

Form EIA-871A

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U.S. Department of Energy

Commercial Buildings Energy Consumption Survey for 2007

BUILDING QUESTIONNAIRE

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HOW TO USE THIS QUESTIONNAIRE

The 2007 Commercial Buildings Energy Consumption Survey (CBECS) was conducted using a *computer-assisted personal interview* programmed using a software called Blaise. A professional interviewer administered the questionnaire to the building respondent using a laptop computer. The purpose of this paper representation of the questionnaire is to document the question text, fills, and skip patterns within the 2007 CBECS questionnaire.

PLEASE NOTE: All the question fills and skip patterns were handled automatically by the software and were transparent to the interviewer, so this document appears much more complex than the actual CBECS instrument.

Each question is formatted as follows:

A1	Question name	SASVAR9
ASK		
FILL		
	Question text	
RANGE		
NEXT		

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

The **ASK** line describes what needs to be true for a question to be asked for a particular building.

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 provided in question A1 will be appear as question fill text.

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

WS	Worksheet 1	<i>R1WS19 – RXWS19</i>
ASK	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>		
NEXT	IF First time case started → R1 [Respondent function] IF Restart → R2 [Respondent function]	

R1	Respondent function	<i>R1JOB9</i>
ASK	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"> 1 Operations, maintenance, or engineering 2 Property management 3 Store management 4 Mall management 5 Administration or company management 6 Energy or environmental management 7 Building owner 8 Business owner 9 Accounting, finances, or payroll 10 Executive official 11 School official 12 Religious official 13 Support staff 14 Other 		
NEXT	IF Other → R3 [Other job function] Anything but Other → A1a [Building name]	

R2	Respondent function	<i>R2JOB9 – RXJOB9</i>
ASK	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 function.</p> <ul style="list-style-type: none"> 0 Same respondent as previous interview 1 Operations, maintenance, or engineering 2 Property management 3 Store management 4 Mall management 5 Administration or company management 6 Energy or environmental management 7 Building owner 8 Business owner 9 Accounting, finances, or payroll 10 Executive official 11 School official 12 Religious official 13 Support staff 14 Other 		
NEXT	IF Other → R3 [Other job function] Anything but Other → A1a [Building name]	

R3	Other job function	<i>R1JOBX9 – RXJOBX9</i>
ASK	IF R1 [Respondent function] = Other OR R2 [Respondent function] = Other	
What is your job function?		
NEXT	→ A1a [Building name]	

SECTION A: BUILDING SIZE AND AGE

A1a	Building name	<i>BLDGNAM9</i>
ASK	All Buildings	
<p>By what name is this building most commonly referred?</p> <p>◆ EXP: [This may be the name of the building or the name of the largest business or organization within the building.]</p>		
NEXT	→ A1b [Street address]	

A1b	Street address	<i>ADDRESS9</i>
ASK	All Buildings	
<p>Please tell me the address of the building, beginning with the street address.</p>		
NEXT	→ A1c [City]	

A1c	City	<i>CITY9</i>
ASK	All Buildings	
<p>What is the city?</p>		
NEXT	→ A1d [State]	

A1d	State	<i>STATE9</i>
ASK	All Buildings	
<p>What is the state?</p> <p>◆ ENTER the two letter abbreviation</p>		
NEXT	→ A1e [ZIP code]	

A1e	ZIP code	ZIP9
ASK	All Buildings	
And what is the ZIP code?		
NEXT	→ A1 [Square footage]	

A1	Square footage	SQFT9
ASK	All Buildings	
FILL	{Worksheet1Intro} IF R has Worksheet 1 = "Please refer to Worksheet 1 for some of these next questions on general characteristics." OTHERWISE = BLANK	
		[F1]-HELP
{Worksheet1Intro}		
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?		
<ul style="list-style-type: none"> ◆ DEF: [Total square footage = Length of building multiplied by width of building multiplied by the number of floors.] ◆ VERIFY number <u>digit by digit</u> 		
RANGE	1 to 999,999,999	
NEXT	IF DK/RF → A2 [Square footage category] IF Enclosed mall → A5 [Food court] IF 1,000 square feet or less → A3 [End of interview] OTHERWISE → A6 [Wall construction material]	

