX}OTH9</td> </tr> <tr> <td>8 Incorrectly recorded--source not used</td> <td></td> </tr> </table>		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	
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<b>NEXT</b>	IF Electricity used → D80 [How purchase electricity] IF Natural gas used → D82 [How purchase natural gas] IF Bottled gas used → D83 [Bottled gas amount] IF Wood used → D85 [Amount wood burned] OTHERWISE → E1 [Section E Routing]																

**NOTE ON USES OF ENERGY:**

In addition to the end uses given in D1 [Heating], D2 [Cooling], D3 [Water heating], D4 [Cooking], and D4 [Manufacturing], it is now possible that an end use was added in D78 [{Energy source} use] OR D79 [{Energy source} use]. For the rest of this questionnaire, end uses will just simply be stated, for example: "IF Cooking" would mean: IF D4 [Cooking] =Yes OR Cooking was added as an end use in D78 [{Energy source} use] OR in D63 [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 D4 [Manufacturing] = Yes OR D6 [Any energy used] = Yes, some energy was used OR DK/RF


<b>D80</b>	<b>How purchase electricity</b>	<i>see below</i>								
<b>ASK</b>	IF Electricity used									
 SHOW CARD D17		[F1]-HELP								
<p>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 building.</p> <ul style="list-style-type: none"> <li>◆ EXP: [If electricity is bought from the city, that is considered to be the local utility.]</li> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul> <table style="width: 100%; border: none;"> <tr> <td style="width: 80%;">1 Bought from the local utility</td> <td style="text-align: right;"><i>ELLOCUT9</i></td> </tr> <tr> <td>2 Contracted or bought from an independent power producer or non-local utility</td> <td style="text-align: right;"><i>ELNONLU9</i></td> </tr> <tr> <td>3 Bought from someone else, such as a broker</td> <td style="text-align: right;"><i>ELOTSRC9</i></td> </tr> <tr> <td>4 IF VOLUNTEERED: Produced by a central plant on campus</td> <td style="text-align: right;"><i>ELCPLT9</i></td> </tr> </table>			1 Bought from the local utility	<i>ELLOCUT9</i>	2 Contracted or bought from an independent power producer or non-local utility	<i>ELNONLU9</i>	3 Bought from someone else, such as a broker	<i>ELOTSRC9</i>	4 IF VOLUNTEERED: Produced by a central plant on campus	<i>ELCPLT9</i>
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4 IF VOLUNTEERED: Produced by a central plant on campus	<i>ELCPLT9</i>									
<b>NEXT</b>	IF more than one selected, including Bought from the local utility → D81 [Percent from local utility] OTHERWISE: IF Natural gas used → D82 [How purchase natural gas] IF Bottled gas used → D83 [Bottled gas amount] IF Wood used → D85 [Amount wood burned] OTHERWISE → E1 [Section E Routing]									

<b>D81</b>	<b>Percent from local utility</b>	<i>ELLUPCT9</i>
<b>ASK</b>	IF More than one response selected in D80 [How purchase electricity], including Bought from the local utility	
About what percent of the electricity would you estimate was obtained from the local utility?		
<b>RANGE</b>	1 to 100	
<b>NEXT</b>	IF Natural gas used → D82 [How purchase natural gas] IF Bottled gas used → D83 [Bottled gas amount] IF Wood used → D85 [Amount wood burned] OTHERWISE → E1 [Section E Routing]	

<b>D82</b>	<b>How purchase natural gas</b>	<i>NGSRC9 &amp; see below</i>									
<b>ASK</b>	IF Natural gas used										
<b>FILL</b>	<p><b>{Introduction}</b>  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."</p>										
[F1]-HELP											
<p>{Introduction} Was the natural gas in this building bought from the local utility, bought from someone else, such as a non-utility or a broker, or bought both of these ways?</p>											
<table style="width: 100%; border: none;"> <tr> <td style="width: 10%; vertical-align: top;">1</td> <td style="width: 70%;">Bought from the local utility</td> <td style="width: 20%; text-align: right;"><i>NGLOCUT9</i></td> </tr> <tr> <td>2</td> <td>Bought from someone else, such as a non-utility or a broker</td> <td style="text-align: right;"><i>NGOTSRC9</i></td> </tr> <tr> <td>3</td> <td>Bought both ways</td> <td></td> </tr> </table>			1	Bought from the local utility	<i>NGLOCUT9</i>	2	Bought from someone else, such as a non-utility or a broker	<i>NGOTSRC9</i>	3	Bought both ways	
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2	Bought from someone else, such as a non-utility or a broker	<i>NGOTSRC9</i>									
3	Bought both ways										
<b>NEXT</b>	IF Bottled gas used → D83 [Bottled gas amount] IF Wood used → D85 [Amount wood burned] OTHERWISE → E1 [Section E Routing]										

<b>D83</b>	<b>Bottled gas amount</b>	<i>PRAMTC9</i>												
<b>ASK</b>	IF Bottled gas used													
 SHOW CARD D18														
<p>You mentioned that bottled gas is used in this building. Looking at this list, which range best describes the amount of bottled gas used in 2007?</p>														
<table style="width: 100%; border: none;"> <tr> <td style="width: 10%; vertical-align: top;">1</td> <td style="width: 70%;">Less than 100</td> <td style="width: 20%;"></td> </tr> <tr> <td>2</td> <td>100 to 499</td> <td></td> </tr> <tr> <td>3</td> <td>500 to 999</td> <td></td> </tr> <tr> <td>4</td> <td>1,000 or more</td> <td></td> </tr> </table>			1	Less than 100		2	100 to 499		3	500 to 999		4	1,000 or more	
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2	100 to 499													
3	500 to 999													
4	1,000 or more													
<b>NEXT</b>	IF Amount given → D84 [Bottled gas units] IF DK/RF: IF Wood used → D85 [Amount wood burned] OTHERWISE → E1 [Section E Routing]													


<b>D84</b>	<b>Bottled gas units</b>	<i>PRUNIT9</i>
<b>ASK</b>	IF D83 [Bottled gas amount] was answered	
	<p>◆ VERIFY if volunteered in previous question</p> <p>Is that in gallons or pounds?</p> <p>1 Gallons 2 Pounds</p>	
<b>NEXT</b>	IF Wood used → D85 [Amount wood burned] OTHERWISE → E1 [Section E Routing]	

<b>D85</b>	<b>Amount wood burned</b>	<i>WOAMT9</i>
<b>ASK</b>	IF Wood used	
	<p> SHOW CARD D19</p> <p>Looking at this card, which range best describes how much wood has been burned in this building in 2007?</p> <p>1 Less than 1 cord 2 1 to 9 cords 3 10 to 20 cords 4 More than 20 cords</p>	
<b>NEXT</b>	→ D86 [How obtain wood]	

<b>D86</b>	<b>How obtain wood</b>	<i>WOSRC9</i>
<b>ASK</b>	IF Wood used	
	<p>Did you purchase all the wood, obtain it all free of charge, or was some purchased and some free?</p> <p>1 Purchased all the wood 2 Obtained it all free of charge 3 Some purchased and some free</p>	
<b>NEXT</b>	IF Purchased all the wood OR Some purchased and some free → D87 [Expenditures for wood] IF Obtained it all free of charge OR DK/RF → E1 [Section E Routing]	




<b>D87</b>	<b>Expenditures for wood</b>	<i>WOEXP9</i>
<b>ASK</b>	IF D86 [How obtain wood] = Purchase all the wood OR Some purchase and some free	
<p>Please give me an estimate of the total amount spent for the wood used in 2007.</p> <ul style="list-style-type: none"> <li>◆ Do not enter cents</li> <li>◆ VERIFY number digit by digit</li> </ul>		
<b>RANGE</b>	1 to 99,999	
<b>NEXT</b>	IF DK/RF → D88 [Wood expenditures category] IF Amount given → E1 [Section E Routing]	

<b>D88</b>	<b>Wood expenditures category</b>	<i>WOEXPC9</i>
<b>ASK</b>	IF D87 [Expenditures for wood] = DK/RF	
<p> SHOW CARD D20</p> <p>Looking at this list, which range best describes the total amount spent for the wood used in 2007?</p> <ul style="list-style-type: none"> <li>1 \$1 to \$100</li> <li>2 \$101 to \$500</li> <li>3 \$501 to \$1,000</li> <li>4 \$1,001 to \$2,000</li> <li>5 Over \$2,000</li> </ul>		
<b>NEXT</b>	→ E1 [Section E Routing]	

## SECTION E. MISCELLANEOUS EQUIPMENT

<b>E1</b>	<b>Section E Routing</b>
<b>NEXT</b>	<p>IF Cooking → E2 [Commercial food prep]            IF Water heating → E5 [Large amounts of hot water]            IF CBECs Activity = Lodging; Inpatient health care; OR Nursing → E6 [Laundry onsite]            IF B5 [Office type] = Doctor's or dentist's office OR Mixed-use office                OR B15 [Health care type] = Doctor's or dentist's office; Clinic or other outpatient health care;                Outpatient rehabilitation center; Other type of health care → E7 [Medical equipment]            IF CBECs Activity = Education; Laboratory; Office; Outpatient health care; Public assembly; Retail;                OR Service → E8 [Laboratory equipment]            IF CBECs Activity = Nonrefrigerated OR Refrigerated warehouse → E9 [Machine equipment]            IF CBECs Activity = Enclosed mall → E13 [Indoor ice rink]            OTHERWISE:                IF Electricity NOT used → E17 [Verify no electricity]                OTHERWISE → E18 [Refrigeration]</p>

<b>E2</b>	<b>Commercial food prep</b>	<i>FDRM9</i>
<b>ASK</b>	IF Cooking	
	<p>Now I have some questions about uses of space and equipment in this building.</p> <p>Is any space used for institutional or commercial food preparation and serving, such as kitchens, restaurants, snack bars, cafeterias, steam tables, or warming areas?</p> <p>Do not include lounge areas with only a microwave or other small food preparation equipment or vending machines.</p> <p>1 Yes 2 No</p>	
<b>NEXT</b>	<p>IF Yes → E3 [Type of food area]            IF No OR DK/RF:            IF Water heating → E5 [Large amounts of hot water]            IF CBECs Activity = Lodging; Inpatient health care; OR Nursing → E6 [Laundry onsite]            IF B5 [Office type] = Doctor's or dentist's office OR Mixed-use office                OR B15 [Health care type] = Doctor's or dentist's office; Clinic or other outpatient health care;                Outpatient rehabilitation center; Other type of health care → E7 [Medical equipment]            IF CBECs Activity = Education; Laboratory; Office; Outpatient health care; Public assembly; Retail;                OR Service → E8 [Laboratory equipment]            IF CBECs Activity = Nonrefrigerated OR Refrigerated warehouse → E9 [Machine equipment]            IF CBECs Activity = Enclosed mall → E13 [Indoor ice rink]            OTHERWISE:                IF Electricity NOT used → E17 [Verify no electricity]                OTHERWISE → E18 [Refrigeration]</p>	

<b>E3</b>	<b>Type of food area</b>	<i>see below</i>												
<b>ASK</b>	IF E2 [Commercial food prep] = Yes													
<p> SHOW CARD E1</p> <p>Which of these types best describes the food preparation or serving areas in this building?</p> <ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul> <table style="width: 100%; border: none;"> <tr> <td style="width: 70%;">1 Snack bar/Concession stand</td> <td style="width: 30%; text-align: right;">SNACK9</td> </tr> <tr> <td>2 Fast food/Small restaurant</td> <td style="text-align: right;">FASTFD9</td> </tr> <tr> <td>3 Cafeteria/Large restaurant</td> <td style="text-align: right;">CAF9</td> </tr> <tr> <td>4 Food preparation area</td> <td style="text-align: right;">FDPREP9</td> </tr> <tr> <td>5 Small kitchen area</td> <td style="text-align: right;">KITCHN9</td> </tr> <tr> <td>6 Some other type of food preparation area</td> <td style="text-align: right;">OTFDRM9</td> </tr> </table>			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
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<b>NEXT</b>	IF Some other type selected → E4 [Other food area] OTHERWISE: IF Water heating → E5 [Large amounts of hot water] IF CBECs Activity = Lodging; Inpatient health care; OR Nursing → E6 [Laundry onsite] IF B5 [Office type] = Doctor's or dentist's office OR Mixed-use office OR B15 [Health care type] = Doctor's or dentist's office; Clinic or other outpatient health care; Outpatient rehabilitation center; Other type of health care → E7 [Medical equipment] IF CBECs Activity = Education; Laboratory; Office; Outpatient health care; Public assembly; Retail; OR Service → E8 [Laboratory equipment] IF CBECs Activity = Nonrefrigerated OR Refrigerated warehouse → E9 [Machine equipment] IF CBECs Activity = Enclosed mall → E13 [Indoor ice rink] OTHERWISE: IF Electricity NOT used → E17 [Verify no electricity] OTHERWISE → E18 [Refrigeration]													

<b>E4</b>	<b>Other food area</b>
<b>ASK</b>	IF Some other type IN E3 [Type of food area]
Please describe this other type of food preparation or serving area. <ul style="list-style-type: none"> <li>◆ RECORD in open box</li> </ul>	
<b>NEXT</b>	IF Water heating → E5 [Large amounts of hot water] IF CBECs Activity = Lodging; Inpatient health care; OR Nursing → E6 [Laundry onsite] IF B5 [Office type] = Doctor's or dentist's office OR B15 [Health care type] = Doctor's or dentist's office; Clinic or other outpatient health care; Outpatient rehabilitation center → E7 [Medical equipment] IF CBECs Activity = Education; Laboratory; Office; Outpatient health care; Public assembly; Retail; OR Service → E8 [Laboratory equipment] IF CBECs Activity = Nonrefrigerated OR Refrigerated warehouse → E9 [Machine equipment] IF CBECs Activity = Enclosed mall → E13 [Indoor ice rink] OTHERWISE: IF Electricity NOT used → E17 [Verify no electricity] OTHERWISE → E18 [Refrigeration]

<b>E5</b>	<b>Large amounts of hot water</b>	<i>HWTRM9</i>
<b>ASK</b>	IF Water heating	
<b>FILL</b>	<b>{Introduction}</b> 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 building." OTHERWISE = BLANK	
		[F1]-HELP
	{Introduction}  Is any space in this building 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	
<b>NEXT</b>	IF CBECS Activity = Lodging; Inpatient health care; OR Nursing → E6 [Laundry onsite] IF B5 [Office type] = Doctor's or dentist's office OR Mixed-use office OR B15 [Health care type] = Doctor's or dentist's office; Clinic or other outpatient health care; Outpatient rehabilitation center; Other type of health care → E7 [Medical equipment] IF CBECS Activity = Education; Laboratory; Office; Outpatient health care; Public assembly; Retail; OR Service → E8 [Laboratory equipment] IF CBECS Activity = Nonrefrigerated OR Refrigerated warehouse → E9 [Machine equipment] IF CBECS Activity = Enclosed mall → E13 [Indoor ice rink] OTHERWISE: IF Electricity NOT used → E17 [Verify no electricity] OTHERWISE → E18 [Refrigeration]	

<b>E6</b>	<b>Laundry onsite</b>	<i>LAUNDR9</i>
<b>ASK</b>	IF Any energy used & CBECS Activity = Lodging; Inpatient health care; OR Nursing	
	Are the linens primarily laundered in this building, in another building on-site, or by an off-site laundry service?  1 In this building 2 In another building on-site 3 By an off-site laundry service	
<b>NEXT</b>	IF B15 [Health care type] = Inpatient rehabilitation center → E7 [Medical equipment] IF CBECS Activity = Inpatient health care → E8 [Laboratory equipment] IF (CBECS Activity = Lodging → E10 [Indoor pool] OTHERWISE: IF Electricity NOT used → E17 [Verify no electricity] OTHERWISE → E18 [Refrigeration]	

<b>E7</b>	<b>Medical equipment</b>	<i>MEDEQP9</i>
<b>ASK</b>	IF Any energy used & (B5 [Office type] = Doctor's or dentist's office OR Mixed-use office OR B14 [Health care type] = Doctor's or dentist's office; Clinic or other outpatient health care; Outpatient rehabilitation center; Inpatient rehabilitation center; OR Other type of health care	
		[F1]-HELP
Does this building have any equipment for medical diagnosis or treatment, such as X-ray, CAT scan, MRI, dialysis, or ultrasound machines?		
1 Yes 2 No		
<b>NEXT</b>	IF CBECS Activity = Outpatient health care → E8 [Laboratory equipment] IF B15 [Health care type] = Inpatient rehabilitation center → E10 [Indoor pool] IF CBECS Activity = Office → E14 [Sewer flow metered] OTHERWISE: IF Electricity NOT used → E17 [Verify no electricity] OTHERWISE → E18 [Refrigeration]	

<b>E8</b>	<b>Laboratory equipment</b>	<i>LABEQP9</i>
<b>ASK</b>	IF Any energy used & CBECS Activity = Education; Inpatient health care; Laboratory; Office; Outpatient health care; Public assembly; Retail; OR Service	
Does this building 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		
<b>NEXT</b>	IF CBECS Activity = Education; Laboratory; Retail; OR Service → E9 [Machine equipment] IF CBECS Activity = Public Assembly OR B15 [Health care type] = Outpatient rehabilitation center OR Inpatient rehabilitation center → E10 [Indoor pool] IF CBECS Activity = Office → E14 [Sewer flow metered] OTHERWISE: IF Electricity NOT used → E17 [Verify no electricity] OTHERWISE → E18 [Refrigeration]	

<b>E9</b>	<b>Machine equipment</b>	<i>MCHEQP9</i>
<b>ASK</b>	IF Any energy used & CBECS Activity = Education; Laboratory; Nonrefrigerated warehouse; Refrigerated warehouse; Retail OR Service	
<p>Does this building have any machine or shop equipment such as woodworking tools, metalworking tools, arc welders, or any other types of power tools?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF CBECS Activity = Education → E10 [Indoor pool] IF CBECS Activity = Laboratory → E14 [Sewer flow metered] OTHERWISE: IF Electricity NOT used → E17 [Verify no electricity] OTHERWISE → E18 [Refrigeration]	

<b>E10</b>	<b>Indoor pool</b>	<i>POOL9</i>
<b>ASK</b>	IF Any energy used & (CBECS Activity = Education; Lodging; OR Public Assembly OR B15 [Health care type] = Outpatient rehabilitation center OR Inpatient rehabilitation center)	
<p>Is there an indoor swimming pool in this building?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → E11 [Heated pool] IF No OR DK/RF: IF CBECS Activity = Education; Lodging; OR Public assembly → E13 [Indoor ice rink] IF Electricity NOT used → E17 [Verify no electricity] OTHERWISE → E18 [Refrigeration]	

<b>E11</b>	<b>Heated pool</b>	<i>HTPOOL9</i>
<b>ASK</b>	IF E10 [Indoor pool] =Yes	
<p>Is it a heated pool?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → E12 [Pool energy source] IF No OR DK/RF: IF CBECS Activity = Education; Lodging; OR Public assembly → E13 [Indoor ice rink] IF Electricity NOT used → E17 [Verify no electricity] OTHERWISE → E18 [Refrigeration]	

<b>E12</b>	<b>Pool energy source</b>	<i>PLSRC9</i>
<b>ASK</b>	IF E10 [Indoor pool] =Yes	
<p>What energy source is used to heat the pool?</p> <p>◆ Read choices if necessary</p> <ol style="list-style-type: none"> <li>1 Electricity</li> <li>2 Natural gas</li> <li>3 Fuel oil/Diesel/Kerosene</li> <li>4 Bottled gas/LPG/Propane</li> <li>5 Solar</li> <li>6 Some other energy source</li> </ol>		
<b>NEXT</b>	IF CBECS Activity = Education; Lodging; OR Public assembly → E13 [Indoor ice rink] OTHERWISE → E14 [Sewer flow metered]	