A2	Square footage category	<i>SQFTC9</i>
ASK	IF A1 [Square footage] = DK/RF	
		[F1]-HELP
 SHOW CARD A1		
<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"> ◆ If respondent gives the category code, VERIFY the response by reading the full answer <ol style="list-style-type: none"> 1 1,000 square feet or less 2 1,001 to 5,000 square feet 3 5,001 to 10,000 square feet 4 10,001 to 25,000 square feet 5 25,001 to 50,000 square feet 6 50,001 to 100,000 square feet 7 100,001 to 200,000 square feet 8 200,001 to 500,000 square feet 9 500,001 to 1 million square feet 10 Over 1 million square feet 		
NEXT	IF Enclosed mall → A5 [Food court] IF 1,000 square feet or less → A3 [End of interview] IF Over 1,000 square feet → A6 [Wall construction material]	

A3	End of interview	
ASK	IF A1 [Square footage] ≤ 1000	
FILL	{CollectWorksheet} 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"> ◆ [F10]-Exit 		
NEXT	TERMINATE	

[A4 deleted]

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

A6	Wall construction material	<i>WLCNS9</i>
ASK	All Buildings	
[F1]-HELP		
 SHOW CARD A2		
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? 1 Brick, stone, or stucco 2 Pre-cast concrete panels 3 Concrete block or poured concrete (above grade) 4 Aluminum, asbestos, plastic, or wood siding, shingles, tiles, or shakes 5 Sheet metal panels 6 Window or vision glass (glass that can be seen through) 7 Decorative or construction glass 8 IF VOLUNTEERED: No one major type 9 IF VOLUNTEERED: Other		
NEXT	→ A7 [Roof construction material]	

A7	Roof construction material	<i>RFCNS9</i>
ASK	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"> 1 Built-up (tar, felts, or fiberglass and a ballast, such as stone) 2 Slate or tile shingles 3 Wood shingles, shakes, or other wooden materials 4 Asphalt, fiberglass, or other shingles 5 Metal surfacing 6 Plastic, rubber, or synthetic sheeting (single or multiple ply) 7 Concrete 8 IF VOLUNTEERED: No one major type 9 IF VOLUNTEERED: Other 		
NEXT	→ A8 [Roof tilt]	

A8	Roof tilt	<i>RFTILT9</i>
ASK	All Buildings	
 SHOW CARD A4		
<p>Looking at this card, please tell me which best describes the tilt or pitch of the roof of this building.</p> <ol style="list-style-type: none"> 1 Flat 2 Shallow pitch 3 Steeper pitch 		
NEXT	IF Freestanding → A9 [Building shape] OTHERWISE → A13 [Number of floors]	

A9	Building shape	<i>BLDSHP9</i>
ASK	IF Freestanding	
 SHOW CARD A5 <p>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.</p> <ol style="list-style-type: none"> 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 		
NEXT	➔ A10 [Percent exterior glass]	

A10	Percent exterior glass	<i>GLSSPC9</i>
ASK	IF Freestanding	
 SHOW CARD A6 <p>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?</p> <ol style="list-style-type: none"> 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 		
NEXT	➔ A11 [Equal glass on all sides]	

A11	Equal glass on all sides	<i>EQGLSS9</i>
ASK	IF Freestanding	
<p>Is the amount of glass about the same for all sides of the building?</p> <ol style="list-style-type: none"> 1 Yes 2 No 		
NEXT	IF Yes ➔ A13 [Number of floors] IF No OR DK/RF ➔ A12 [Glass sides most sunlight]	

A12	Glass sides most sunlight	<i>SUNGLS9</i>
ASK	IF Freestanding & A11 [Equal glass on all sides] = No OR DK/RF	
<p>Do the sides receiving direct sunlight have more or less glass area than the sides that do not receive direct sunlight?</p> <p>1 More glass area 2 Less glass area 3 IF VOLUNTEERED: About the same amount</p>		
NEXT	→ A13 [Number of floors]	

A13	Number of floors	<i>NFLOOR9</i>
ASK	All Buildings	
[F1]-HELP		
<p>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?</p> <p>◆ PROBE for estimate if DK</p>		
RANGE	1 to 999	
NEXT	IF Only one floor OR DK/RF → A15 [Attic] IF More than one floor → A14 [Number of underground floors]	

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

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

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

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

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

A19	Number of escalators	<i>NESLTR9</i>
ASK	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>		
RANGE	1 to 99	
NEXT	→ A20 [Year of construction]	