<b>E13</b>	<b>Indoor ice rink</b>	<i>RINK9</i>
<b>ASK</b>	IF Any energy used & CBECS Activity = Education; Lodging; Enclosed mall OR Public assembly	
<p>Does this building contain an indoor ice skating rink?</p> <ol style="list-style-type: none"> <li>1 Yes</li> <li>2 No</li> </ol>		
<b>NEXT</b>	IF Enclosed mall & Electricity NOT used → E17 [Verify no electricity] IF Enclosed mall & Electricity used → E18 [Refrigeration] OTHERWISE → E14 [Sewer flow metered]	

<b>E14</b>	<b>Sewer flow metered</b>	<i>SWRMET9</i>
<b>ASK</b>	IF Any energy used & CBECS Activity = Education; Food sales; Food service; Inpatient health care; Laboratory; Lodging; Nursing; Office; Outpatient health care; Public assembly; Public order and safety; OR Religious worship	
<p>Is the sewer flow metered for this building?</p> <ol style="list-style-type: none"> <li>1 Yes</li> <li>2 No</li> </ol>		
<b>NEXT</b>	→ E15 [Sterilizers or autoclaves]	


<b>E15</b>	<b>Sterilizers or autoclaves</b>	<i>STRLZR9</i>
<b>ASK</b>	IF Any energy used & CBECS Activity = Education; Food sales; Food service; Inpatient health care; Laboratory; Lodging; Nursing; Office; Outpatient health care; Public assembly; Public order and safety; OR Religious worship	
Does this building use any sterilizers or autoclaves?		
1 Yes 2 No		
<b>NEXT</b>	➔ E16 [Irrigation system]	

<b>E16</b>	<b>Irrigation system</b>	<i>IRRIGAT9</i>
<b>ASK</b>	IF Any energy used & CBECS Activity = Education; Food sales; Food service; Inpatient health care; Laboratory; Lodging; Nursing; Office; Outpatient health care; Public assembly; Public order and safety; OR Religious worship	
Does this building have a landscape irrigation system?		
1 Yes 2 No		
<b>NEXT</b>	IF Electricity NOT used ➔ E17 [Verify no electricity] OTHERWISE ➔ E18 [Refrigeration]	

<b>E17</b>	<b>Verify no electricity</b>	<i>NOELEC9</i>
<b>ASK</b>	IF Any energy used & Electricity not used & D70 [Energy for generation] ≠ Yes	
I do not have electricity recorded as being used in this building. Is it true that there is not any electricity used in this building?		
1 True, electricity is <u>not</u> used 2 False, electricity is used		
<b>NEXT</b>	IF True, electricity is not used OR DK/RF ➔ E63 [Window glass type] IF False, electricity is used ➔ E18 [Refrigeration]	



<b>E18</b>	<b>Refrigeration</b>	<i>RFGEQP9</i>
<b>ASK</b>	IF Electricity used OR D70 [Energy for generation] = Yes OR E17 [Verify no electricity] = False, electricity is used	
[F1]-HELP		
Is there any refrigeration or freezer equipment used in this building, including vending machines?		
1 Yes 2 No		
<b>NEXT</b>	IF Yes → E19 [Refrigeration types] IF No OR DK/RF → E27 [Computers used]	

<b>E19</b>	<b>Refrigeration types</b>	<i>see below</i>														
<b>ASK</b>	IF E18 [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 building.																
◆ PROBE for any others ◆ ENTER all that apply																
<table style="width: 100%; border: none;"> <tr> <td style="width: 80%;">1 Walk-in refrigeration/freezer units</td> <td style="text-align: right;"><i>RFGW19</i></td> </tr> <tr> <td>2 Open refrigerated/freezer cases or cabinets</td> <td style="text-align: right;"><i>RFGOP9</i></td> </tr> <tr> <td>3 Residential-type refrigerators/freezers</td> <td style="text-align: right;"><i>RFGL9</i></td> </tr> <tr> <td>4 Closed refrigerated/freezer cases or cabinets</td> <td style="text-align: right;"><i>RFGRES9</i></td> </tr> <tr> <td>5 Refrigerated vending machines</td> <td style="text-align: right;"><i>RFVEN9</i></td> </tr> <tr> <td>6 Commercial ice makers</td> <td style="text-align: right;"><i>RFICE9</i></td> </tr> <tr> <td>7 Large cold storage areas</td> <td style="text-align: right;"><i>RFSTO9</i></td> </tr> </table>			1 Walk-in refrigeration/freezer units	<i>RFGW19</i>	2 Open refrigerated/freezer cases or cabinets	<i>RFGOP9</i>	3 Residential-type refrigerators/freezers	<i>RFGL9</i>	4 Closed refrigerated/freezer cases or cabinets	<i>RFGRES9</i>	5 Refrigerated vending machines	<i>RFVEN9</i>	6 Commercial ice makers	<i>RFICE9</i>	7 Large cold storage areas	<i>RFSTO9</i>
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7 Large cold storage areas	<i>RFSTO9</i>															
<b>NEXT</b>	IF Walk-in units selected → E20 [Number walk-in units] IF Open cases or cabinets selected → E21 [Number open cases] IF Residential-type selected → E22 [Number residential refrigerators] IF Closed cases or cabinets selected → E23 [Number closed cases] IF Refrigerated vending machines selected → E24 [Number vending] IF Commercial ice makers selected → E25 [Number ice makers] IF Large cold storage areas selected → E26 [Percent cold storage] IF DK/RF → E27 [Computers used]															

<b>E20</b>	<b>Number walk-in units</b>	<i>RFGWIN9</i>
<b>ASK</b>	IF Walk-in units IN E19 [Refrigeration types]	
<p>How many walk-in refrigeration or freezer units are there?</p> <p>◆ PROBE for estimate if DK</p>		
<b>RANGE</b>	1 to 999	
<b>NEXT</b>	IF Open cases or cabinets IN E19 [Refrigeration types] → E21 [Number open cases] IF Residential-type IN E19 [Refrigeration types] → E22 [Number residential refrigerators] IF Closed cases or cabinets IN E19 [Refrigeration types] → E23 [Number closed cases] IF Refrigerated vending machines IN E19 [Refrigeration types] → E24 [Number vending] IF Commercial ice makers IN E19 [Refrigeration types] → E25 [Number ice makers] IF Large cold storage areas IN E19 [Refrigeration types] → E26 [Percent cold storage] OTHERWISE → E27 [Computers used]	

<b>E21</b>	<b>Number open cases</b>	<i>RFGOPN9</i>
<b>ASK</b>	IF Open cases or cabinets IN E19 [Refrigeration types]	
<p>How many open refrigerated or freezer cases or cabinets are there?</p> <p>◆ PROBE for estimate if DK</p>		
<b>RANGE</b>	1 to 999	
<b>NEXT</b>	IF Residential-type IN E19 [Refrigeration types] → E22 [Number residential refrigerators] IF Closed cases or cabinets IN E19 [Refrigeration types] → E23 [Number closed cases] IF Refrigerated vending machines IN E19 [Refrigeration types] → E24 [Number vending] IF Commercial ice makers IN E19 [Refrigeration types] → E25 [Number ice makers] IF Large cold storage areas IN E19 [Refrigeration types] → E26 [Percent cold storage] OTHERWISE → E27 [Computers used]	

<b>E22</b>	<b>Number residential refrigerators</b>	<i>RFGRSN9</i>
<b>ASK</b>	IF Residential-type IN E19 [Refrigeration types]	
<p>How many residential-type refrigerators or freezers are there?</p> <p>◆ PROBE for estimate if DK</p>		
<b>RANGE</b>	1 to 999	
<b>NEXT</b>	IF Closed cases or cabinets IN E19 [Refrigeration types] → E23 [Number closed cases] IF Refrigerated vending machines IN E19 [Refrigeration types] → E24 [Number vending] IF Commercial ice makers IN E19 [Refrigeration types] → E25 [Number ice makers] IF Large cold storage areas IN E19 [Refrigeration types] → E26 [Percent cold storage] OTHERWISE → E27 [Computers used]	

<b>E23</b>	<b>Number closed cases</b>	<i>RFGLN9</i>
<b>ASK</b>	IF Closed cases or cabinets IN E19 [Refrigeration types]	
<p>How many closed refrigerated or freezer cases or cabinets are there?</p> <p>◆ PROBE for estimate if DK</p>		
<b>RANGE</b>	1 to 999	
<b>NEXT</b>	IF Refrigerated vending machines IN E19 [Refrigeration types] → E24 [Number vending] IF Commercial ice makers IN E19 [Refrigeration types] → E25 [Number ice makers] IF Large cold storage areas IN E19 [Refrigeration types] → E26 [Percent cold storage] OTHERWISE → E27 [Computers used]	


<b>E24</b>	<b>Number vending</b>	<i>RFVNN9</i>
<b>ASK</b>	IF Refrigerated vending machines IN E19 [Refrigeration types]	
<p>How many refrigerated vending machines are there inside the building?</p> <p>◆ PROBE for estimate if DK</p>		
<b>RANGE</b>	1 to 999	
<b>NEXT</b>	IF Commercial ice makers IN E19 [Refrigeration types] → E25 [Number ice makers] IF Large cold storage areas IN E19 [Refrigeration types] → E26 [Percent cold storage] OTHERWISE → E27 [Computers used]	

<b>E25</b>	<b>Number ice makers</b>	<i>RFGIN9</i>
<b>ASK</b>	IF Commercial ice makers IN E19 [Refrigeration types]	
<p>How many commercial ice makers are there inside the building?</p> <p>◆ PROBE for estimate if DK</p>		
<b>RANGE</b>	1 to 999	
<b>NEXT</b>	IF Large cold storage areas IN E19 [Refrigeration types] → E26 [Percent cold storage] OTHERWISE → E27 [Computers used]	

<b>E26</b>	<b>Percent cold storage</b>	<i>RFGSTN9</i>
<b>ASK</b>	IF Large cold storage areas IN E19 [Refrigeration types]	
<p>About what percent of the total floorspace in the building is used for cold storage?</p> <p>◆ PROBE for estimate if DK</p>		
<b>RANGE</b>	1 to 999	
<b>NEXT</b>	→ E27 [Computers used]	


<b>E27</b>	<b>Computers used</b>	<i>PCTERM9</i>
<b>ASK</b>	IF Electricity used OR D70 [Energy for generation] = Yes OR E17 [Verify no electricity] = False, electricity is used & NOT(B24 [Completely vacant] = Yes & C17 [Months in use] = Zero)	
<p>Are there any computers used in this building?</p> <p>◆ EXP: [Even if only laptops are used, answer Yes.]</p> <p>◆ EXP: [Do not include inventory, such as in retail stores.]</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → E28 [Number of computers] IF No OR DK/RF → E38 [Dedicated servers]	

<b>E28</b>	<b>Number of computers</b>	<i>PCNUM9</i>
<b>ASK</b>	IF E27 [Computers used] = Yes	
<p>Not counting any dedicated servers or laptop computers, about how many computers are used in this building?</p> <p>◆ EXP: [Do not include inventory, such as in retail stores.]</p> <p>◆ 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.]</p>		
<b>RANGE</b>	0 to 9,999,999	
<b>NEXT</b>	IF DK/RF → E29 [Computers category] IF Number given → E30 [Multiple monitors]	

<b>E29</b>	<b>Computers category</b>	<i>PCTRMC9</i>
<b>ASK</b>	IF E28 [Number of computers] = DK/RF	
 SHOW CARD E3  Looking at this card, which category best describes the number of computers used in this building?  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		
<b>NEXT</b>	→ E30 [Multiple monitors]	


<b>E30</b>	<b>Multiple monitors</b>	<i>MLTMON9</i>
<b>ASK</b>	IF E27 [Computers used] = Yes	
Do any of the computers use more than one monitor?  1 Yes 2 No		
<b>NEXT</b>	IF Yes → E31 [Multiple monitor category] IF No OR DK/RF → E32 [Flat screen]	

<b>E31</b>	<b>Multiple monitor category</b>	<i>MLTMNC9</i>
<b>ASK</b>	IF E30 [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		
<b>NEXT</b>	→ E32 [Flat screen]	

<b>E32</b>	<b>Flat screen</b>	<i>FLAT9</i>
<b>ASK</b>	IF E27 [Computers used] = Yes	
<b>FILL</b>	<b>{FlatQuestion}</b> IF E30 [Multiple monitors] = Yes = Are any of the monitors of this type? IF E30 [Multiple monitors] ≠ Yes = Do any of the computers in this building have these types of monitors?	
 SHOW CARD E4  Please look at this picture of a flat screen monitor. {FlatQuestion} <ul style="list-style-type: none"> <li>◆ 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.]</li> </ul> 1 Yes 2 No		
<b>NEXT</b>	Yes → E33 [Flat screen category] No OR DK/RF → E34 [Number of laptops]	

<b>E33</b>	<b>Flat screen category</b>	<i>FLATC9</i>
<b>ASK</b>	IF E32 [Flat screen] =Yes	
<b>FILL</b>	<b>{MonitorsComputers}</b> IF E30 [Multiple monitors] = Yes = “the monitors are” IF E30 [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? <ul style="list-style-type: none"> <li>1 All</li> <li>2 Most</li> <li>3 Some</li> <li>4 A few</li> </ul>		
<b>NEXT</b>	→ E34 [Number of laptops]	

<b>E34</b>	<b>Number of laptops</b>	<i>LAPTPN9</i>
<b>ASK</b>	IF E27 [Computers used] = Yes	
About how many laptop computers are used in this building? <ul style="list-style-type: none"> <li>◆ EXP: [Do not include inventory, such as in retail stores.]</li> </ul>		
<b>RANGE</b>	0 to 9,999,999	
<b>NEXT</b>	IF DK/RF → E35 [Laptops category] IF Number given → E36 [Number of printers]	


<b>E35</b>	<b>Laptops category</b>	<i>LAPTPC9</i>
<b>ASK</b>	IF E34 [Number of laptops] = DK/RF	
 SHOW CARD E3  Looking at this card, which category best describes the number of laptop computers used in this building?  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		
<b>NEXT</b>	→ E36 [Number of printers]	

<b>E36</b>	<b>Number of printers</b>	<i>PRNTRN9</i>
<b>ASK</b>	IF E27 [Computers used] = Yes	
About how many printers are there in this building?  ◆ PROBE for estimate if DK		
<b>RANGE</b>	0 to 9,999,999	
<b>NEXT</b>	IF Number given → E37 [Type of printers] IF DK/RF → E38 [Dedicated servers]	


<b>E37</b>	<b>Type of printers</b>	<i>PRNTYP9</i>
<b>ASK</b>	IF E36 [Number of printers] ≠ Zero OR DK/RF	
<div style="text-align: right;">[F1]-HELP</div> Are these mainly inkjet or laser printers?  1 Inkjet 2 Laser 3 IF VOLUNTEERED: Some other type 4 IF VOLUNTEERED: Half inkjet, half laser		
<b>NEXT</b>	→ E38 [Dedicated servers]	

<b>E38</b>	<b>Dedicated servers</b>	<i>SERVER9</i>
<b>ASK</b>	IF E27 [Computers used] = Yes	
<p>Are there any dedicated computer servers used in this building?</p> <ul style="list-style-type: none"> <li>◆ 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.]</li> <li>◆ DEF: [Dedicated means that the server performs no other tasks besides server tasks.]</li> </ul> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → E39 [Number of servers] IF No OR DK/RF → E41 [Separate computer areas]	

<b>E39</b>	<b>Number of servers</b>	<i>SRVNUM9</i>
<b>ASK</b>	IF E38 [Dedicated servers] = Yes	
<p>About how many dedicated servers are used in this building?</p>		
<b>RANGE</b>	1 to 9,999,999	
<b>NEXT</b>	IF DK/RF → E40 [Servers category] IF Number given → E41 [Separate computer areas]	

<b>E40</b>	<b>Servers category</b>	<i>SRVRC9</i>
<b>ASK</b>	IF E39 [Number of servers] = DK/RF	
<p> SHOW CARD E3</p> <p>Looking at this card, which category best describes the number of servers used in this building?</p> <ul style="list-style-type: none"> <li>1 1 to 4</li> <li>2 5 to 9</li> <li>3 10 to 19</li> <li>4 20 to 49</li> <li>5 50 to 99</li> <li>6 100 to 249</li> <li>7 250 to 499</li> <li>8 500 to 999</li> <li>9 1,000 to 2,499</li> <li>10 2,500 to 4,999</li> <li>11 5,000 or more</li> </ul>		
<b>NEXT</b>	→ E41 [Separate computer areas]	



<b>E41</b>	<b>Separate computer areas</b>	<i>see below</i>										
<b>ASK</b>	IF E27 [Computers used] = Yes											
 SHOW CARD E5  Please look at this card and tell me if any of these types of separate computer areas are found in this building. <ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul> <table style="width: 100%; border: none;"> <tr> <td style="width: 80%;">1 High-density computing center</td> <td style="text-align: right;"><i>HIDENS9</i></td> </tr> <tr> <td>2 Computer-based training room</td> <td style="text-align: right;"><i>TRNGRM9</i></td> </tr> <tr> <td>3 Student or public computer center</td> <td style="text-align: right;"><i>STDNRM9</i></td> </tr> <tr> <td>4 Other type of specialized computer area</td> <td style="text-align: right;"><i>OTPCRM9</i></td> </tr> <tr> <td>5 None of these types of areas</td> <td></td> </tr> </table>			1 High-density computing center	<i>HIDENS9</i>	2 Computer-based training room	<i>TRNGRM9</i>	3 Student or public computer center	<i>STDNRM9</i>	4 Other type of specialized computer area	<i>OTPCRM9</i>	5 None of these types of areas	
1 High-density computing center	<i>HIDENS9</i>											
2 Computer-based training room	<i>TRNGRM9</i>											
3 Student or public computer center	<i>STDNRM9</i>											
4 Other type of specialized computer area	<i>OTPCRM9</i>											
5 None of these types of areas												
<b>NEXT</b>	IF Other type of specialized computer area selected → E42 [Other computer area] IF Any other type selected → E43 [Computer area percent] IF None of these types of areas OR DK/RF → E44a [Cash registers]											

<b>E42</b>	<b>Other computer area</b>
<b>ASK</b>	IF Other type of specialized computer area IN E41 [Separate computer areas]
Please describe this other type of computer area. <ul style="list-style-type: none"> <li>◆ RECORD in open box</li> </ul>	
<b>NEXT</b>	→ E43 [Computer area percent]

<b>E43</b>	<b>Computer area percent</b>	<i>PCRMP9</i>
<b>ASK</b>	IF E41 [Separate computer areas] ≠ None of these types of areas OR DK/RF	
Approximately what percent of the floorspace in this building does all of the computer area you just mentioned comprise?		
<b>RANGE</b>	1 to 100	
<b>NEXT</b>	→ E44a [Cash registers]	

<b>E44a</b>	<b>Cash registers</b>	<i>RGSTR9</i>
<b>ASK</b>	IF Electricity used OR D70 [Energy for generation] = Yes OR E17 [Verify no electricity] = False, electricity is used & NOT(B24 [Completely vacant] = Yes & C17 [Months in use] = Zero)	
<p>Are there any cash registers or "point-of-sales" terminals used in this building?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → E44 [Number of cash registers] IF No OR DK/RF → E45 [Photocopiers]	

<b>E44</b>	<b>Number of cash registers</b>	<i>RGSTR9</i>
<b>ASK</b>	IF Electricity used OR D70 [Energy for generation] = Yes OR E17 [Verify no electricity] = False, electricity is used & NOT(B24 [Completely vacant] = Yes & C17 [Months in use] = Zero)	
<p>About how many cash registers or "point-of-sales" terminals are used in this building?</p> <p>◆ PROBE for estimate if DK</p>		
<b>RANGE</b>	0 to 9,999	
<b>NEXT</b>	→ E45 [Photocopiers]	


<b>E45</b>	<b>Photocopiers</b>	<i>COPIER9</i>
<b>ASK</b>	IF Electricity used OR D70 [Energy for generation] = Yes OR E17 [Verify no electricity] = False, electricity is used & NOT(B24 [Completely vacant] = Yes & C17 [Months in use] = Zero)	
<p>Are there any photocopiers, other than small desktop copiers, used in this building?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → E46 [Number of photocopiers] IF No OR DK/RF → E47 [FAX machines]	

<b>E46</b>	<b>Number of photocopiers</b>	<i>COPRN9</i>
<b>ASK</b>	IF E45 [Photocopiers] = Yes	
<p>About how many photocopiers are there?</p> <p>◆ PROBE for estimate if DK</p>		
<b>RANGE</b>	1 to 9,999	
<b>NEXT</b>	→ E47 [FAX machines]	

<b>E47</b>	<b>FAX machines</b>	<i>FAX9</i>
<b>ASK</b>	IF Electricity used OR D70 [Energy for generation] = Yes OR E17 [Verify no electricity] = False, electricity is used & NOT(B24 [Completely vacant] = Yes & C17 [Months in use] = Zero)	
<p>Are there any FAX machines used in this building?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF E27 [Computers used] = Yes & C20 [Open 24 hours a day] ≠ Yes & C24 [Total hours open per week] ≠ 168 & C25 [Weekly hours category] ≠ 168 → E48 [Equipment turned off] OTHERWISE: IF C23 [No operating hours] ≠ True, no operating hours & C24 [Total hours open per week] > Zero → E49 [Percent lit when open] OTHERWISE → E52 [Percent lit when closed]	


<b>E48</b>	<b>Equipment turned off</b>	<i>RDOFEQ9</i>
<b>ASK</b>	IF E27 [Computers used] = Yes & C20 [Open 24 hours a day] ≠ Yes & C24 [Total hours open per week] ≠ 168 & C25 [Weekly hours category] ≠ 168	
<b>FILL</b>	<b>{Equipment}</b> IF E36 [Number of printers] number was given OR E44 [Number of cash registers] number was given OR E45 [Photocopiers] = Yes OR E47 [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 building is not normally open? Would you say that they are always turned off, sometimes turned off, or never turned off when the building is not normally open?	
	1 Always turned off 2 Sometimes turned off 3 Never turned off 4 IF VOLUNTEERED: Computers are "powered down"	
<b>NEXT</b>	IF C23 [No operating hours] ≠ True, no operating hours & C24 [Total hours open per week] > Zero → E49 [Percent lit when open] OTHERWISE → E52 [Percent lit when closed]	


<b>E49</b>	<b>Percent lit when open</b>	<i>LTOHRP9</i>
<b>ASK</b>	IF C23 [No operating hours] ≠ True, no operating hours & C24 [Total hours open per week] > Zero & (Electricity used OR D70 [Energy for generation] = Yes OR E17 [Verify no electricity] = False, electricity is used)	
<b>FILL</b>	<b>{SqFt}</b> 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 building.	
	What percentage of the {SqFt} in this building is lit when the building 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	
<b>RANGE</b>	0 to 100	
<b>NEXT</b>	IF DK/RF → E50 [Lit when open category] IF Percent given: IF C20 [Open 24 hours a day] = Yes OR C24 [Total hours open per week] = 168 OR C25 [Weekly hours category] = 168 → E51 [Lights off during 24 hours] OTHERWISE → E52 [Percent lit when closed]	

<b>E50</b>	<b>Lit when open category</b>	<i>LOHRPC9</i>
<b>ASK</b>	IF E49 [Percent lit when open] = DK/RF	
 SHOW CARD E6		[F1]-HELP
<p>Looking at this list, what is your best estimate of the percent of the square feet in this building that is lit?</p> <ul style="list-style-type: none"> <li>1 1 to 25 percent</li> <li>2 26 to 50 percent</li> <li>3 51 to 75 percent</li> <li>4 76 to 100 percent</li> <li>5 Not lit at all when it is normally open</li> </ul>		
<b>NEXT</b>	IF C20 [Open 24 hours a day] = Yes OR C24 [Total hours open per week] = 168 OR C25 [Weekly hours category] = 168 → E51 [Lights off during 24 hours] OTHERWISE → E52 [Percent lit when closed]	


<b>E51</b>	<b>Lights off during 24 hours</b>	<i>LTNR249</i>
<b>ASK</b>	IF C20 [Open 24 hours a day] = Yes OR C24 [Total hours open per week] = 168 OR C25 [Weekly hours category]	
<p>Are there any periods during a normal 24 hour day when some of the lights are turned off?</p> <ul style="list-style-type: none"> <li>1 Yes</li> <li>2 No</li> </ul>		
<b>NEXT</b>	IF Yes → E52 [Percent lit when closed] IF No OR DK/RF → E54 [Lighting types]	

<b>E52</b>	<b>Percent lit when closed</b>	<i>LTNHRP9</i>
<b>ASK</b>	IF (C20 [Open 24 hours a day] ≠ Yes & C24 [Total hours open per week] ≠ 168 & C25 [Weekly hours category] ≠ 168) OR E51 [Lights off during 24 hours] = Yes & (Electricity used OR D70 [Energy for generation] = Yes OR E17 [Verify no electricity] = False, electricity is used)	
<b>FILL</b>	<b>{SqFt}</b> IF A1 [Square footage] known = "A1 [Square footage] square feet" IF A1 [Square footage] = DK/RF = "floorspace" <b>{OffHours}</b> IF C20 [Open 24 hours a day] = Yes OR C24 [Total hours open per week] = 168 OR C25 [Weekly hours category] = "the time during a 24 hour period when some lights are turned off" OTHERWISE = "the hours when the building is not normally open"	
		[F1]-HELP
What percentage of the {SqFt} is lit during off hours, that is {OffHours},? 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		
<b>RANGE</b>	0 to 100	
<b>NEXT</b>	IF DK/RF → E53 [Lit when closed category] IF Percent lit when closed > 0 → E54 [Lighting types] IF Percent lit when closed = 0: IF E49 [Percent lit when open] > 0 OR E50 [Lit when open category] ≠ Not lit → E54 [Lighting types] OTHERWISE → E60 [Percent of exterior lighted]	

<b>E53</b>	<b>Lit when closed category</b>	<i>LNHRPC9</i>
<b>ASK</b>	IF E52 [Percent lit when closed] = DK/RF	
		[F1]-HELP
 SHOW CARD E6  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		
<b>NEXT</b>	IF 1 to 100 percent → E54 [Lighting types] IF Not lit at all: IF E49 [Percent lit when open] > 0 OR E50 [Lit when open category] ≠ Not lit → E54 [Lighting types] OTHERWISE → E60 [Percent of exterior lighted]	

<b>E54</b>	<b>Lighting types</b>	<i>see below</i>														
<b>ASK</b>	IF E49 [Percent lit when open] > 0 OR E50 [Lit when open category] ≠ Not lit OR E52 [Percent lit when closed] > 0 OR E53 [Lit when closed category] ≠ Not lit															
 SHOW CARD E7		[F1]-HELP														
<p>Looking at this card, what types of lighting were used to light any of the space in this building?</p> <ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul> <table style="width: 100%; border: none;"> <tr> <td style="width: 80%;">1 Fluorescent lighting other than compact fluorescent bulbs</td> <td style="width: 20%; text-align: right;"><i>FLUOR9</i></td> </tr> <tr> <td>2 Compact fluorescent bulbs</td> <td style="text-align: right;"><i>CFLR9</i></td> </tr> <tr> <td>3 Incandescent light bulbs, other than halogen bulbs</td> <td style="text-align: right;"><i>BULB9</i></td> </tr> <tr> <td>4 Halogen bulbs</td> <td style="text-align: right;"><i>HALO9</i></td> </tr> <tr> <td>5 High intensity discharge (HID) lights such as high pressure sodium, metal halide or mercury vapor</td> <td style="text-align: right;"><i>HID9</i></td> </tr> <tr> <td>6 Light-emitting diode (LED) lights</td> <td style="text-align: right;"><i>LED9</i></td> </tr> <tr> <td>7 Other type of lighting</td> <td style="text-align: right;"><i>OTLT9</i></td> </tr> </table>			1 Fluorescent lighting other than compact fluorescent bulbs	<i>FLUOR9</i>	2 Compact fluorescent bulbs	<i>CFLR9</i>	3 Incandescent light bulbs, other than halogen bulbs	<i>BULB9</i>	4 Halogen bulbs	<i>HALO9</i>	5 High intensity discharge (HID) lights such as high pressure sodium, metal halide or mercury vapor	<i>HID9</i>	6 Light-emitting diode (LED) lights	<i>LED9</i>	7 Other type of lighting	<i>OTLT9</i>
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7 Other type of lighting	<i>OTLT9</i>															
<b>NEXT</b>	IF Other type of lighting selected → E55 [Other bulb type] OTHERWISE: IF More than one type selected → E56 [Percent lit by bulb type] IF Only one type selected: IF Fluorescent selected → E57 [Specular reflectors] IF HID selected → E58 [Electronic ballasts] IF D41 [How reduce heating] = EMCS OR D59 [How reduce cooling] = EMCS → E59 [EMCS controls lighting] OTHERWISE → E60 [Percent of exterior lighted]															

<b>E55</b>	<b>Other bulb type</b>	<i>OTLT9</i>
<b>ASK</b>	IF Other type of lighting IN E54 [Lighting types]	
<p>What type of bulb is the other type of lighting?</p> <ul style="list-style-type: none"> <li>◆ RECORD in space below</li> </ul>		
<b>NEXT</b>	IF More than one type selected in E54 [Lighting types] → E56 [Percent lit by bulb type] IF Only one type selected in E54 [Lighting types]: IF Fluorescent in E54 [Lighting types] → E57 [Specular reflectors] IF HID in E54 [Lighting types] → E58 [Electronic ballasts] IF D41 [How reduce heating] = EMCS OR D59 [How reduce cooling] = EMCS → E59 [EMCS controls lighting] OTHERWISE → E60 [Percent of exterior lighted]	

<b>E56</b>	<b>Percent lit by bulb type</b> <i>FLUORP9, CFLRP9, BULBP9, HALOP9, HIDP9, LEDP9, OTLTP9</i>
<b>ASK</b>	For each lighting type given in E54 [Lighting types]
<b>FILL</b>	<p><b>{Introduction}</b>  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</p> <p><b>{Explanation}</b>  IF First lighting type and E49 [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 E49 [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</p> <p><b>{BulbType}</b>  IF Fluorescent IN E54 [Lighting types] = “fluorescent lighting”  IF Compact fluorescent bulbs IN E54 [Lighting types] = “compact fluorescent bulbs”  IF Incandescent light bulbs IN E54 [Lighting types] = “incandescent bulbs”  IF Halogen bulbs IN E54 [Lighting types] = “halogen lighting”  IF High intensity discharge (HID) lights IN E54 [Lighting types] = “high intensity discharge lights”  IF Light-emitting diode (LED) lights IN E54 [Lighting types] = “LED lights”  IF Other type of lighting IN E54 [Lighting types] = “other lighting type”</p>
 SHOW CARD E8  {Introduction}  {Explanation}  What percent of the lighted area in this building is lit by the {BulbType}?  ◆ PROBE for estimate if DK	
<b>RANGE</b>	0 to 100
<b>NEXT</b>	IF Fluorescent in E54 [Lighting types] → E57 [Specular reflectors] IF HID in E54 [Lighting types] → E58 [Electronic ballasts] IF D41 [How reduce heating] = EMCS OR D59 [How reduce cooling] = EMCS → E59 [EMCS controls lighting] OTHERWISE → E60 [Percent of exterior lighted]



<b>E57</b>	<b>Specular reflectors</b>	<i>SREF9</i>
<b>ASK</b>	IF Fluorescent in E54 [Lighting types]	
<p>Does your building's interior lighting system have any specular reflectors, which are designed to increase the amount of light from a fluorescent fixture?</p> <p>◆ 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.]</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	→ E58 [Electronic ballasts]	


<b>E58</b>	<b>Electronic ballasts</b>	<i>HEB9</i>
<b>ASK</b>	IF Fluorescent OR HID in E54 [Lighting types]	
<p>Do any of the building's lights have electronic ballasts?</p> <p>◆ 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.]</p> <p>◆ EXP: [Do <u>not</u> include magnetic ballasts.]</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF D41 [How reduce heating] = EMCS OR D59 [How reduce cooling] = EMCS → E59 [EMCS controls lighting] OTHERWISE → E60 [Percent of exterior lighted]	


<b>E59</b>	<b>EMCS controls lighting</b>	<i>EMCSLT9</i>
<b>ASK</b>	IF (E49 [Percent lit when open] > 0 OR E50 [Lit when open category] ≠ Not lit OR E52 [Percent lit when closed] > 0 OR E53 [Lit when closed category] ≠ Not lit) & D41 [How reduce heating] = EMCS OR D59 [How reduce cooling] = EMCS	
[F1]-HELP		
<p>Does the "Energy Management and Control System (EMCS)" or "Building Automation System (BAS)" that you mentioned earlier also control the interior lighting system?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	→ E60 [Percent of exterior lighted]	

<b>E60</b>	<b>Percent of exterior lighted</b>	<i>LTEXPC9</i>
<b>ASK</b>	IF (Electricity used OR D70 [Energy for generation] = Yes OR E17 [Verify no electricity] = False, electricity is used)	
<p>What percentage of all the exterior building wall surfaces is lighted? Would you say less than 10 percent, 10 to 25, 25 to 50, or more than 50 percent of the total building façade is lighted?</p> <p>1 Less than 10 percent  2 10 to 25 percent  3 25 to 50 percent  4 More than 50 percent</p>		
<b>NEXT</b>	→ E61 [Lighted parking area]	

<b>E61</b>	<b>Lighted parking area</b>	<i>PKLT9</i>
<b>ASK</b>	IF (Electricity used OR D70 [Energy for generation] = Yes OR E17 [Verify no electricity] = False, electricity is used)	
<p>Is there a parking area associated with the building that is lighted with fixtures powered through the building's electrical service?</p> <p>1 Yes  2 No</p>		
<b>NEXT</b>	IF Yes → E62 [Vehicle parking capacity] IF No → E63 [Window glass type]	

<b>E62</b>	<b>Vehicle parking capacity</b>	<i>PKLTN9</i>
<b>ASK</b>	IF E61 [Lighted parking area] = Yes	
<p>What is the vehicle capacity of the parking area, that is, the number of parking spaces?</p>		
<b>RANGE</b>	1 to 999,999	
<b>NEXT</b>	→ E63 [Window glass type]	

<b>E63</b>	<b>Window glass type</b>	<i>WINTYP9</i>
<b>ASK</b>	All Buildings	
 SHOW CARD E9  Looking at the picture on this card, which shows a multi-layer window, do the exterior windows in this building 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		
<b>NEXT</b>	IF Single layer, Multi-layer, OR Combination → E64 [Daylighting features] IF No windows OR DK/RF → F1 [Section F Routing]	

<b>E64</b>	<b>Daylighting features</b>	<i>see below</i>														
<b>ASK</b>	IF E63 [Window glass type] ≠ (No windows OR DK/RF)															
 SHOW CARD E9  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 building.  ◆ PROBE for any others  ◆ ENTER all that apply  <table style="width: 100%; border: none;"> <tr> <td style="width: 70%;">1 Tinted window glass</td> <td style="width: 30%; text-align: right;"><i>TINT9</i></td> </tr> <tr> <td>2 Reflective window glass</td> <td style="text-align: right;"><i>REFL9</i></td> </tr> <tr> <td>3 External overhangs or awnings</td> <td style="text-align: right;"><i>AWN9</i></td> </tr> <tr> <td>4 Skylights or atriums designed to provide light</td> <td style="text-align: right;"><i>SKYLT9</i></td> </tr> <tr> <td>5 Automatic controls or sensors that increase or reduce lighting in response to the level of natural light</td> <td style="text-align: right;"><i>AUTOLT9</i></td> </tr> <tr> <td>6 Occupancy sensors that reduce lighting when rooms are unoccupied</td> <td style="text-align: right;"><i>OCSN9</i></td> </tr> <tr> <td>7 IF VOLUNTEERED: None of these</td> <td></td> </tr> </table>			1 Tinted window glass	<i>TINT9</i>	2 Reflective window glass	<i>REFL9</i>	3 External overhangs or awnings	<i>AWN9</i>	4 Skylights or atriums designed to provide light	<i>SKYLT9</i>	5 Automatic controls or sensors that increase or reduce lighting in response to the level of natural light	<i>AUTOLT9</i>	6 Occupancy sensors that reduce lighting when rooms are unoccupied	<i>OCSN9</i>	7 IF VOLUNTEERED: None of these	
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5 Automatic controls or sensors that increase or reduce lighting in response to the level of natural light	<i>AUTOLT9</i>															
6 Occupancy sensors that reduce lighting when rooms are unoccupied	<i>OCSN9</i>															
7 IF VOLUNTEERED: None of these																
<b>NEXT</b>	→ E65 [Percent daylight]															

<b>E65</b>	<b>Percent daylight</b>	<i>DAYLTP9</i>
<b>ASK</b>	IF E63 [Window glass type] ≠ (No windows OR DK/RF)	
<p>What percent of the building receives enough outside light so that the interior lights do not need to be turned on?</p> <ul style="list-style-type: none"> <li>◆ If none, ENTER "0"</li> <li>◆ PROBE for estimate if DK</li> </ul>		
<b>RANGE</b>	0 to 100	
<b>NEXT</b>	→ F1 [Section F Routing]	

## SECTION F. ELECTRICITY

<b>F1</b>	<b>Section F Routing</b>
<b>NEXT</b>	IF Electricity used → F2 [WS2 electricity filled out] OTHERWISE → G1 [Section G Routing]

<b>F2</b>	<b>WS2 electricity filled out</b>	<i>WS2ELCE9</i>
<b>ASK</b>	IF Electricity used	
<p>Do you have Worksheet 2 with you and filled out for electricity?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF No OR DK/RF → F3 [Provide electricity figures] IF Yes → F4 [Electricity consumption]	

<b>F3</b>	<b>Provide electricity figures</b>	<i>ELFIGS9</i>
<b>ASK</b>	IF F2 [WS2 electricity filled out] = No OR DK/RF	
<p>The next questions are about electricity usage in the building 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?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → F4 [Electricity consumption] IF No OR DK/RF → F26 [Number electricity suppliers]	

<b>F4</b>	<b>Electricity consumption</b>	<i>ELCNS9</i>
<b>ASK</b>	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.	
	<ul style="list-style-type: none"> <li>◆ EXP: [If part of a multibuilding campus or complex, and the respondent only knows the consumption for the whole campus or complex, ENTER the total consumption for the campus or complex here.]</li> <li>◆ VERIFY number <u>digit by digit</u></li> </ul>	
<b>RANGE</b>	1 to 99,999,999,999,999	
<b>NEXT</b>	→ F5 [Electricity expenditures]	

<b>F5</b>	<b>Electricity expenditures</b>	<i>ELEXP9</i>
<b>ASK</b>	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.	
	<ul style="list-style-type: none"> <li>◆ Do <u>not</u> enter cents</li> <li>◆ VERIFY number <u>digit by digit</u></li> </ul>	
<b>RANGE</b>	0 to 999,999,999	
<b>NEXT</b>	IF F4 [Electricity consumption] = DK/RF & F5 [Electricity expenditures] = DK/RF → F26 [Number electricity suppliers] OTHERWISE → F6 [Starting date for electricity figures]	

<b>F6</b>	<b>Starting date for electricity figures</b>	<i>ELSTDAT9</i>
<b>ASK</b>	IF F4 [Electricity consumption] given OR F5 [Electricity expenditures] given	
		[F1]-HELP
	What is the starting date for these electricity usage figures?	
	<ul style="list-style-type: none"> <li>◆ ENTER date as MMDDYYYY</li> <li>◆ If the day is not known, ENTER "15"</li> </ul>	
<b>NEXT</b>	→ F7 [Ending date for electricity figures]	

<b>F7</b>	<b>Ending date for electricity figures</b>	<i>ELENDAT9</i>
<b>ASK</b>	All Structures IF F4 [Electricity consumption] given OR F5 [Electricity expenditures] given	
		[F1]-HELP
	<p>What is the ending date [for these electricity usage figures]?</p> <ul style="list-style-type: none"> <li>◆ ENTER date as MMDDYYYY</li> <li>◆ VERIFY that this is the <u>last</u> day of the last billing period</li> <li>◆ If the day is not known, ENTER "15"</li> </ul>	
<b>NEXT</b>	IF C5 [Number of businesses] >1 OR C7 [Re-ask number of businesses] > 1 OR C8 [Number of businesses category] ≠ Zero OR One → F8 [All occupants electricity included] IF Enclosed mall & A5 [Food court] = Yes & Electricity IN D66 [Sources for cooking] → F10 [Electricity covers food court] OTHERWISE → F11 [Other bldgs electricity included]	