A20	Year of construction	<i>YRCON9</i>
ASK	All Structures	
[F1]-HELP		
<p>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.</p>		
RANGE	1600 to 2008	
NEXT	IF DK/RF → A21 [Year of construction category] IF 2007 → A23 [Month ready for occupancy] IF 2008 → A22 [End of interview] IF 1999 or earlier → A24 [Renovations] IF 2000 or later → B1 [One activity in building]	

A21	Year of construction category	YRCONC9
ASK	IF A20 [Year of construction] = DK/RF	
 SHOW CARD A7		[F1]-HELP
<p>Please look at this card and tell me which range best describes when this building was constructed.</p> <ol style="list-style-type: none"> 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 		
NEXT	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]	

A22	End of interview	
ASK	IF A20 [Year of construction] OR A21 [Year of construction category] = 2008	
FILL	{CollectWorksheet} 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]-Exit</p>		
NEXT	TERMINATE	

A23	Month ready for occupancy	<i>MONCON9</i>
ASK	IF A20 [Year of construction] = 2007	
		[F1]-HELP
<p>In what month of 2007 was this building first ready for occupancy?</p> <p>1 January 2 February 3 March 4 April 5 May 6 June 7 July 8 August 9 September 10 October 11 November 12 December</p>		
NEXT	IF Enclosed mall → B30 [Assign CBECS Activity = Enclosed mall] OTHERWISE → B1 [One activity in building]	

A24	Renovations	<i>RENOV9</i>
ASK	IF A20 [Year of construction] = 1999 or earlier OR A21 [Year of construction category] = Any category before 2000	
FILL	{Since1980} IF A20 [Year of construction] = 1979 or earlier OR A21 [Year of construction category] = Any 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>		
NEXT	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]	

A25	What renovations <i>see below</i>																								
ASK	IF A24 [Renovations] = Yes																								
FILL	{Since1980} IF A20 [Year of construction] = 1979 or earlier OR A21 [Year of construction category] = Any category before 1980 = "since 1980" OTHERWISE = BLANK																								
 SHOW CARD A8 Please look at this card and tell me which types of renovations have been done {Since1980}.																									
<ul style="list-style-type: none"> ◆ PROBE for any others ◆ ENTER all that apply <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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NEXT	IF Other → A26 [Other renovation] OTHERWISE: IF Enclosed mall → B30 [Assign CBECS Activity = Enclosed mall] OTHERWISE → B1 [One activity in building]																								

A26	Other renovation
ASK	IF A25 [What renovations] = Other
Please describe the other type of renovation.	
<ul style="list-style-type: none"> ◆ RECORD in open box 	
NEXT	IF Enclosed mall → B30 [Assign CBECS Activity = Enclosed mall] OTHERWISE → B1 [One activity in building]

SECTION B: BUILDING ACTIVITY

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

B2	Primary activity	<i>ACT9</i>
ASK	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> <p>◆ PROBE if DK</p> <ul style="list-style-type: none"> 11 Office/Professional 12 Data center/Computer "server farm" 13 Warehouse/Storage 14 Food sales or service 15 Retail 16 Education 17 Religious worship 18 Public assembly 19 Health care 20 Service 21 Lodging 22 Public order and safety 23 Residential 24 Industrial 25 Agricultural 26 Vacant 27 Other 		
NEXT	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]	

B3	Activities in building	<i>ACT19, ACT29, ACT39</i>
ASK	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"> 11 Office/Professional 12 Data center/Computer "server farm" 13 Warehouse/Storage 14 Food sales or service 15 Retail 16 Education 17 Religious worship 18 Public assembly 19 Health care 20 Service 21 Lodging 22 Public order and safety 23 Residential 24 Industrial 25 Agricultural 26 Vacant 27 Other 		
NEXT	IF Activities given → B4 [Percents for activities] IF DK/RF → B41 [On a multibuilding complex]	

B4	Percents for activities	<i>ACT1PCT9, ACT2PCT9, ACT3PCT9</i>
ASK	For each activity given in B3 [Activities in building]	
FILL	<p>{ActivityLabel}</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 or manufacturing”</p> <p>IF Agricultural = “agricultural”</p> <p>IF Vacant = “vacant”</p> <p>IF Other = “used for another activity”</p>	
About what percent of the total space is {ActivityLabel}?		
RANGE	1 to 100	
NEXT	<p>IF There is an activity with a maximum percent, assign that as the primary activity</p> <p>IF There are equal maximum percents (e.g. 50% an 50%), or if they are all DK/RF, assign the primary activity as the most energy-intensive one (based on 2003 CBECS data)</p> <p>THEN, follow here based on the assigned primary activity:</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>	