<b>F8</b>	<b>All occupants electricity included</b>	<i>ELALL9</i>
<b>ASK</b>	IF F4 [Electricity consumption] given OR F5 [Electricity expenditures] given & C5 [Number of businesses] >1 OR C7 [Re-ask number of businesses] > 1 OR C8 [Number of businesses category] ≠ Zero OR One	
	Do these figures include the electricity for all of the businesses or organizations in this building?  1 Yes 2 No	
<b>NEXT</b>	IF No → F9 [Sq ft not included] IF Enclosed mall & A5 [Food court] = Yes & Electricity IN D66 [Sources for cooking] → F10 [Electricity covers food court] OTHERWISE → F11 [Other bldgs electricity included]	

<b>F9</b>	<b>Sq ft not included</b>	<i>ELNISF9</i>
<b>ASK</b>	IF F8 [All occupants electricity included] = No	
	<p>What is the approximate square footage of the space in the building that is <u>not</u> included in these figures?</p> <ul style="list-style-type: none"> <li>◆ PROBE for estimate if DK</li> </ul>	
<b>RANGE</b>	1 to 999,999,999	
<b>NEXT</b>	IF Enclosed mall & A5 [Food court] = Yes & Electricity IN D66 [Sources for cooking] → F10 [Electricity covers food court] OTHERWISE → F11 [Other bldgs electricity included]	

<b>F10</b>	<b>Electricity covers food court</b>	<i>ELFDCT9</i>
<b>ASK</b>	IF F4 [Electricity consumption] given OR F5 [Electricity expenditures] given & Enclosed mall & A5 [Food court] = Yes & Electricity IN D66 [Sources for cooking]	
<p>Do your electricity bills include the energy used for cooking by the establishments in the food court?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	→ F11 [Other bldgs electricity included]	

<b>F11</b>	<b>Other bldgs electricity included</b>	<i>ELOTBD9</i>
<b>ASK</b>	IF F4 [Electricity consumption] given OR F5 [Electricity expenditures] given	
<p>Is any consumption from other buildings included in these figures?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → F12 [Sq ft of other included] IF No OR DK/RF: IF E61 [Lighted parking area] = Yes → F15 [Include parking lot lights] OTHERWISE → F16 [Include other major electricity]	

<b>F12</b>	<b>Sq ft of other included</b>	<i>ELOTSF9</i>
<b>ASK</b>	IF F11 [Other bldgs electricity included] = Yes	
<p>What is the approximate square footage of the <u>other</u> buildings that are included in these figures?</p> <p>◆ PROBE for estimate if DK</p>		
<b>RANGE</b>	1 to 999,999,999	
<b>NEXT</b>	IF A1 [Square footage] known & Number given > A1 [Square footage] & Number given < A1 [Square footage] x 50 → F13 [Verify sq ft is other bldgs] OTHERWISE: IF E61 [Lighted parking area] = Yes → F15 [Include parking lot lights] OTHERWISE → F16 [Include other major electricity]	



<b>F13</b>	<b>Verify sq ft is other bldgs</b>	<i>ELOTVY9</i>
<b>ASK</b>	IF Number given IN F12 [Sq ft of other included] & A1 [Square footage] known & F12 [Sq ft of other included] > A1 [Square footage] & F12 [Sq ft of other included] < A1 [Square footage] x 50	
<b>FILL</b>	<b>{SqFt}</b> = A1 [Square footage] square feet <b>{OtherSqFt}</b> = F12 [Sq ft of other included] <b>{TotalSqFt}</b> = A1 [Square footage] square feet + F12 [Sq ft of other included]	
<p>So, just to verify, the consumption figures you just gave me are for both this {SqFt} square foot building <u>and</u> {OtherSqFt} square feet of additional space, for a total of {TotalSqFt} square feet, is that correct?</p> <ol style="list-style-type: none"> <li>1 Yes, consumption is for {TotalSqFt} square feet</li> <li>2 No, the square footage just given was the total including this building - consumption is for {OtherSqFt} square feet</li> <li>3 No, consumption is for some other number of square feet</li> </ol>		
<b>NEXT</b>	IF No, consumption is for some other number of square feet → F14 [What sq ft included] IF E61 [Lighted parking area] = Yes → F15 [Include parking lot lights] OTHERWISE → F16 [Include other major electricity]	

<b>F14</b>	<b>What sq ft included</b>	<i>ELTOSF9</i>
<b>ASK</b>	IF F13 [Verify sq ft is other bldgs] = No, consumption is for some other number of square feet	
<p>What is the total floorspace included in the electricity usage figures?</p> <p>◆ PROBE for estimate if DK</p>		
<b>RANGE</b>	1 to 999,999,999	
<b>NEXT</b>	IF E61 [Lighted parking area] = Yes → F15 [Include parking lot lights] OTHERWISE → F16 [Include other major electricity]	

<b>F15</b>	<b>Include parking lot lights</b>	<i>ELPKLT9</i>
<b>ASK</b>	IF E61 [Lighted parking area] = Yes	
<p>Do these figures include the electricity for the lights in the parking area that you mentioned earlier?</p> <ol style="list-style-type: none"> <li>1 Yes</li> <li>2 No</li> </ol>		
<b>NEXT</b>	→ F16 [Include other major electricity]	

<b>F16</b>	<b>Include other major electricity</b>	<i>ELOTUS9</i>
<b>ASK</b>	IF F4 [Electricity consumption] given OR F5 [Electricity expenditures] given	
<p>Do these figures include charges for any <u>other</u> major electricity usage outside the building, such as parking lot lights, exterior lights, signs or billboards, large pumps, or swimming pools?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	<p>IF Independent power producer or non-local utility OR Bought from someone else IN D64 [How purchase electricity] → F17 [Include all non-local electricity]  IF (A1 [Square footage] known OR A2 [Square footage category] known) &amp; D1 [Heating] ≠ DK/RF &amp; D2 [Cooling] ≠ DK/RF &amp; D3 [Water heating] ≠ DK/RF &amp; D4 [Cooking] ≠ DK/RF → F19 [Electricity regression check]  OTHERWISE:  IF F2 [WS2 electricity filled out] = Yes → F23 [Monthly electricity included]  IF F2 [WS2 electricity filled out] = No OR DK/RF → F24 [Monthly electricity available]</p>	

<b>F17</b>	<b>Include all non-local electricity</b>	<i>ELNONU9</i>
<b>ASK</b>	IF (F4 [Electricity consumption] given OR F5 [Electricity expenditures] given) & (Independent power producer or non-local utility OR Bought from someone else IN D80 [How purchase electricity])	
<p>Do these figures include all the electricity from the independent power producer, non-local utility, or broker?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	<p>IF No → F18 [What not included]  IF Yes OR DK/RF:  IF (A1 [Square footage] known OR A2 [Square footage category] known) &amp; D1 [Heating] ≠ DK/RF &amp; D2 [Cooling] ≠ DK/RF &amp; D3 [Water heating] ≠ DK/RF &amp; D4 [Cooking] ≠ DK/RF → F19 [Electricity regression check]  OTHERWISE:  IF F2 [WS2 electricity filled out] = Yes → F23 [Monthly electricity included]  IF F2 [WS2 electricity filled out] = No OR DK/RF → F24 [Monthly electricity available]</p>	

<b>F18</b>	<b>What not included</b>	
<b>ASK</b>	IF F17 [Include all non-local electricity] = No	
<p>What was not included?</p> <p>◆ RECORD the additional charges in the open box</p>		
<b>NEXT</b>	<p>IF (A1 [Square footage] known OR A2 [Square footage category] known) &amp; D1 [Heating] ≠ DK/RF &amp; D2 [Cooling] ≠ DK/RF &amp; D3 [Water heating] ≠ DK/RF &amp; D4 [Cooking] ≠ DK/RF → F19 [Electricity regression check]  OTHERWISE:  IF F2 [WS2 electricity filled out] = Yes → F23 [Monthly electricity included]  IF F2 [WS2 electricity filled out] = No OR DK/RF → F24 [Monthly electricity available]</p>	

<b>F19</b>	<b>Electricity regression check</b>
<b>ASK</b>	IF (F4 [Electricity consumption] given OR F5 [Electricity expenditures] given) & (A1 [Square footage] known OR A2 [Square footage category known]) & D1 [Heating] ≠ DK/RF & D2 [Cooling] ≠ DK/RF & D3 [Water heating] ≠ DK/RF & D4 [Cooking] ≠ DK/RF
<p>Based on various characteristics of the structure, Blaise will use a detailed equation to compute predicted consumption and expenditures estimates. The electricity consumption and/or expenditures given will be ratio adjusted if other square footage was either included or excluded in the figures, and then will either PASS or FAIL this regression check, based on the following formula:</p> <p>IF F4 [Electricity consumption] &gt; [Predicted consumption] × 8 OR F5 [Electricity expenditures] &gt; [Predicted expenditures] × 8 → FAIL (HIGH) IF F4 [Electricity consumption] &lt; [Predicted consumption] ÷ 13 OR F5 [Electricity expenditures] &lt; [Predicted expenditures] ÷ 13 → FAIL (LOW) OTHERWISE → PASS</p>	
<b>NEXT</b>	IF FAIL (HIGH) → F20 [Anything unusual high] IF FAIL (LOW) → F21 [Anything unusual low] IF PASS: IF F2 [WS2 electricity filled out] = Yes → F23 [Monthly electricity included] IF F2 [WS2 electricity filled out] = No OR DK/RF → F24 [Monthly electricity available]

<b>F20</b>	<b>Anything unusual high</b>	<i>ELHIGH9</i>
<b>ASK</b>	IF F19 [Electricity regression check] = FAIL (HIGH)	
<p>These usage figures seem high for what you have told me about this building. Is there anything unusual that might explain this high usage?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → F22 [What is unusual] IF No OR DK/RF: IF F2 [WS2 electricity filled out] = Yes → F23 [Monthly electricity included] IF F2 [WS2 electricity filled out] = No OR DK/RF → F24 [Monthly electricity available]	

<b>F21</b>	<b>Anything unusual low</b>	<i>ELLOW9</i>
<b>ASK</b>	IF F19 [Electricity regression check] = FAIL (LOW)	
<p>These usage figures seem low for what you have told me about this building. Is there anything unusual that might explain this low usage?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → F22 [What is unusual] IF No OR DK/RF: IF F2 [WS2 electricity filled out] = Yes → F23 [Monthly electricity included] IF F2 [WS2 electricity filled out] = No OR DK/RF → F24 [Monthly electricity available]	

<b>F22</b>	<b>What is unusual</b>
<b>ASK</b>	IF F21 [Anything unusual high] = Yes OR F22 [Anything unusual low] = Yes
<p>Please tell me [what is out of the ordinary about this building].</p> <p>◆ RECORD in open box</p>	
<b>NEXT</b>	IF F2 [WS2 electricity filled out] = Yes → F23 [Monthly electricity included] IF F2 [WS2 electricity filled out] = No OR DK/RF → F24 [Monthly electricity available]

<b>F23</b>	<b>Monthly electricity included</b>	<i>ELINC129</i>
<b>ASK</b>	IF (F4 [Electricity consumption] given OR F5 [Electricity expenditures] given) & F2 [WS2 electricity filled out] = Yes	
<p>Did you include your monthly electricity usage on Worksheet 2?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF No OR DK/RF → F24 [Monthly electricity available] IF Yes: IF F19 [Electricity regression check] = PASS → F25 [Electricity bill available] IF F19 [Electricity regression check] = FAIL (HIGH) OR FAIL (LOW) → F26 [Number electricity suppliers]	

<b>F24</b>	<b>Monthly electricity available</b>	<i>ELHAV129</i>
<b>ASK</b>	IF (F4 [Electricity consumption] given OR F5 [Electricity expenditures] given) & (F2 [WS2 electricity filled out] = No OR DK/RF OR F23 [Monthly electricity included] = No OR DK/RF)	
<p>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?</p> <p>◆ 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</p> <p>1 Yes, monthly electricity available 2 No, will not be able to provide monthly electricity</p>		
<b>NEXT</b>	IF (A1 [Square footage] = DK/RF & A2 [Square footage category] = DK/RF) & D1 [Heating] ≠ DK/RF & D2 [Cooling] ≠ DK/RF & D3 [Water heating] ≠ DK/RF & D4 [Cooking] ≠ DK/RF OR F19 [Electricity regression check] = FAIL (HIGH) OR FAIL (LOW) → F26 [Number electricity suppliers] OTHERWISE → F25 [Electricity bill available]	

<b>F25</b>	<b>Electricity bill available</b>	<i>ELBILL9</i>
<b>ASK</b>	IF F4 [Electricity consumption] given OR F5 [Electricity expenditures] given & F19 [Electricity regression check] = PASS	
<p>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.</p> <ul style="list-style-type: none"> <li>◆ EXP: [Examples of these items include miscellaneous charges, past months data, and units of measure.]</li> <li>◆ 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</li> </ul> <p>1 Yes, bill available 2 No, will not be able to provide bill</p>		
<b>NEXT</b>	→ G1 [Section G Routing]	

<b>F26</b>	<b>Number electricity suppliers</b>	<i>ELNUMSP9</i>
<b>ASK</b>	IF F3 [Provide electricity figures] = No OR DK/RF OR F4 [Electricity consumption] = DK/RF & F5 [Electricity expenditures] = DK/RF OR F19 [Electricity regression check] = FAIL (HIGH) OR FAIL (LOW)	
<b>FILL</b>	<p><b>{SuppliersIntro}</b> IF (F3 [Provide electricity figures] = No OR DK/RF) OR (F4 [Electricity consumption] = DK/RF &amp; F5 [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." OTHERWISE = "We may need to go to your supplier to verify some information, so I need to ask you some questions about your electricity supplier or suppliers."</p>	
<p>{SuppliersIntro}</p> <p>In some parts of the country, customers can purchase energy from more than one supplier. How many different companies supplied electricity to this building during calendar year 2007?</p>		
<b>RANGE</b>	1 to 4	
<b>NEXT</b>	Number given → F27 [Electricity suppliers] DK/RF → G1 [Section G Routing]	

<b>F27</b>	<b>Electricity suppliers</b>	<i>EL1LKP9—EL4LKP9</i>
<b>ASK</b>	IF F26 [Number electricity suppliers] given	
<b>FILL</b>	<b>{FirstNext}</b> IF Only one supplier = BLANK IF First supplier given = "first" OTHERWISE = "next"	
<p>What is the name of the {FirstNext} supplier that provided electricity in calendar year 2007?</p> <ul style="list-style-type: none"> <li>◆ Start typing the name of the supplier or use &lt;BACKSPACE&gt; to bring up the look-up table</li> <li>◆ Type in the first few letters of the supplier name, and the look-up table will scroll to the closest match</li> <li>◆ If you find a match, make sure the correct line is highlighted (blue) and press &lt;ENTER&gt;</li> <li>◆ If you don't find a match, use &lt;BACKSPACE&gt; 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 &lt;ENTER&gt; two times</li> </ul>		
<b>NEXT</b>	IF NOT ON LIST selected → F28 [Supplier name] IF Supplier found in look-up table → F34 [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 F27 [Electricity suppliers] again for next supplier	

<b>F28</b>	<b>Supplier name</b>	<i>EL1NEW9—EL4NEW9</i>
<b>ASK</b>	IF NOT ON LIST selected in F27 [Electricity suppliers]	
<ul style="list-style-type: none"> <li>◆ ENTER the name of the supplier</li> </ul>		
<b>NEXT</b>	IF Name given → F29 [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 F27 [Electricity suppliers] for next supplier	

<b>F29</b>	<b>Street address</b>	<i>EL1AD19—EL4AD19</i>
<b>ASK</b>	IF NOT ON LIST selected in F27 [Electricity suppliers]	
<b>FILL</b>	<b>{Supplier}</b> = "F28 [Supplier name]"	
<p>What is the address for {Supplier}, beginning with the street?</p>		
<b>NEXT</b>	→ F30 [P.O. Box or Suite]	

<b>F30</b>	<b>P.O. Box or Suite</b>	<i>EL1AD29—EL4AD29</i>
<b>ASK</b>	IF NOT ON LIST selected in F27 [Electricity suppliers]	
<p>Is there a post office box or suite number?</p> <p>◆ If not, press &lt;ENTER&gt;</p>		
<b>NEXT</b>	→ F31 [City]	

<b>F31</b>	<b>City</b>	<i>EL1CTY9—EL4CTY9</i>
<b>ASK</b>	IF NOT ON LIST selected in F27 [Electricity suppliers]	
<p>What is the city?</p>		
<b>NEXT</b>	→ F32 [State abbreviation]	

<b>F32</b>	<b>State abbreviation</b>	<i>EL1STA9—EL4STA9</i>
<b>ASK</b>	IF NOT ON LIST selected in F27 [Electricity suppliers]	
<p>What is the state?</p> <p>◆ ENTER the two letter abbreviation</p>		
<b>NEXT</b>	→ F33 [Zip code]	

<b>F33</b>	<b>Zip code</b>	<i>EL1ZIP9—EL4ZIP9</i>
<b>ASK</b>	IF NOT ON LIST selected in F27 [Electricity suppliers]	
<p>And what is the zip code?</p>		
<b>NEXT</b>	→ F34 [Number electricity accounts]	

<b>F34</b>	<b>Number electricity accounts</b> <span style="float: right;"><i>EL1NAC9—EL4NAC9</i></span>
<b>ASK</b>	IF Supplier found in F27 [Electricity suppliers] look-up table OR F28 [Supplier name] given
<b>FILL</b>	<b>{Supplier}</b> = Supplier name from F27 [Electricity suppliers] look-up table OR F28 [Supplier name]
How many different electricity accounts does this building have with {Supplier}?	
<b>RANGE</b>	1 to 999
<b>NEXT</b>	IF 1 to 10 accounts → F35 [Electricity account number] IF More than 10 accounts OR DK/RF → F40 [Electricity bill available]

<b>F35</b>	<b>Electricity account number</b> <span style="float: right;"><i>EL1AC19—EL4AC109</i></span>
<b>ASK</b>	IF F34 [Number electricity accounts] = 1 to 10 Ask as many times as account numbers given, or until DK/RF
<b>FILL</b>	<b>{FirstNext}</b> IF Only one account = BLANK IF First account given = "first" OTHERWISE = "next" <b>{Supplier}</b> = Supplier name from F27 [Electricity suppliers] look-up table OR F28 [Supplier name]
Please give me the {FirstNext} electricity account number for {Supplier}.	
◆ VERIFY number <u>digit by digit</u>	
<b>NEXT</b>	IF Independent power producer or non-local utility OR Bought from someone else IN D80 [How purchase electricity] → F36 [Supplier is non-local utility] OTHERWISE → F37 [Bills cover only building]

<b>F36</b>	<b>Supplier is non-local utility</b> <span style="float: right;"><i>EL1NONU9—EL4NONU9</i></span>
<b>ASK</b>	IF (Supplier found in F27 [Electricity suppliers] look-up table OR F28 [Supplier name] given) & (Independent power producer or non-local utility OR Bought from someone else IN D80 [How purchase electricity])
<b>FILL</b>	<b>{Supplier}</b> = Supplier name from F27 [Electricity suppliers] look-up table OR F28 [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	
<b>NEXT</b>	→ F37 [Bills cover only building]



<b>F37</b>	<b>Bills cover only building</b>	<i>EL10TB9—EL40TB9</i>
<b>ASK</b>	IF Supplier found in F27 [Electricity suppliers] look-up table OR F28 [Supplier name] given	
<b>FILL</b>	<b>{Bills}</b> IF Only one account = “Does the bill or statement” IF 2 to 10 accounts = “Do the bills or statements” <b>{Supplier}</b> = Supplier name from F27 [Electricity suppliers] look-up table OR F28 [Supplier name]	
	{Bills} from {Supplier} cover just this building or are other buildings covered as well?  1 Just this building 2 Other building(s)	
<b>NEXT</b>	IF Other buildings → F38 [Sq ft of others included] IF Just this building OR DK/RF → F39 [Include other major electricity]	

<b>F38</b>	<b>Sq ft of others included</b>	<i>EL10TS9—EL40TS9</i>
<b>ASK</b>	IF F37 [Bills cover only building] = Other buildings	
<b>FILL</b>	<b>{Bills}</b> 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> buildings included on the {Bills}?  ◆ PROBE for estimate if DK	
<b>RANGE</b>	1 to 999,999,999	
<b>NEXT</b>	→ F39 [Include other major electricity]	

<b>F39</b>	<b>Include other major electricity</b>	<i>EL10TU9—EL40TU9</i>
<b>ASK</b>	IF Supplier found in F27 [Electricity suppliers] look-up table OR F28 [Supplier name] given	
<b>FILL</b>	<b>{Bills}</b> 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 building, such as parking lot lights, exterior lights, signs or billboards, large pumps or swimming pools?  1 Yes 2 No	
<b>NEXT</b>	→ F40 [Electricity bill available]	


<b>F40</b>	<b>Electricity bill available</b>	<i>EL1BILL9—EL4BILL9</i>
<b>ASK</b>	IF (Supplier found in F27 [Electricity suppliers] look-up table OR F28 [Supplier name] given)	
<b>FILL</b>	<b>{Supplier}</b> = Supplier name from F27 [Electricity suppliers] look-up table OR F28 [Supplier name]	
<p>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.</p> <ul style="list-style-type: none"> <li>◆ EXP: [Examples of these items include other miscellaneous charges, past months data, and units of measure.]</li> <li>◆ 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</li> </ul> <ol style="list-style-type: none"> <li>1 Yes, copy of bill available</li> <li>2 No, will not be able to provide copy of bill</li> </ol>		
<b>NEXT</b>	IF More suppliers left to answer for → Back to F27 [Electricity suppliers] for next supplier OTHERWISE → G1 [Section G Routing]	

## SECTION G. NATURAL GAS

<b>G1</b>	<b>Section G Routing</b>
<b>NEXT</b>	IF Natural gas used → G2 [WS2 natural gas filled out] OTHERWISE → H1 [Section H Routing]

<b>G2</b>	<b>WS2 natural gas filled out</b>	<i>WS2NGCE9</i>
<b>ASK</b>	IF Natural gas used	
Do you have Worksheet 2 with you and filled out for natural gas?		
<ol style="list-style-type: none"> <li>1 Yes</li> <li>2 No</li> </ol>		
<b>NEXT</b>	IF No OR DK/RF → G3 [Provide natural gas figures] IF Yes → G4 [Units for natural gas]	

<b>G3</b>	<b>Provide natural gas figures</b>	<i>NGFIGS9</i>
<b>ASK</b>	IF G2 [WS2 natural gas filled out] = No OR DK/RF	
The next questions are about natural gas usage in this building 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?		
<ol style="list-style-type: none"> <li>1 Yes</li> <li>2 No</li> </ol>		
<b>NEXT</b>	IF Yes → G4 [Units for natural gas] IF No OR DK/RF → G27 [Number natural gas suppliers]	

<b>G4</b>	<b>Units for natural gas</b>	<i>NGUNIT9</i>
<b>ASK</b>	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.		
<ol style="list-style-type: none"> <li>1 Hundred cubic feet (Ccf)</li> <li>2 Therms</li> <li>3 Thousand cubic feet (Mcf)</li> <li>4 Dekatherms</li> <li>5 Cubic feet (cf)</li> <li>6 IF VOLUNTEERED: Some other units</li> </ol>		
<b>NEXT</b>	IF Some other units → G5 [Other natural gas units] IF Anything else OR DK/RF → G6 [Natural gas consumption]	

<b>G5</b>	<b>Other natural gas units</b>	<i>NGUNITX9</i>
<b>ASK</b>	IF G4 [Units for natural gas] = Some other units	
What are the other units?		
<b>NEXT</b>	→ G6 [Natural gas consumption]	

<b>G6</b>	<b>Natural gas consumption</b>	<i>NGCNS9</i>
<b>ASK</b>	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.		
<ul style="list-style-type: none"> <li>◆ EXP: [If part of a multibuilding campus or complex, and the respondent only knows the consumption for the whole campus or complex, ENTER the total consumption for the campus or complex here.]</li> <li>◆ VERIFY number <u>digit by digit</u></li> </ul>		
<b>RANGE</b>	1 to 99,999,999,999,999	
<b>NEXT</b>	→ G7 [Natural gas expenditures]	

<b>G7</b>	<b>Natural gas expenditures</b>	<i>NGEXP9</i>
<b>ASK</b>	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.		
<ul style="list-style-type: none"> <li>◆ Do <u>not</u> enter cents</li> <li>◆ VERIFY number <u>digit by digit</u></li> </ul>		
<b>RANGE</b>	0 to 999,999,999	
<b>NEXT</b>	IF G6 [Natural gas consumption] = DK/RF & G7 [Natural gas expenditures] = DK/RF → G27 [Number natural gas suppliers] OTHERWISE → G8 [Starting date for natural gas figures]	

<b>G8</b>	<b>Starting date for natural gas figures</b>	<i>NGSTDAT9</i>
<b>ASK</b>	IF G6 [Natural gas consumption] given OR G7 [Natural gas expenditures] given	
		[F1]-HELP
	What is the starting date for these natural gas usage figures?	
	<ul style="list-style-type: none"> <li>◆ ENTER date as MMDDYYYY</li> <li>◆ If the day is not known, ENTER "15"</li> </ul>	
<b>NEXT</b>	➔ G9 [Ending date for natural gas figures]	

<b>G9</b>	<b>Ending date for natural gas figures</b>	<i>NGENDAT9</i>
<b>ASK</b>	IF G6 [Natural gas consumption] given OR G7 [Natural gas expenditures] given	
		[F1]-HELP
	What is the ending date [for these natural gas usage figures]?	
	<ul style="list-style-type: none"> <li>◆ ENTER date as MMDDYYYY</li> <li>◆ VERIFY that this is the <u>last</u> day of the last billing period</li> <li>◆ If the day is not known, ENTER "15"</li> </ul>	
<b>NEXT</b>	IF C5 [Number of businesses] >1 OR C7 [Re-ask number of businesses] > 1 OR C8 [Number of businesses category] ≠ Zero OR One ➔ G10 [All occupants natural gas included] IF Enclosed mall & A5 [Food court] = Yes & Natural gas IN D66 [Sources for cooking] ➔ G12 [Natural gas covers food court] OTHERWISE ➔ G13 [Other bldgs natural gas included]	

<b>G10</b>	<b>All occupants natural gas included</b>	<i>NGALL9</i>
<b>ASK</b>	IF G6 [Natural gas consumption] given OR G7 [Natural gas expenditures] given & C5 [Number of businesses] >1 OR C7 [Re-ask number of businesses] > 1 OR C8 [Number of businesses category] ≠ Zero OR One	
	Do these figures include the natural gas for all of the businesses or organizations in this building?	
	1 Yes 2 No	
<b>NEXT</b>	IF No ➔ G11 [Sq ft not included] IF Enclosed mall & A5 [Food court] = Yes & Natural gas IN D66 [Sources for cooking] ➔ G12 [Natural gas covers food court] OTHERWISE ➔ G13 [Other bldgs natural gas included]	

<b>G11</b>	<b>Sq ft not included</b>	<i>NGNISF9</i>
<b>ASK</b>	IF G10 [All occupants natural gas included] = No	
<p>What is the approximate square footage of the space in the building that is <u>not</u> included in these figures?</p> <p>◆ PROBE for estimate if DK</p>		
<b>RANGE</b>	1 to 999,999,999	
<b>NEXT</b>	IF Enclosed mall & A5 [Food court] = Yes & Natural gas IN D66 [Sources for cooking] → G12 [Natural gas covers food court] OTHERWISE → G13 [Other bldgs natural gas included]	

<b>G12</b>	<b>Natural gas covers food court</b>	<i>NGFDCT9</i>
<b>ASK</b>	IF G6 [Natural gas consumption] given OR G7 [Natural gas expenditures] given & Enclosed mall & A5 [Food court] = Yes & Natural gas IN D66 [Sources for cooking]	
<p>Do these figures include the natural gas used for cooking by the establishments in the food court?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	→ G13 [Other bldgs natural gas included]	

<b>G13</b>	<b>Other bldgs natural gas included</b>	<i>NGOTBD9</i>
<b>ASK</b>	IF G6 [Natural gas consumption] given OR G7 [Natural gas expenditures] given	
<p>Is any consumption from other buildings included in these figures?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → G14 [Sq ft of other included] IF No OR DK/RF → G17 [Include other major natural gas]	

<b>G14</b>	<b>Sq ft of other included</b>	<i>NGOTSF9</i>
<b>ASK</b>	IF G13 [Other bldgs natural gas included] = Yes	
<p>What is the approximate square footage of the <u>other</u> buildings that are included in these figures?</p> <p>◆ PROBE for estimate if DK</p>		
<b>RANGE</b>	1 to 999,999,999	
<b>NEXT</b>	IF A1 [Square footage] known & Number given > A1 [Square footage] & Number given < A1 [Square footage] x 50 → G15 [Verify sq ft is other bldgs] OTHERWISE → G17 [Include other major natural gas]	

<b>G15</b>	<b>Verify sq ft is other bldgs</b>	<i>NGOTVY9</i>
<b>ASK</b>	IF Number given IN G14 [Sq ft of other included] & A1 [Square footage] known & G14 [Sq ft of other included] > A1 [Square footage] & G14 [Sq ft of other included] < A1 [Square footage] x 50	
<b>FILL</b>	<p>{SqFt} = A1 [Square footage] square feet          {OtherSqFt} = G14 [Sq ft of other included]          {TotalSqFt} = A1 [Square footage] square feet + G14 [Sq ft of other included]</p>	
<p>So, just to verify, the consumption figures you just gave me are for both this {SqFt} square foot building <u>and</u> {OtherSqFt} square feet of additional space, for a total of {TotalSqFt} square feet, is that correct?</p> <ol style="list-style-type: none"> <li>1 Yes, consumption is for {TotalSqFt} square feet</li> <li>2 No, the square footage just given was the total including this building - consumption is for {OtherSqFt} square feet</li> <li>3 No, consumption is for some other number of square feet</li> </ol>		
<b>NEXT</b>	IF No, consumption is for some other number of square feet → G16 [What sq ft included] OTHERWISE → G17 [Include other major natural gas]	

<b>G16</b>	<b>What sq ft included</b>	<i>NGTOSF9</i>
<b>ASK</b>	IF G15 [Verify sq ft is other bldgs] = No, consumption is for some other number of square feet	
<p>What is the total floorspace included in the natural gas usage figures?</p> <p>◆ PROBE for estimate if DK</p>		
<b>RANGE</b>	1 to 999,999,999	
<b>NEXT</b>	→ G17 [Include other major natural gas]	

<b>G17</b>	<b>Include other major natural gas</b>	<i>NGOTUS9</i>
<b>ASK</b>	IF G6 [Natural gas consumption] given OR G7 [Natural gas expenditures] given	
<p>Do these figures include charges for any <u>other</u> major natural gas usage outside the building, such as for kilns, gas space heaters, exterior or decorative lighting, compressed natural gas vehicles, or pumps not used in the building?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	<p>IF D82 [How purchase natural gas] = Bought from someone else OR Bought both ways  → G18 [Include all non-local natural gas]  IF (A1 [Square footage] known OR A2 [Square footage category] known) &amp; D1 [Heating] ≠ DK/RF &amp; D2 [Cooling] ≠ DK/RF &amp; D3 [Water heating] ≠ DK/RF &amp; D4 [Cooking] ≠ DK/RF  → G20 [Natural gas regression check]  OTHERWISE:  IF G2 [WS2 natural gas filled out] = Yes → G24 [Monthly natural gas included]  IF G2 [WS2 natural gas filled out] = No OR DK/RF → G25 [Monthly natural gas available]</p>	

<b>G18</b>	<b>Include all non-local natural gas</b>	<i>NGNONU9</i>
<b>ASK</b>	IF (G6 [Natural gas consumption] given OR G7 [Natural gas expenditures] given) & (D82 [How purchase natural gas] = Bought from someone else OR Bought both ways)	
<p>Do these figures include all the natural gas from the non-utility or broker?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	<p>IF No → G19 [What not included]  IF Yes OR DK/RF:  IF (A1 [Square footage] known OR A2 [Square footage category] known) &amp; D1 [Heating] ≠ DK/RF &amp; D2 [Cooling] ≠ DK/RF &amp; D3 [Water heating] ≠ DK/RF &amp; D4 [Cooking] ≠ DK/RF  → G20 [Natural gas regression check]  OTHERWISE:  IF G2 [WS2 natural gas filled out] = Yes → G24 [Monthly natural gas included]  IF G2 [WS2 natural gas filled out] = No OR DK/RF → G25 [Monthly natural gas available]</p>	

<b>G19</b>	<b>What not included</b>	
<b>ASK</b>	IF G18 [Include all non-local natural gas] = No	
<p>What was not included?</p> <p>◆ RECORD the additional charges in the open box</p>		
<b>NEXT</b>	<p>IF (A1 [Square footage] known OR A2 [Square footage category] known) &amp; D1 [Heating] ≠ DK/RF &amp; D2 [Cooling] ≠ DK/RF &amp; D3 [Water heating] ≠ DK/RF &amp; D4 [Cooking] ≠ DK/RF  → G20 [Natural gas regression check]  OTHERWISE:  IF G2 [WS2 natural gas filled out] = Yes → G24 [Monthly natural gas included]  IF G2 [WS2 natural gas filled out] = No OR DK/RF → G25 [Monthly natural gas available]</p>	



<b>G20</b>	<b>Natural gas regression check</b>
<b>ASK</b>	IF (G6 [Natural gas consumption] given OR G7 [Natural gas expenditures] given) & (A1 [Square footage] known OR A2 [Square footage category known]) & D1 [Heating] ≠ DK/RF & D2 [Cooling] ≠ DK/RF & D3 [Water heating] ≠ DK/RF & D4 [Cooking] ≠ DK/RF
<p>Based on various characteristics of the structure, Blaise will use a detailed equation to compute predicted consumption and expenditures estimates. The natural gas consumption and/or expenditures given will be adjusted based on the units for natural gas, and ratio adjusted if other square footage was either included or excluded in the figures, and then will either PASS or FAIL this regression check, based on the following formula:</p> <p>IF F12 [Natural gas consumption] &gt; [Predicted consumption] × 8  OR F13 [Natural gas expenditures] &gt; [Predicted expenditures] × 8 → FAIL (HIGH)  IF F12 [Natural gas consumption] &lt; [Predicted consumption] ÷ 13  OR F13 [Natural gas expenditures] &lt; [Predicted expenditures] ÷ 13 → FAIL (LOW)  OTHERWISE → PASS</p>	
<b>NEXT</b>	IF FAIL (HIGH) → G21 [Anything unusual high] IF FAIL (LOW) → G22 [Anything unusual low] IF PASS: IF G2 [WS2 natural gas filled out] = Yes → G24 [Monthly natural gas included] IF G2 [WS2 natural gas filled out] = No OR DK/RF → G25 [Monthly natural gas available]

<b>G21</b>	<b>Anything unusual high</b>	<i>NGHIGH9</i>
<b>ASK</b>	IF G20 [Natural gas regression check] = FAIL (HIGH)	
<p>These usage figures seem high for what you have told me about this building. Is there anything unusual that might explain this high usage?</p> <p>1 Yes  2 No</p>		
<b>NEXT</b>	IF Yes → G23 [What is unusual] IF No OR DK/RF: IF G2 [WS2 natural gas filled out] = Yes → G24 [Monthly natural gas included] IF G2 [WS2 natural gas filled out] = No OR DK/RF → G25 [Monthly natural gas available]	

<b>G22</b>	<b>Anything unusual low</b>	<i>NGLOW9</i>
<b>ASK</b>	IF G20 [Natural gas regression check] = FAIL (LOW)	
<p>These usage figures seem low for what you have told me about this building. Is there anything unusual that might explain this low usage?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → G23 [What is unusual] IF No OR DK/RF: IF G2 [WS2 natural gas filled out] = Yes → G24 [Monthly natural gas included] IF G2 [WS2 natural gas filled out] = No OR DK/RF → G25 [Monthly natural gas available]	

<b>G23</b>	<b>What is unusual</b>
<b>ASK</b>	IF G21 [Anything unusual high] = Yes OR G22 [Anything unusual low] = Yes
<p>Please tell me [what is out of the ordinary about this building].</p> <p>◆ RECORD in open box</p>	
<b>NEXT</b>	IF G2 [WS2 natural gas filled out] = Yes → G24 [Monthly natural gas included] IF G2 [WS2 natural gas filled out] = No OR DK/RF → G25 [Monthly natural gas available]

<b>G24</b>	<b>Monthly natural gas included</b>	<i>NGINC129</i>
<b>ASK</b>	IF (G6 [Natural gas consumption] given OR G7 [Natural gas expenditures] given) & G2 [WS2 natural gas filled out] = Yes	
<p>Did you include your monthly natural gas usage on Worksheet 2?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF No OR DK/RF → G25 [Monthly natural gas available] IF Yes: IF G20 [Natural gas regression check] = PASS → G26 [Natural gas bill available] IF G20 [Natural gas regression check] = FAIL (HIGH) OR FAIL (LOW) → G27 [Number natural gas suppliers]	

<b>G25</b>	<b>Monthly natural gas available</b>	<i>NGHAV129</i>
<b>ASK</b>	IF (G6 [Natural gas consumption] given OR G7 [Natural gas expenditures] given) & (G2 [WS2 natural gas filled out] = No OR DK/RF OR G24 [Monthly natural gas included] = No OR DK/RF)	
<p>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?</p> <ul style="list-style-type: none"> <li>◆ 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</li> </ul> <p>1 Yes, monthly natural gas available 2 No, will not be able to provide monthly natural gas</p>		
<b>NEXT</b>	IF (A1 [Square footage] = DK/RF & A2 [Square footage category] = DK/RF) & D1 [Heating] ≠ DK/RF & D2 [Cooling] ≠ DK/RF & D3 [Water heating] ≠ DK/RF & D4 [Cooking] ≠ DK/RF OR F19 [Electricity regression check] = FAIL (HIGH) OR FAIL (LOW) → G27 [Number natural gas suppliers] OTHERWISE → G26 [Natural gas bill available]	

<b>G26</b>	<b>Natural gas bill available</b>	<i>NGBILL9</i>
<b>ASK</b>	IF G6 [Natural gas consumption] given OR G7 [Natural gas expenditures] given & G20 [Natural gas regression check] = PASS	
<p>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.</p> <ul style="list-style-type: none"> <li>◆ EXP: [Examples of these items include miscellaneous charges, past months data, and units of measure.]</li> <li>◆ 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</li> </ul> <p>1 Yes, bill available 2 No, will not be able to provide bill</p>		
<b>NEXT</b>	→ H1 [Section H Routing]	

<b>G27</b>	<b>Number natural gas suppliers</b>	<i>NGNUMSP9</i>
<b>ASK</b>	IF G3 [Provide natural gas figures] = No OR DK/RF OR G6 [Natural gas consumption] = DK/RF & G7 [Natural gas expenditures] = DK/RF OR G20 [Natural gas regression check] = FAIL (HIGH) OR FAIL (LOW)	
<b>FILL</b>	<b>{SuppliersIntro}</b> IF (G3 [Provide natural gas figures] = No OR DK/RF) OR (G6 [Natural gas consumption] = DK/RF & G7 [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." OTHERWISE = "We may need to go to your supplier to verify some information, so I need to ask you some questions about your natural gas supplier or suppliers."	
{SuppliersIntro}  In some parts of the country, customers can purchase energy from more than one supplier. How many different companies supplied natural gas to this building during calendar year 2007?		
<b>RANGE</b>	1 to 4	
<b>NEXT</b>	Number given → G28 [Natural gas suppliers] DK/RF → H1 [Section H Routing]	

<b>G28</b>	<b>Natural gas suppliers</b>	<i>NG1LKP9—NG2LKP9</i>
<b>ASK</b>	IF G27 [Number natural gas suppliers] given	
<b>FILL</b>	<b>{FirstNext}</b> 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? <ul style="list-style-type: none"> <li>◆ Start typing the name of the supplier or use &lt;BACKSPACE&gt; to bring up the look-up table</li> <li>◆ Type in the first few letters of the supplier name, and the look-up table will scroll to the closest match</li> <li>◆ If you find a match, make sure the correct line is highlighted (blue) and press &lt;ENTER&gt;</li> <li>◆ If you don't find a match, use &lt;BACKSPACE&gt; 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 &lt;ENTER&gt; two times</li> </ul>		
<b>NEXT</b>	IF NOT ON LIST selected → G29 [Supplier name] IF Supplier found in look-up table → G35 [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 G28 [Natural gas suppliers] again for next supplier	

<b>G29</b>	<b>Supplier name</b>	<i>NG1NEW9—NG4NEW9</i>
<b>ASK</b>	IF NOT ON LIST selected in G28 [Natural gas suppliers]	
<p>◆ ENTER the name of the supplier</p>		
<b>NEXT</b>	IF Name given → G30 [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 G28 [Natural gas suppliers] for next supplier	

<b>G30</b>	<b>Street address</b>	<i>NG1AD19—NG4AD19</i>
<b>ASK</b>	All Structures IF NOT ON LIST selected in G28 [Natural gas suppliers]	
<b>FILL</b>	{Supplier} = "G29 [Supplier name]"	
What is the address for {Supplier}, beginning with the street?		
<b>NEXT</b>	→ G31 [P.O. Box or Suite]	

<b>G31</b>	<b>P.O. Box or Suite</b>	<i>NG1AD29—NG4AD29</i>
<b>ASK</b>	IF NOT ON LIST selected in G28 [Natural gas suppliers]	
Is there a post office box or suite number? <p>◆ If not, press &lt;ENTER&gt;</p>		
<b>NEXT</b>	→ G32 [City]	

<b>G32</b>	<b>City</b>	<i>NG1CTY9—NG4CTY9</i>
<b>ASK</b>	IF NOT ON LIST selected in G28 [Natural gas suppliers]	
What is the city?		
<b>NEXT</b>	→ G33 [State abbreviation]	

<b>G33</b>	<b>State abbreviation</b>	<i>NG1STA9—NG4STA9</i>
<b>ASK</b>	IF NOT ON LIST selected in G28 [Natural gas suppliers]	
<p>What is the state?</p> <p>◆ ENTER the two letter abbreviation</p>		
<b>NEXT</b>	➔ G34 [Zip code]	

<b>G34</b>	<b>Zip code</b>	<i>NG1ZIP9—NG4ZIP9</i>
<b>ASK</b>	IF NOT ON LIST selected in G28 [Natural gas suppliers]	
<p>And what is the zip code?</p>		
<b>NEXT</b>	➔ G35 [Number natural gas accounts]	

<b>G35</b>	<b>Number natural gas accounts</b>	<i>NG1NAC9—NG4NAC9</i>
<b>ASK</b>	IF Supplier found in G28 [Natural gas suppliers] look-up table OR G29 [Supplier name] given	
<b>FILL</b>	<b>{Supplier}</b> = Supplier name from G28 [Natural gas suppliers] look-up table OR G29 [Supplier name]	
<p>How many different natural gas accounts does this building have with {Supplier}?</p>		
<b>RANGE</b>	1 to 999	
<b>NEXT</b>	IF 1 to 10 accounts ➔ G36 [Natural gas account number] IF More than 10 accounts OR DK/RF ➔ G41 [Copy of bill available]	

<b>G36</b>	<b>Natural gas account number</b>	<i>NG1AC19—NG4AC109</i>
<b>ASK</b>	IF G35 [Number natural gas accounts] = 1 to 10 Ask as many times as account numbers given, or until DK/RF	
<b>FILL</b>	<b>{FirstNext}</b> IF Only one account = BLANK IF First account given = "first" OTHERWISE = "next" <b>{Supplier}</b> = Supplier name from G28 [Natural gas suppliers] look-up table OR G29 [Supplier name]	
Please give me the {FirstNext} natural gas account number for {Supplier}.  ◆ VERIFY number <u>digit by digit</u>		
<b>NEXT</b>	IF D82 [How purchase natural gas] = Bought from someone else OR Bought both ways → G37 [Supplier is non-local utility] OTHERWISE → G38 [Bills cover only building]	

<b>G37</b>	<b>Supplier is non-local utility</b>	<i>NG1NONU9—NG4NONU9</i>
<b>ASK</b>	IF (Supplier found in G28 [Natural gas suppliers] look-up table OR G29 [Supplier name] given) & (D82 [How purchase natural gas] = Bought from someone else OR Bought both ways)	
<b>FILL</b>	<b>{Supplier}</b> = Supplier name from G28 [Natural gas suppliers] look-up table OR G29 [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		
<b>NEXT</b>	→ G38 [Bills cover only building]	

<b>G38</b>	<b>Bills cover only building</b>	<i>NG1OTB9—NG4OTB9</i>
<b>ASK</b>	IF Supplier found in G28 [Natural gas suppliers] look-up table OR G29 [Supplier name] given	
<b>FILL</b>	<b>{Bills}</b> IF Only one account = "Does the bill or statement" IF 2 to 10 accounts = "Do the bills or statements" <b>{Supplier}</b> = Supplier name from G28 [Natural gas suppliers] look-up table OR G29 [Supplier name]	
{Bills} from {Supplier} cover just this building or are other buildings covered as well?  1 Just this building 2 Other building(s)		
<b>NEXT</b>	IF Other buildings → G39 [Sq ft of others included] IF Just this building OR DK/RF → G40 [Include other major natural gas]	

<b>G39</b>	<b>Sq ft of others included</b>	<i>NG10TS9—NG40TS9</i>
<b>ASK</b>	IF G38 [Bills cover only building] = Other buildings	
<b>FILL</b>	<b>{Bills}</b> IF Only one account = “bill or statement” IF 2 to 10 accounts = “bills or statements”	
<p>What is the approximate square footage of the <u>other</u> buildings included on the {Bills}?</p> <p>◆ PROBE for estimate if DK</p>		
<b>RANGE</b>	1 to 999,999,999	
<b>NEXT</b>	➔ G40 [Include other major natural gas]	

<b>G40</b>	<b>Include other major natural gas</b>	<i>NG10TU9—NG40TU9</i>
<b>ASK</b>	IF Supplier found in G28 [Natural gas suppliers] look-up table OR G29 [Supplier name] given	
<b>FILL</b>	<b>{Bills}</b> IF Only one account = “Does the bill or statement” IF 2 to 10 accounts = “Do the bills or statements”	
<p>{Bills} include charges for any <u>other</u> major natural gas usage outside the building, such as for kilns, gas space heaters, exterior or decorative lighting, compressed natural gas vehicles, or pumps not used in the building?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	➔ G41 [Natural gas bill available]	

<b>G41</b>	<b>Natural gas bill available</b>	<i>NG1BILL8—NG4BILL8</i>
<b>ASK</b>	IF (Supplier found in G28 [Natural gas suppliers] look-up table OR G29 [Supplier name] given)	
<b>FILL</b>	<b>{Supplier}</b> = Supplier name from G28 [Natural gas suppliers] look-up table OR G29 [Supplier name]	
<p>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.</p> <p>◆ EXP: [Examples of these items include miscellaneous charges, past months data, and units of measure.]</p> <p>◆ 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</p> <p>1 Yes, bill available 2 No, will not be able to provide bill</p>		
<b>NEXT</b>	IF More suppliers left to answer for ➔ Back to G28 [Natural gas suppliers] for next supplier OTHERWISE ➔ H1 [Section H Routing]	



## SECTION H. FUEL OIL/DIESEL/KEROSENE

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

<b>H1</b>	<b>Section H Routing</b>
<b>NEXT</b>	IF Fuel oil used → H2 [WS2 fuel oil filled out] OTHERWISE → I1 [Section I Routing]

<b>H2</b>	<b>WS2 fuel oil filled out</b>	<i>WS2FKCE9</i>
<b>ASK</b>	IF Fuel oil used	
<b>FILL</b>	<b>{FuelOilType}</b> = Type or types specified in D9 [Fuel oil, diesel, or kerosene]	
Do you have Worksheet 2 with you and filled out for {FuelOilType}?		
<ul style="list-style-type: none"> <li>1 Yes</li> <li>2 No</li> </ul>		
<b>NEXT</b>	IF No OR DK/RF → H3 [Provide fuel oil figures] IF Yes → H4 [Fuel oil purchases]	

<b>H3</b>	<b>Provide fuel oil figures</b>	<i>FKFIGS9</i>
<b>ASK</b>	IF H2 [WS2 fuel oil filled out] = No OR DK/RF	
<b>FILL</b>	<b>{FuelOilType}</b> = Type or types specified in D9 [Fuel oil, diesel, or kerosene]	
The next questions are about {FuelOilType} usage and purchases in this building 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?		
<ul style="list-style-type: none"> <li>1 Yes</li> <li>2 No</li> </ul>		
<b>NEXT</b>	IF Yes → H4 [Fuel oil purchases] IF No OR DK/RF: IF D16 [Source for main heating] = Fuel oil OR D17 [Other source for main heating] = Fuel oil → H23 [Number fuel oil suppliers] OTHERWISE → I1 [Section I Routing]	

<b>H4</b>	<b>Fuel oil purchases</b>	<i>FKPURC9</i>
<b>ASK</b>	IF H2 [WS2 fuel oil filled out] = Yes OR H3 [Provide fuel oil figures] = Yes	
<b>FILL</b>	<b>{FuelOilType}</b> = 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.		
<ul style="list-style-type: none"> <li>◆ EXP: [If part of a multibuilding campus or complex, and the respondent only knows the consumption for the whole campus or complex, ENTER the total consumption for the campus or complex here.]</li> <li>◆ VERIFY number <u>digit by digit</u></li> </ul>		
<b>RANGE</b>	0 to 99,999,999,999,999	
<b>NEXT</b>	➔ H5 [Fuel oil expenditures]	

<b>H5</b>	<b>Fuel oil expenditures</b>	<i>FKEXP9</i>
<b>ASK</b>	IF H2 [WS2 fuel oil filled out] = Yes OR H3 [Provide fuel oil figures] = Yes	
<b>FILL</b>	<b>{FuelOilType}</b> = 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.		
<ul style="list-style-type: none"> <li>◆ Do <u>not</u> enter cents</li> <li>◆ VERIFY number <u>digit by digit</u></li> </ul>		
<b>RANGE</b>	0 to 999,999,999	
<b>NEXT</b>	IF H4 [Fuel oil purchases] = Zero & H5 [Fuel oil expenditures] = Zero ➔ H6 [Purchased before 2007] IF H4 [Fuel oil purchases] = DK/RF & H5 [Fuel oil expenditures] = DK/RF ➔ H9 [Fuel oil use measured] OTHERWISE ➔ H7 [Starting date for fuel oil figures]	

<b>H6</b>	<b>Purchased before 2007</b>	<i>FKSTORD9</i>
<b>ASK</b>	IF H4 [Fuel oil purchases] = Zero & H5 [Fuel oil expenditures] = Zero	
<b>FILL</b>	<b>{FuelOilType}</b> = 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		
<b>NEXT</b>	IF Yes ➔ H9 [Fuel oil use measured] IF No ➔ I1 [Section I Routing]	

<b>H7</b>	<b>Starting date for fuel oil figures</b>	<i>FKSTDAT9</i>
<b>ASK</b>	IF (H4 [Fuel oil purchases] given OR H5 [Fuel oil expenditures] given) & Not both zero	
<b>FILL</b>	<b>{FuelOilType}</b> = Type or types specified in D9 [Fuel oil, diesel, or kerosene]	
		[F1]-HELP
<p>What is the first delivery date for these {FuelOilType} purchases?</p> <ul style="list-style-type: none"> <li>◆ ENTER date as MMDDYYYY</li> <li>◆ If the day is not known, ENTER "15"</li> </ul>		
<b>NEXT</b>	➔ H8 [Ending date for fuel oil figures]	

<b>H8</b>	<b>Ending date for fuel oil figures</b>	<i>FKENDAT9</i>
<b>ASK</b>	IF (H4 [Fuel oil purchases] given OR H5 [Fuel oil expenditures] given) & Not both zero	
<b>FILL</b>	<b>{FuelOilType}</b> = Type or types specified in D9 [Fuel oil, diesel, or kerosene]	
		[F1]-HELP
<p>What is the last delivery date [for these {FuelOilType} purchases]?</p> <ul style="list-style-type: none"> <li>◆ ENTER date as MMDDYYYY</li> <li>◆ If the day is not known, ENTER "15"</li> </ul>		
<b>NEXT</b>	➔ H9 [Fuel oil use measured]	

<b>H9</b>	<b>Fuel oil use measured</b>	<i>FKMEAS9</i>
<b>ASK</b>	IF H2 [WS2 fuel oil filled out] = Yes OR H3 [Provide fuel oil figures] = Yes	
<b>FILL</b>	<b>{FuelOilType}</b> = Type or types specified in D9 [Fuel oil, diesel, or kerosene]	
<p>Is your {FuelOilType} consumption measured or metered so that you can tell how much was actually consumed during 2007?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	<p>IF Yes ➔ H10 [Fuel oil actual consumption]  IF No OR DK/RF:  IF H4 [Fuel oil purchases] given OR H5 [Fuel oil expenditures] given:  IF C5 [Number of businesses] &gt;1 OR C7 [Re-ask number of businesses] &gt; 1  OR C8 [Number of businesses category] ≠ Zero OR One  ➔ H11 [All occupants fuel oil included]  OTHERWISE ➔ H13 [Other bldgs fuel oil included]  OTHERWISE ➔ I1 [Section I Routing]</p>	

<b>H10</b>	<b>Fuel oil actual consumption</b>	<i>FKCNSA9</i>
<b>ASK</b>	IF H9 [Fuel oil use measured] = Yes	
<b>FILL</b>	{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 <u>consumed</u> in calendar year 2007.		
◆ VERIFY number <u>digit by digit</u>		
<b>RANGE</b>	1 to 99,999,999,999,999	
<b>NEXT</b>	IF Number given → H11 [All occupants fuel oil included] OTHERWISE: IF H4 [Fuel oil purchases] given OR H5 [Fuel oil expenditures] given: IF C5 [Number of businesses] >1 OR C7 [Re-ask number of businesses] > 1 OR C8 [Number of businesses category] ≠ Zero OR One → H11 [All occupants fuel oil included] OTHERWISE → H13 [Other bldgs fuel oil included] OTHERWISE → I1 [Section I Routing]	

<b>H11</b>	<b>All occupants fuel oil included</b>	<i>FKALL9</i>
<b>ASK</b>	IF (H4 [Fuel oil purchases] given OR H5 [Fuel oil expenditures] given OR H10 [Fuel oil actual consumption] given) & (C5 [Number of businesses] >1 OR C7 [Re-ask number of businesses] > 1 OR C8 [Number of businesses category] ≠ Zero OR One)	
<b>FILL</b>	{FuelOilType} = Type or types specified in D9 [Fuel oil, diesel, or kerosene]	
Do these figures include the {FuelOilType} for all of the businesses or organizations in this building?		
1 Yes 2 No		
<b>NEXT</b>	IF No → H12 [Sq ft not included] IF Yes OR DK/RF → H13 [Other bldgs fuel oil included]	

<b>H12</b>	<b>Sq ft not included</b>	<i>FKNISF9</i>
<b>ASK</b>	IF H11 [All occupants fuel oil included] = No	
What is the approximate square footage of the space in the building that is <u>not</u> included in these figures?		
◆ PROBE for estimate if DK		
<b>RANGE</b>	1 to 999,999,999	
<b>NEXT</b>	→ H13 [Other bldgs fuel oil included]	

<b>H13</b>	<b>Other bldgs fuel oil included</b>	<i>FKOTBD9</i>
<b>ASK</b>	IF H4 [Fuel oil purchases] given OR H5 [Fuel oil expenditures] given OR H10 [Fuel oil actual consumption] given	
<p>Is any consumption from other buildings included in these figures?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → H14 [Sq ft of other included] IF No OR DK/RF → H17 [Include other major fuel oil]	

<b>H14</b>	<b>Sq ft of other included</b>	<i>FKOTSF9</i>
<b>ASK</b>	IF H13 [Other bldgs fuel oil included] = Yes	
<p>What is the approximate square footage of the <u>other</u> buildings that are included in these figures?</p> <p>◆ PROBE for estimate if DK</p>		
<b>RANGE</b>	1 to 999,999,999	
<b>NEXT</b>	IF A1 [Square footage] known & Number given > A1 [Square footage] & Number given < A1 [Square footage] x 50 → H15 [Verify sq ft is other bldgs] OTHERWISE → H17 [Include other major fuel oil]	

<b>H15</b>	<b>Verify sq ft is other bldgs</b>	<i>FKOTVY9</i>
<b>ASK</b>	IF Number given IN H14 [Sq ft of other included] & A1 [Square footage] known & H14 [Sq ft of other included] > A1 [Square footage] & H14 [Sq ft of other included] < A1 [Square footage] x 50	
<b>FILL</b>	<p>{SqFt} = A1 [Square footage] square feet          {OtherSqFt} = H14 [Sq ft of other included]          {TotalSqFt} = A1 [Square footage] square feet + H14 [Sq ft of other included]</p>	
<p>So, just to verify, the consumption figures you just gave me are for both this {SqFt} square foot building <u>and</u> {OtherSqFt} square feet of additional space, for a total of {TotalSqFt} square feet, is that correct?</p> <p>1 Yes, consumption is for {TotalSqFt} square feet          2 No, the square footage just given was the total including this building - consumption is for {OtherSqFt} square feet          3 No, consumption is for some other number of square feet</p>		
<b>NEXT</b>	IF No, consumption is for some other number of square feet → H16 [What sq ft included] OTHERWISE → H17 [Include other major fuel oil]	

<b>H16</b>	<b>What sq ft included</b>	<i>FKTOSF9</i>
<b>ASK</b>	IF H15 [Verify sq ft is other bldgs] = No, consumption is for some other number of square feet	
<b>FILL</b>	<b>{FuelOilType}</b> = Type or types specified in D9 [Fuel oil, diesel, or kerosene]	
<p>What is the total floorspace included in the {FuelOilType} usage figures?</p> <p>◆ PROBE for estimate if DK</p>		
<b>RANGE</b>	1 to 999,999,999	
<b>NEXT</b>	→ H17 [Include other major fuel oil]	

<b>H17</b>	<b>Include other major fuel oil</b>	<i>FKOTUS9</i>
<b>ASK</b>	IF H4 [Fuel oil purchases] given OR H5 [Fuel oil expenditures] given OR H10 [Fuel oil actual consumption] given	
<b>FILL</b>	<b>{FuelOilType}</b> = Type or types specified in D9 [Fuel oil, diesel, or kerosene]	
<p>Do these figures include charges for any <u>other</u> major {FuelOilType} usage outside the building, such as for kilns, welding, pumps, or motors?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF H10 [Fuel oil actual consumption] given & A1 [Square footage] given & D16 [Source for main heating] = Fuel oil OR D17 [Other source for main heating] = Fuel oil → H18 [Fuel oil regression check] OTHERWISE → H22 [Fuel oil bill available]	

<b>H18</b>	<b>Fuel oil regression check</b>
<b>DO</b>	IF H10 [Fuel oil actual consumption] given & A1 [Square footage] given & D16 [Source for main heating] = Fuel oil OR D17 [Other source for main heating] = Fuel oil
<p>Based on various characteristics of the structure, Blaise will use a detailed equation to compute predicted consumption and expenditures estimates. The fuel oil consumption given will either PASS or FAIL this regression check, based on the following formulae:</p> <p>IF H10 [Fuel oil actual consumption] &gt; (Predicted consumption × 10) → FAIL (HIGH)          IF H10 [Fuel oil actual consumption] &lt; (Predicted consumption ÷ 20) → FAIL (LOW)          OTHERWISE → PASS</p>	
<b>NEXT</b>	IF FAIL (HIGH) → H17 [Anything unusual high] IF FAIL (LOW) → H18 [Anything unusual low] IF PASS → H22 [Fuel oil bill available]

<b>H19</b>	<b>Anything unusual high</b>	<i>FKHIGH9</i>
<b>ASK</b>	IF H18 [Fuel oil regression check] = FAIL (HIGH)	
<b>FILL</b>	<b>{FuelOilType}</b> = Type or types specified in D9 [Fuel oil, diesel, or kerosene]	
<p>These {FuelOilType} usage figures seem high for what you have told me about this building. Is there anything unusual that might explain this high usage?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → H21 [What is unusual] IF No OR DK/RF → H23 [Number fuel oil suppliers]	

<b>H20</b>	<b>Anything unusual low</b>	<i>FKLOW9</i>
<b>ASK</b>	IF H18 [Fuel oil regression check] = FAIL (LOW)	
<b>FILL</b>	<b>{FuelOilType}</b> = Type or types specified in D9 [Fuel oil, diesel, or kerosene]	
<p>These {FuelOilType} usage figures seem low for what you have told me about this building. Is there anything unusual that might explain this low usage?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → H21 [What is unusual] IF No OR DK/RF → H23 [Number fuel oil suppliers]	

<b>H21</b>	<b>What is unusual</b>
<b>ASK</b>	IF H19 [Anything unusual high] = Yes OR H20 [Anything unusual low] = Yes
<p>Please tell me [what is out of the ordinary about this building].</p> <p>◆ RECORD in open box</p>	
<b>NEXT</b>	→ H23 [Number fuel oil suppliers]

<b>H22</b>	<b>Fuel oil bill available</b>	<i>FKBILL9</i>
<b>ASK</b>	IF (H4 [Fuel oil purchases] given OR H5 [Fuel oil expenditures] given) OR (H10 [Fuel oil actual consumption] given & (A1 [Square footage] = DK/RF OR (D16 [Source for main heating] ≠ Fuel oil & D17 [Other source for main heating] ≠ Fuel oil)) OR (H10 [Fuel oil actual consumption] given & H18 [Fuel oil regression check] = PASS)	
<p>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.</p> <ul style="list-style-type: none"> <li>◆ EXP: [Examples of these items include miscellaneous charges, past months data, and units of measure.]</li> <li>◆ 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</li> </ul> <ol style="list-style-type: none"> <li>1 Yes, bill available</li> <li>2 No, will not be able to provide bill</li> </ol>		
<b>NEXT</b>	→ I1 [Section I Routing]	

<b>H23</b>	<b>Number fuel oil suppliers</b>	<i>FKNUMSP9</i>
<b>ASK</b>	IF D16 [Source for main heating] = Fuel oil OR D17 [Other source for main heating] = Fuel oil & H3 [Provide fuel oil figures] = No OR DK/RF OR H4 [Fuel oil purchases] = DK/RF & H5 [Fuel oil expenditures] = DK/RF & H10 [Fuel oil actual consumption] = DK/RF OR H18 [Fuel oil regression check] = FAIL (LOW) OR FAIL (HIGH)	
<b>FILL</b>	<b>{SuppliersIntro}</b> IF H3 [Provide fuel oil figures] = No OR DK/RF OR (H4 [Fuel oil purchases] = DK/RF) & H5 [Fuel oil expenditures] = DK/RF & H10 [Fuel oil actual consumption] = DK/RF) = "We should be able to obtain this information directly from your supplier, so I just need to collect some information about your accounts." OTHERWISE = "We may need to go to your supplier to verify some information, so I need to ask you some questions about your supplier or suppliers." <b>{FuelOilType}</b> = Type or types specified in D9 [Fuel oil, diesel, or kerosene]	
{SuppliersIntro}  How many different companies supplied {FuelOilType} to building during calendar year 2007?		
<b>RANGE</b>	1 to 4	
<b>NEXT</b>	Number given → H24 [Fuel oil supplier name] DK/RF → I1 [Section I Routing]	



<b>H24</b>	<b>Fuel oil supplier name</b>	<i>FK1SUP9—FK4SUP9</i>
<b>ASK</b>	IF H23 [Number fuel oil suppliers] given	
<b>FILL</b>	<b>{FirstNext}</b> IF Only one supplier = BLANK IF First supplier given = "first" OTHERWISE = "next" <b>{FuelOilType}</b> = Type or types specified in D9 [Fuel oil, diesel, or kerosene]	
What is the name of the {FirstNext} supplier that provided {FuelOilType} during 2007?		
<b>NEXT</b>	IF Name given → H25 [Street address] IF DK/RF: IF Only one supplier or last supplier → I1 [Section I Routing] IF More suppliers left to answer for → Ask H24 [Fuel oil supplier name] again for next supplier	

<b>H25</b>	<b>Street address</b>	<i>FK1AD19—FK4AD19</i>
<b>ASK</b>	IF Name given in H24 [Fuel oil supplier name]	
<b>FILL</b>	<b>{Supplier}</b> = H24 [Fuel oil supplier name]	
What is the address for {Supplier}, beginning with the street?		
<b>NEXT</b>	→ H26 [P.O. Box or Suite]	

<b>H26</b>	<b>P.O. Box or Suite</b>	<i>FK1AD29—FK4AD29</i>
<b>ASK</b>	IF Name given in H24 [Fuel oil supplier name]	
Is there a post office box or suite number?  ◆ If not, press <ENTER>		
<b>NEXT</b>	→ H27 [City]	

<b>H27</b>	<b>City</b>	<i>FK1CTY9—FK4CTY9</i>
<b>ASK</b>	IF Name given in H24 [Fuel oil supplier name]	
What is the city?		
<b>NEXT</b>	→ H28 [State abbreviation]	

<b>H28</b>	<b>State abbreviation</b>	<i>FK1STA9—FK4STA9</i>
<b>ASK</b>	IF Name given in H24 [Fuel oil supplier name]	
<p>What is the state?</p> <p>◆ ENTER the two letter abbreviation</p>		
<b>NEXT</b>	➔ H29 [Zip code]	

<b>H29</b>	<b>Zip code</b>	<i>FK1ZIP9—FK4ZIP9</i>
<b>ASK</b>	IF Name given in H24 [Fuel oil supplier name]	
<p>And what is the zip code?</p>		
<b>NEXT</b>	➔ H30 [Number fuel oil accounts]	

<b>H30</b>	<b>Number fuel oil accounts</b>	<i>FK1NAC9—FK4NAC9</i>
<b>ASK</b>	IF Name given in H24 [Fuel oil supplier name]	
<b>FILL</b>	<b>{FuelOilType}</b> = Type or types specified in D9 [Fuel oil, diesel, or kerosene] <b>{Supplier}</b> = H24 [Fuel oil supplier name]	
<p>How many different {FuelOilType} accounts does this building have with {Supplier}?</p>		
<b>NEXT</b>	IF 1 to 10 accounts ➔ H31 [Fuel oil account number] IF More than 10 accounts OR DK/RF ➔ H35 [Fuel oil bill available]	

<b>H31</b>	<b>Fuel oil account number</b>	<i>FK1AC19—FK4AC109</i>
<b>ASK</b>	IF H28 [Number fuel oil accounts] = 1 to 10 Ask as many times as account numbers given, or until DK/RF	
<b>FILL</b>	<b>{FirstNext}</b> IF Only one account = BLANK IF First account given = "first" OTHERWISE = "next" <b>{FuelOilType}</b> = Type or types specified in D9 [Fuel oil, diesel, or kerosene] <b>{Supplier}</b> = H24 [Fuel oil supplier name]	
<p>Please give me the {FirstNext} {FuelOilType} account number for {Supplier}.</p> <p>◆ VERIFY number <u>digit by digit</u></p>		
<b>NEXT</b>	➔ H32 [Bills cover only building]	

<b>H32</b>	<b>Bills cover only building</b>	<i>FK10TB9—FK40TB9</i>
<b>ASK</b>	IF Name given in H24 [Fuel oil supplier name]	
<b>FILL</b>	<b>{Bills}</b> IF Only one account = “Does the bill or statement” IF 2 to 10 accounts = “Do the bills or statements” <b>{Supplier}</b> = H24 [Fuel oil supplier name]	
<p>{Bills} from {Supplier} cover just this building or are other buildings covered as well?</p> <p>1 Just this building  2 Other building(s)</p>		
<b>NEXT</b>	IF Other buildings → H33 [Sq ft of others included] IF Just this building OR DK/RF → H34 [Include other major fuel oil]	

<b>H33</b>	<b>Sq ft of others included</b>	<i>FK10TS9—FK40TS9</i>
<b>ASK</b>	IF H32 [Bills cover only building] = Other buildings	
<b>FILL</b>	<b>{Bills}</b> IF Only one account = “bill or statement” IF 2 to 10 accounts = “bills or statements”	
<p>What is the approximate square footage of the <u>other</u> buildings included on the {Bills}?</p> <p>◆ PROBE for estimate if DK</p>		
<b>RANGE</b>	1 to 999,999,999	
<b>NEXT</b>	→ H34 [Include other major fuel oil]	

<b>H34</b>	<b>Include other major fuel oil</b>	<i>FK10TU9—FK40TU9</i>
<b>ASK</b>	IF Name given in H24 [Fuel oil supplier name]	
<b>FILL</b>	<b>{Bills}</b> IF Only one account = “Does the bill or statement” IF 2 to 10 accounts = “Do the bills or statements”	
<p>{Bills} include charges for any <u>other</u> major fuel oil usage outside the building, such as for kilns, welding, pumps, or motors?</p> <p>1 Yes  2 No</p>		
<b>NEXT</b>	→ H35 [Fuel oil bill available]	


<b>H35</b>	<b>Fuel oil bill available</b>	<i>FK1BILL9—FK4BILL9</i>
<b>ASK</b>	IF Name given in H24 [Fuel oil supplier name]	
<b>FILL</b>	<b>{FuelOilType}</b> = Type or types specified in D9 [Fuel oil, diesel, or kerosene] <b>{Supplier}</b> = H24 [Fuel oil supplier name]	
<p>Would it be possible for me to scan one {FuelOilType} bill from {Supplier}? There is information on some utility bills that may help energy researchers put these figures together.</p> <ul style="list-style-type: none"> <li>◆ EXP: [Examples of these items include miscellaneous charges, past months data, and units of measure.]</li> <li>◆ 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</li> </ul> <p>1 Yes, bill available 2 No, will not be able to provide bill</p>		
<b>NEXT</b>	IF More suppliers left to answer for → Back to H21 [Fuel oil supplier name] for next supplier OTHERWISE → I1 [Section I Routing]	

## SECTION I. DISTRICT STEAM

<b>I1</b>	<b>Section I Routing</b>
<b>NEXT</b>	IF District steam used → I2 [WS2 district steam filled out] OTHERWISE → J1 [Section J Routing]

<b>I2</b>	<b>WS2 district steam filled out</b>	<i>WS2STCE9</i>
<b>ASK</b>	IF District steam used	
Do you have Worksheet 2 with you and filled out for district steam?		
<ul style="list-style-type: none"> <li>1 Yes</li> <li>2 No</li> </ul>		
<b>NEXT</b>	IF No OR DK/RF → I3 [Provide district steam figures] IF Yes → I4 [Units for district steam]	

<b>I3</b>	<b>Provide district steam figures</b>	<i>STFIGS9</i>
<b>ASK</b>	IF I2 [WS2 district steam filled out] = No OR DK/RF	
The next questions are about district steam usage in this building 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?		
<ul style="list-style-type: none"> <li>1 Yes</li> <li>2 No</li> </ul>		
<b>NEXT</b>	IF Yes → I4 [Units for district steam] IF No OR DK/RF: IF D14 [From central plant] = No OR D15 [Purchase from offsite = Yes] → I18 [District steam supplier name] OTHERWISE → J1 [Section J Routing]	

<b>I4</b>	<b>Units for district steam</b>	<i>STUNIT9</i>
<b>ASK</b>	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.		
<ul style="list-style-type: none"> <li>1 Thousand pounds</li> <li>2 Pounds</li> <li>3 Million Btu</li> <li>4 IF VOLUNTEERED: Some other units</li> </ul>		
<b>NEXT</b>	IF Some other units → I5 [Other district steam units] OTHERWISE → I6 [District steam consumption]	

<b>I5</b>	<b>Other district steam units</b>	<i>STUNITX9</i>
<b>ASK</b>	IF I4 [Units for district steam] = Some other units	
What are the other units?		
<b>NEXT</b>	→ I6 [District steam consumption]	

<b>I6</b>	<b>District steam consumption</b>	<i>STCNS9</i>
<b>ASK</b>	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.		
<ul style="list-style-type: none"> <li>◆ EXP: [If part of a multibuilding campus or complex, and the respondent only knows the consumption for the whole campus or complex, ENTER the total consumption for the campus or complex here.]</li> <li>◆ VERIFY number <u>digit by digit</u></li> </ul>		
<b>RANGE</b>	1 to 99,999,999,999,999	
<b>NEXT</b>	→ I7 [District steam expenditures]	

<b>I7</b>	<b>District steam expenditures</b>	<i>STEXP9</i>
<b>ASK</b>	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.		
<ul style="list-style-type: none"> <li>◆ Do <u>not</u> enter cents</li> <li>◆ VERIFY number <u>digit by digit</u></li> </ul>		
<b>RANGE</b>	1 to 999,999,999	
<b>NEXT</b>	IF I6 [District steam consumption] = DK/RF & I7 [District steam expenditures] = DK/RF: IF D14 [From central plant] = No OR D15 [Purchase from offsite = Yes] → I18 [District steam supplier name] OTHERWISE → J1 [Section J Routing] OTHERWISE → I8 [Starting date for district steam figures]	

<b>I8</b>	<b>Starting date for district steam figures</b>	<i>STSTDAT9</i>
<b>ASK</b>	IF I6 [District steam consumption] given OR I7 [District steam expenditures] given	
		[F1]-HELP
	What is the starting date for these district steam usage figures?	
	<ul style="list-style-type: none"> <li>◆ ENTER date as MMDDYYYY</li> <li>◆ If the day is not known, ENTER "15"</li> </ul>	
<b>NEXT</b>	➔ I9 [Ending date for district steam figures]	

<b>I9</b>	<b>Ending date for district steam figures</b>	<i>STENDAT9</i>
<b>ASK</b>	IF I6 [District steam consumption] given OR I7 [District steam expenditures] given	
		[F1]-HELP
	What is the ending date [for these district steam usage figures]?	
	<ul style="list-style-type: none"> <li>◆ ENTER date as MMDDYYYY</li> <li>◆ VERIFY that this is the <u>last</u> day of the last billing period</li> <li>◆ If the day is not known, ENTER "15"</li> </ul>	
<b>NEXT</b>	IF C5 [Number of businesses] >1 OR C7 [Re-ask number of businesses] > 1 OR C8 [Number of businesses category] ≠ Zero OR One ➔ I10 [All occupants steam included] OTHERWISE ➔ I12 [Other bldgs steam included]	

<b>I10</b>	<b>All occupants steam included</b>	<i>STALL9</i>
<b>ASK</b>	IF I6 [District steam consumption] given OR I7 [District steam expenditures] given & C5 [Number of businesses] >1 OR C7 [Re-ask number of businesses] > 1 OR C8 [Number of businesses category] ≠ Zero OR One	
	Do these figures include the district steam from all of the businesses or organizations in this building?	
	<ul style="list-style-type: none"> <li>1 Yes</li> <li>2 No</li> </ul>	
<b>NEXT</b>	IF No ➔ I11 [Sq ft not included] OTHERWISE ➔ I12 [Other bldgs steam included]	

<b>I11</b>	<b>Sq ft not included</b>	<i>STNISF9</i>
<b>ASK</b>	IF I10 [All occupants steam included] = No	
<p>What is the approximate square footage of the space in the building that is <u>not</u> included in these figures?</p> <p>◆ PROBE for estimate if DK</p>		
<b>RANGE</b>	1 to 999,999,999	
<b>NEXT</b>	→ I12 [Other bldgs steam included]	

<b>I12</b>	<b>Other bldgs steam included</b>	<i>STOTBD9</i>
<b>ASK</b>	IF I6 [District steam consumption] given OR I7 [District steam expenditures] given	
<p>Is any consumption from other buildings included in these figures?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → I13 [Sq ft of other included] IF No OR DK/RF → I17 [District steam bill available]	

<b>I13</b>	<b>Sq ft of other included</b>	<i>STOTSF9</i>
<b>ASK</b>	IF I12 [Other bldgs steam included] = Yes	
<p>What is the approximate square footage of the <u>other</u> buildings that are included in these figures?</p> <p>◆ PROBE for estimate if DK</p>		
<b>RANGE</b>	1 to 999,999,999	
<b>NEXT</b>	IF A1 [Square footage] known & Number given > A1 [Square footage] & Number given < A1 [Square footage] x 50 → I14 [Verify sq ft is other bldgs] OTHERWISE → I17 [District steam bill available]	



<b>I14</b>	<b>Verify sq ft is other bldgs</b>	<i>STOTVY9</i>
<b>ASK</b>	IF Number given IN I13 [Sq ft of other included] & A1 [Square footage] known & I13 [Sq ft of other included] > A1 [Square footage] & I13 [Sq ft of other included] < A1 [Square footage] x 50	
<b>FILL</b>	<b>{SqFt}</b> = A1 [Square footage] square feet <b>{OtherSqFt}</b> = I13 [Sq ft of other included] <b>{TotalSqFt}</b> = A1 [Square footage] square feet + I13 [Sq ft of other included]	
<p>So, just to verify, the consumption figures you just gave me are for both this {SqFt} square foot building <u>and</u> {OtherSqFt} square feet of additional space, for a total of {TotalSqFt} square feet, is that correct?</p> <ol style="list-style-type: none"> <li>1 Yes, consumption is for {TotalSqFt} square feet</li> <li>2 No, the square footage just given was the total including this building - consumption is for {OtherSqFt} square feet</li> <li>3 No, consumption is for some other number of square feet</li> </ol>		
<b>NEXT</b>	IF No, consumption is for some other number of square feet → I15 [What sq ft included] OTHERWISE → I17 [District steam bill available]	

<b>I15</b>	<b>What sq ft included</b>	<i>STTOSF9</i>
<b>ASK</b>	IF I14 [Verify sq ft is other bldgs] = No, consumption is for some other number of square feet	
<p>What is the total floorspace included in the district steam usage figures?</p> <p>◆ PROBE for estimate if DK</p>		
<b>RANGE</b>	1 to 999,999,999	
<b>NEXT</b>	→ I17 [District steam bill available]	

<b>I17</b>	<b>District steam bill available</b>	<i>STBILL9</i>
<b>ASK</b>	IF I6 [District steam consumption] given OR I7 [District steam expenditures] given	
<p>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.</p> <ul style="list-style-type: none"> <li>◆ EXP: [Examples of these items include miscellaneous charges, past months data, and units of measure.]</li> <li>◆ 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</li> </ul> <p>1 Yes, bill available 2 No, will not be able to provide bill</p>		
<b>NEXT</b>	→ J1 [Section J Routing]	

<b>I18</b>	<b>District steam supplier name</b>	<i>STSUP9</i>
<b>ASK</b>	IF D14 [From central plant] = No OR D15 [Purchase from offsite = Yes] & (I3 [Provide district steam figures] = No OR DK/RF OR I6 [District steam consumption] = DK/RF & I7 [District steam expenditures] = DK/RF)	
<p>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.</p> <p>What is the name of the supplier that provided district steam in calendar year 2007?</p>		
<b>NEXT</b>	IF Name given → I19 [Street address] IF DK/RF → J1 [Section J Routing]	

<b>I19</b>	<b>Street address</b>	<i>STAD19</i>
<b>ASK</b>	IF Name given in I18 [District steam supplier name]	
<b>FILL</b>	{Supplier} = I18 [District steam supplier name]	
<p>What is the address for {Supplier}, beginning with the street?</p>		
<b>NEXT</b>	→ I20 [P.O. Box or Suite]	

<b>I20</b>	<b>P.O. Box or Suite</b>	<i>STAD29</i>
<b>ASK</b>	IF Name given in I18 [District steam supplier name]	
<p>Is there a post office box or suite number?</p> <p>◆ If not, press &lt;ENTER&gt;</p>		
<b>NEXT</b>	➔ I21 [City]	

<b>I21</b>	<b>City</b>	<i>STCTY9</i>
<b>ASK</b>	IF Name given in I18 [District steam supplier name]	
<p>What is the city?</p>		
<b>NEXT</b>	➔ I22 [State abbreviation]	

<b>I22</b>	<b>State abbreviation</b>	<i>STSTA9</i>
<b>ASK</b>	IF Name given in I18 [District steam supplier name]	
<p>What is the state?</p> <p>◆ ENTER the two letter abbreviation</p>		
<b>NEXT</b>	➔ I23 [Zip code]	

<b>I23</b>	<b>Zip code</b>	<i>STZIP9</i>
<b>ASK</b>	IF Name given in I18 [District steam supplier name]	
<p>And what is the zip code?</p>		
<b>NEXT</b>	➔ I24 [Number district steam accounts]	

<b>I24</b>	<b>Number district steam accounts</b>	<i>STNAC9</i>
<b>ASK</b>	IF Name given in I18 [District steam supplier name]	
<b>FILL</b>	<b>{Supplier}</b> = I18 [District steam supplier name]	
How many different district steam accounts does this building have with {Supplier}?		
<b>RANGE</b>	1 to 999	
<b>NEXT</b>	IF 1 to 10 accounts → I25 [District steam account number] IF More than 10 accounts OR DK/RF → I28 [District steam bill available]	

<b>I25</b>	<b>District steam account number</b>	<i>STAC19—STAC109</i>
<b>ASK</b>	IF I24 [Number district steam accounts] = 1 to 10 Ask as many times as account numbers given, or until DK/RF	
<b>FILL</b>	<b>{FirstNext}</b> IF Only one account = BLANK IF First account given = "first" OTHERWISE = "next" <b>{Supplier}</b> = I18 [District steam supplier name]	
Please give me the {FirstNext} district steam account number for {Supplier}.		
◆ VERIFY number <u>digit by digit</u>		
<b>NEXT</b>	→ I26 [Bills cover only building]	

<b>I26</b>	<b>Bills cover only building</b>	<i>STOTB9</i>
<b>ASK</b>	IF Name given in I18 [District steam supplier name]	
<b>FILL</b>	<b>{Bills}</b> IF Only one account = "Does the bill or statement" IF 2 to 10 accounts = "Do the bills or statements" <b>{Supplier}</b> = I18 [District steam supplier name]	
{Bills} from {Supplier} cover just this building or are other buildings covered as well?		
1 Just this building 2 Other building(s)		
<b>NEXT</b>	IF Other buildings → I27 [Sq ft of others included] IF Just this building OR DK/RF → I28 [District steam bill available]	

<b>I27</b>	<b>Sq ft of others included</b>	<i>STOTS9</i>
<b>ASK</b>	IF I26 [Bills cover only building] = Other buildings	
<b>FILL</b>	<b>{Bills}</b> 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> buildings included on the {Bills}?  ◆ PROBE for estimate if DK		
<b>RANGE</b>	1 to 999,999,999	
<b>NEXT</b>	➔ I28 [District steam bill available]	

<b>I28</b>	<b>District steam bill available</b>	<i>STBILL29</i>
<b>ASK</b>	IF Name given in I18 [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		
<b>NEXT</b>	➔ J1 [Section J Routing]	

## SECTION J. DISTRICT HOT WATER

<b>J1</b>	<b>Section J Routing</b>
<b>NEXT</b>	IF District hot water used → J2 [WS2 district hot water filled out] OTHERWISE → K1 [Section K Routing]

<b>J2</b>	<b>WS2 district hot water filled out</b>	<i>WS2HWCE9</i>
<b>ASK</b>	IF District hot water used	
<p>Do you have Worksheet 2 with you and filled out for district hot water?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF No OR DK/RF → J3 [Provide district hot water figures] IF Yes → J4 [District hot water consumption]	

<b>J3</b>	<b>Provide district hot water figures</b>	<i>HWFIGS9</i>
<b>ASK</b>	IF J2 [WS2 district hot water filled out] = No OR DK/RF	
<p>The next questions are about district hot water usage in this building 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?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → J4 [District hot water consumption] IF No OR DK/RF: IF D14 [From central plant] = No OR D15 [Purchase from offsite = Yes] → J16 [District hot water supplier name] OTHERWISE → K1 [Section K Routing]	

<b>J4</b>	<b>District hot water consumption</b>	<i>HWCNS9</i>
<b>ASK</b>	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.	
	<ul style="list-style-type: none"> <li>◆ EXP: [If part of a multibuilding campus or complex, and the respondent only knows the consumption for the whole campus or complex, ENTER the total consumption for the campus or complex here.]</li> <li>◆ VERIFY number <u>digit by digit</u></li> </ul>	
<b>RANGE</b>	1 to 99,999,999,999	
<b>NEXT</b>	➔ J5 [District hot water expenditures]	

<b>J5</b>	<b>District hot water expenditures</b>	<i>HWEXP9</i>
<b>ASK</b>	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.	
	<ul style="list-style-type: none"> <li>◆ Do <u>not</u> enter cents</li> <li>◆ VERIFY number <u>digit by digit</u></li> </ul>	
<b>RANGE</b>	1 to 999,999,999	
<b>NEXT</b>	IF J4 [District hot water consumption] = DK/RF & J5 [District hot water expenditures] = DK/RF: IF D14 [From central plant] = No OR D15 [Purchase from offsite = Yes] ➔ J16 [District hot water supplier name] OTHERWISE ➔ K1 [Section K Routing] OTHERWISE ➔ J6 [Starting date for district hot water figures]	

<b>J6</b>	<b>Starting date for district hot water figures</b>	<i>HWSTDAT9</i>
<b>ASK</b>	IF J4 [District hot water consumption] given OR J5 [District hot water expenditures] given	
		[F1]-HELP
	What is the starting date for these district hot water usage figures?	
	<ul style="list-style-type: none"> <li>◆ ENTER date as MMDDYYYY</li> <li>◆ If the day is not known, ENTER "15"</li> </ul>	
<b>NEXT</b>	➔ J7 [Ending date for district hot water figures]	

<b>J7</b>	<b>Ending date for district hot water figures</b>	<i>HWENDAT9</i>
<b>ASK</b>	IF J4 [District hot water consumption] given OR J5 [District hot water expenditures] given	
		[F1]-HELP
	What is the ending date [for these district hot water usage figures]?	
	<ul style="list-style-type: none"> <li>◆ ENTER date as MMDDYYYY</li> <li>◆ VERIFY that this is the <u>last</u> day of the last billing period</li> <li>◆ If the day is not known, ENTER "15"</li> </ul>	
<b>NEXT</b>	IF C5 [Number of businesses] >1 OR C7 [Re-ask number of businesses] > 1 OR C8 [Number of businesses category] ≠ Zero OR One → J8 [All occupants hot water included] OTHERWISE → J10 [Other bldgs hot water included]	

<b>J8</b>	<b>All occupants hot water included</b>	<i>HWALL9</i>
<b>ASK</b>	IF J4 [District hot water consumption] given OR J5 [District hot water expenditures] given & C5 [Number of businesses] >1 OR C7 [Re-ask number of businesses] > 1 OR C8 [Number of businesses category] ≠ Zero OR One	
	Do these figures include the district hot water for all of the businesses or organizations in this building?	
	<ul style="list-style-type: none"> <li>1 Yes</li> <li>2 No</li> </ul>	
<b>NEXT</b>	IF No → J9 [Sq ft not included] OTHERWISE → J10 [Other bldgs hot water included]	

<b>J9</b>	<b>Sq ft not included</b>	<i>HWNISF9</i>
<b>ASK</b>	IF J8 [All occupants hot water included] = No	
	What is the approximate square footage of the space in the building that is <u>not</u> included in these figures?	
	◆ PROBE for estimate if DK	
<b>RANGE</b>	1 to 999,999,999	
<b>NEXT</b>	→ J10 [Other bldgs hot water included]	



<b>J10</b>	<b>Other bldgs hot water included</b>	<i>HWOTBD9</i>
<b>ASK</b>	IF J4 [District hot water consumption] given OR J5 [District hot water expenditures] given	
<p>Is any consumption from other buildings included in these figures?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → J11 [Sq ft of other included] IF No OR DK/RF → J15 [District hot water bill available]	

<b>J11</b>	<b>Sq ft of other included</b>	<i>HWOTSF9</i>
<b>ASK</b>	IF J10 [Other bldgs hot water included] = Yes	
<p>What is the approximate square footage of the <u>other</u> buildings that are included in these figures?</p> <p>◆ PROBE for estimate if DK</p>		
<b>RANGE</b>	1 to 999,999,999	
<b>NEXT</b>	IF A1 [Square footage] known & Number given > A1 [Square footage] & Number given < A1 [Square footage] x 50 → J12 [Verify sq ft is other bldgs] OTHERWISE → J15 [District hot water bill available]	

<b>J12</b>	<b>Verify sq ft is other bldgs</b>	<i>HWOTVY9</i>
<b>ASK</b>	IF Number given IN J11 [Sq ft of other included] & A1 [Square footage] known & J11 [Sq ft of other included] > A1 [Square footage] & J11 [Sq ft of other included] < A1 [Square footage] x 50	
<b>FILL</b>	<p>{SqFt} = A1 [Square footage] square feet          {OtherSqFt} = J11[Sq ft of other included]          {TotalSqFt} = A1 [Square footage] square feet + J11 [Sq ft of other included]</p>	
<p>So, just to verify, the consumption figures you just gave me are for both this {SqFt} square foot building <u>and</u> {OtherSqFt} square feet of additional space, for a total of {TotalSqFt} square feet, is that correct?</p> <p>1 Yes, consumption is for {TotalSqFt} square feet          2 No, the square footage just given was the total including this building - consumption is for {OtherSqFt} square feet          3 No, consumption is for some other number of square feet</p>		
<b>NEXT</b>	IF No, consumption is for some other number of square feet → J13 [What sq ft included] OTHERWISE → J15 [District hot water bill available]	

<b>J13</b>	<b>What sq ft included</b>	<i>HWTOSF9</i>
<b>ASK</b>	IF J12 [Verify sq ft is other bldgs] = No, consumption is for some other number of square feet	
<p>What is the total floorspace included in the district hot water usage figures?</p> <p>◆ PROBE for estimate if DK</p>		
<b>RANGE</b>	1 to 999,999,999	
<b>NEXT</b>	→ J15 [District hot water bill available]	

<b>J15</b>	<b>District hot water bill available</b>	<i>HWBILL9</i>
<b>ASK</b>	IF J4 [District hot water consumption] given OR J5 [District hot water expenditures] given	
<p>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.</p> <p>◆ EXP: [Examples of these items include miscellaneous charges, past months data, and units of measure.]</p> <p>◆ 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</p> <p>1 Yes, bill available 2 No, will not be able to provide bill</p>		
<b>NEXT</b>	→ K1 [Section K Routing]	

<b>J16</b>	<b>District hot water supplier name</b>	<i>HWSUP9</i>
<b>ASK</b>	IF D14 [From central plant] = No OR D15 [Purchase from offsite = Yes] & (J3 [Provide district hot water figures] = No OR DK/RF OR J4 [District hot water consumption] = DK/RF & J5 [District hot water expenditures] = DK/RF)	
<p>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.</p> <p>What is the name of the supplier that provided district hot water in calendar year 2007?</p>		
<b>NEXT</b>	IF Name given → J17 [Street address] IF DK/RF → K1 [Section K Routing]	

<b>J17</b>	<b>Street address</b>	<i>HWAD19</i>
<b>ASK</b>	IF Name given in J16 [District hot water supplier name]	
<b>FILL</b>	{Supplier} = J16 [District hot water supplier name]	
<p>What is the address for {Supplier}, beginning with the street?</p>		
<b>NEXT</b>	→ J18 [P.O. Box or Suite]	

<b>J18</b>	<b>P.O. Box or Suite</b>	<i>HWAD29</i>
<b>ASK</b>	IF Name given in J16 [District hot water supplier name]	
<p>Is there a post office box or suite number?</p> <p>◆ If not, press &lt;ENTER&gt;</p>		
<b>NEXT</b>	→ J19 [City]	

<b>J19</b>	<b>City</b>	<i>HWCTY9</i>
<b>ASK</b>	IF Name given in J16 [District hot water supplier name]	
<p>What is the city?</p>		
<b>NEXT</b>	→ J20 [State abbreviation]	

<b>J20</b>	<b>State abbreviation</b>	<i>HWSTA9</i>
<b>ASK</b>	IF Name given in J16 [District hot water supplier name]	
<p>What is the state?</p> <p>◆ ENTER the two letter abbreviation</p>		
<b>NEXT</b>	→ J21 [Zip code]	

<b>J21</b>	<b>Zip code</b>	<i>HWZIP9</i>
<b>ASK</b>	IF Name given in J16 [District hot water supplier name]	
<p>And what is the zip code?</p>		
<b>NEXT</b>	→ J22 [Number district hot water accounts]	

<b>J22</b>	<b>Number district hot water accounts</b>	<i>HWNAC9</i>
<b>ASK</b>	IF Name given in J16 [District hot water supplier name]	
<b>FILL</b>	<b>{Supplier}</b> = J16 [District hot water supplier name]	
<p>How many different district hot water accounts does this building have with {Supplier}?</p>		
<b>RANGE</b>	1 to 999	
<b>NEXT</b>	IF 1 to 10 accounts → J23 [District hot water account number] IF More than 10 accounts OR DK/RF → J26 [District hot water bill available]	

<b>J23</b>	<b>District hot water account number</b>	<i>HWAC19—HWAC109</i>
<b>ASK</b>	IF J22 [Number district hot water accounts] = 1 to 10 Ask as many times as account numbers given, or until DK/RF	
<b>FILL</b>	<b>{FirstNext}</b> IF Only one account = BLANK IF First account given = "first" OTHERWISE = "next" <b>{Supplier}</b> = J16 [District hot water supplier name]	
<p>Please give me the {FirstNext} district hot water account number for {Supplier}.</p> <p>◆ VERIFY number <u>digit by digit</u></p>		
<b>NEXT</b>	→ J24 [Bills cover only building]	

<b>J24</b>	<b>Bills cover only building</b>	<i>HWOTB9</i>
<b>ASK</b>	IF Name given in J16 [District hot water supplier name]	
<b>FILL</b>	<b>{Bills}</b> IF Only one account = "Does the bill or statement" IF 2 to 10 accounts = "Do the bills or statements" <b>{Supplier}</b> = J16 [District hot water supplier name]	
	{Bills} from {Supplier} cover just this building or are other buildings covered as well?  1 Just this building 2 Other building(s)	
<b>NEXT</b>	IF Other buildings → J25 [Sq ft of others included] IF Just this building OR DK/RF → J26 [District hot water bill available]	

<b>J25</b>	<b>Sq ft of others included</b>	<i>HWOTS9</i>
<b>ASK</b>	IF J24 [Bills cover only building] = Other buildings	
<b>FILL</b>	<b>{Bills}</b> 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> buildings included on the {Bills}?  ◆ PROBE for estimate if DK	
<b>RANGE</b>	1 to 999,999,999	
<b>NEXT</b>	→ J26 [District hot water bill available]	

<b>J26</b>	<b>District hot water bill available</b>	<i>HWBILL29</i>
<b>ASK</b>	IF Name given in J16 [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	
<b>NEXT</b>	→ K1 [Section K Routing]	

## SECTION K. DOMESTIC WATER

<b>K1</b>	<b>Domestic water consumption</b>	<i>WTRCNS9</i>
<b>ASK</b>	All Buildings	
		[F1]-HELP
<p>The next questions are about domestic water, that is, the water supplied to the building for everyday use, such as for washing hands. (These questions are found on the third page of Worksheet 2.)</p> <p>In million gallons, please give me the total volume of water used in 2007.</p> <p>◆ VERIFY number <u>digit by digit</u></p>		
<b>RANGE</b>	1 to 99,999,999,999,999	
<b>NEXT</b>	IF Amount given → K2 [Outside water consumption] IF DK/RF → K4 [Domestic water expenditures]	

<b>K2</b>	<b>Outside water consumption</b>	<i>WTROUT9</i>
<b>ASK</b>	IF Amount given in K1 [Domestic water consumption]	
		[F1]-HELP
<p>In million gallons, how much of this water was used outside?</p> <p>◆ VERIFY number <u>digit by digit</u></p>		
<b>RANGE</b>	1 to 99,999,999,999,999	
<b>NEXT</b>	→ K3 [How water volume determined]	

<b>K3</b>	<b>How water volume determined</b>	<i>WTRMET9</i>
<b>ASK</b>	IF Amount given in K1 [Domestic water consumption]	
<p>How is the annual water volume determined? Is it metered, estimated, both metered and estimated, or measured in some other way?</p> <p>1 Metered 2 Estimated 3 Both metered and estimated 4 Other</p>		
<b>NEXT</b>	→ K4 [Domestic water expenditures]	

<b>K4</b>	<b>Domestic water expenditures</b>	<i>WTREXP9</i>
<b>ASK</b>	All Buildings	
		[F1]-HELP
	If available, please give me the total dollars spent on domestic water in calendar year 2007.	
	<ul style="list-style-type: none"> <li>◆ Do <u>not</u> enter cents</li> <li>◆ VERIFY number <u>digit by digit</u></li> </ul>	
<b>RANGE</b>	1 to 999,999,999	
<b>NEXT</b>	IF Amount given in K1 [Domestic water consumption] OR K4 [Domestic water expenditures] → K5 [Starting date for water figures] OTHERWISE → K8 [Heard of WaterSense]	

<b>K5</b>	<b>Starting date for water figures</b>	<i>WTSTDAT9</i>
<b>ASK</b>	K1 [Domestic water consumption] given OR K4 [Domestic water expenditures] given	
		[F1]-HELP
	What is the starting date for these water usage figures?	
	<ul style="list-style-type: none"> <li>◆ ENTER date as MMDDYYYY</li> <li>◆ If the day is not known, ENTER "15"</li> </ul>	
<b>NEXT</b>	→ K6 [Ending date for water figures]	

<b>K6</b>	<b>Ending date for water figures</b>	<i>WTENDAT9</i>
<b>ASK</b>	K1 [Domestic water consumption] given OR K4 [Domestic water expenditures] given	
		[F1]-HELP
	What is the ending date [for these water usage figures]?	
	<ul style="list-style-type: none"> <li>◆ ENTER date as MMDDYYYY</li> <li>◆ VERIFY that this is the <u>last</u> day of the last billing period</li> <li>◆ If the day is not known, ENTER "15"</li> </ul>	
<b>NEXT</b>	IF Central chillers in D33 [Cooling equipment type] → K7 [Cooling tower water consumption] OTHERWISE → K8 [Heard of WaterSense]	

<b>K7</b>	<b>Cooling tower water consumption</b>	<i>CHLRCNS9</i>
<b>ASK</b>	IF (K1 [Domestic water consumption] given OR K4 [Domestic water expenditures] given) & Central chillers in D33 [Cooling equipment type]	
		[F1]-HELP
<p>If the cooling towers on your chilled water system are metered, please give the volume of water used for the cooling towers in million gallons.</p> <p>◆ VERIFY number <u>digit by digit</u></p>		
<b>RANGE</b>	1 to 99,999,999,999,999	
<b>NEXT</b>	➔ K8 [Heard of WaterSense]	

<b>K8</b>	<b>Heard of WaterSense</b>	<i>WTRSNS9</i>
<b>ASK</b>	All Buildings	
<p>Have you heard of the WaterSense program of the U.S. Environmental Protection Agency?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>		