B5	Office type	<i>OFFCSP9</i>
ASK	IF B2 [Primary activity] OR B4 [Percents for activities] assigned activity = Office/Professional	
FILL	<p>{ActivityExplanation} 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 B3</p> <p>{ActivityExplanation}</p> <p>Looking at this list, what type of office is this?</p> <ol style="list-style-type: none"> 1 Administrative or professional office building such as consulting, insurance, law, utility/telephone company, publishing, or college administration 2 Government office 3 Mixed-use office 4 Bank or other financial institution 5 Doctor's or dentist's office 6 Sales office such as for vehicles or real estate 7 Contractor's office such as for construction, plumbing, or HVAC 8 Non-profit or social services office 9 Research and development office 10 City hall or city center 11 Religious office 12 Call center 13 Courthouse or probation office 14 Library 15 Veterinarian's office 16 Vacant 17 Other type of office 		
NEXT	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]	

B6	Verify data center	<i>DATCTR9</i>
ASK	IF B2 [Primary activity] OR B4 [Percents for activities] assigned activity = Data center/Computer "server farm"	
FILL	{ActivityExplanation} 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		
NEXT	IF Yes → B30 [Assign CBECS Activity = Data center] IF No OR DK/RF → B7 [Classify as office]	

B7	Classify as office	<i>NODCTR9</i>
ASK	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		
NEXT	→ B30 [Assign CBECS Activity = Office]	

B8	Used as warehouse	<i>WARECHK9</i>
ASK	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		
NEXT	IF Yes → B9 [Warehouse type] IF No OR DK/RF → B21 [Space for retail sales]	

B9	Warehouse type	WARESP9
ASK	IF B2 [Primary activity] OR B4 [Percents for activities] assigned activity = Warehouse/Storage	
FILL	{ActivityExplanation} 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 B4 {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
NEXT	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]	

B10	Food sales or service type	<i>FOODSP9</i>
ASK	IF B2 [Primary activity] OR B4 [Percents for activities] assigned activity = Food sales or service	
FILL	<p>{ActivityExplanation} 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 B5</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"> 1 Restaurant or cafeteria 2 Fast food 3 Bar, pub, or lounge 4 Grocery store or food market 5 Gas station with a convenience store 6 Convenience store 7 Beer, wine, or liquor store 8 Reception hall 9 Catering service 10 Coffee, doughnut, or bagel shop 11 Ice cream or frozen yogurt shop 12 Bakery 13 Vacant 14 Other type of food sales or service 		
NEXT	IF Restaurant or cafeteria; Fast food; Bar, pub, or lounge; Reception hall; Catering service; Coffee, doughnut, or bagel shop; OR Ice cream or frozen yogurt shop → B30 [Assign CBECS Activity = Food service] IF Grocery store or food market; Gas station with a convenience store; Convenience store; OR Bakery → 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]	

B11	Retail type	<i>RETLSP9</i>
ASK	IF B2 [Primary activity] OR B4 [Percents for activities] assigned activity = Retail	
FILL	<p>{ActivityExplanation} 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 B6</p> <p>{ActivityExplanation}</p> <p>Looking at this list, what type of retail is this?</p> <ol style="list-style-type: none"> 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 2 Bank or other financial institution 3 Convenience store 4 Beer, wine, or liquor store 5 Rental center such as for videos, DVDs, equipment, or vehicles 6 Dealership or showroom for vehicles or boats 7 Studio or gallery 8 Grocery store or food market 9 Photo processing shop 10 Copy center or printing service 11 Distribution or shipping center 12 Gas station with a convenience store 13 Gas station (without convenience store) 14 Post office or postal center 15 Recreation such as gymnasium, health club, bowling alley, ice rink, field house, or indoor racquet sports 16 Repair shop 17 Vacant 18 Other type of retail 		
NEXT	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]	

B12	Type of store	<i>STORE9</i>
ASK	IF B11 [Retail type] = Store	
 SHOW CARD B7		
Looking at this list, please tell me the type of retail store.		
<ol style="list-style-type: none">1 Apparel specialty2 Hard lines specialty3 Warehouse club4 Discount or supercenter5 Electronics store6 Department store7 Drug store8 Home center or hardware store9 Other type of store		
NEXT	➔ B30 [Assign CBECS Activity = Retail]	

B13	Education type	<i>EDUCSP9</i>
ASK	IF B2 [Primary activity] OR B4 [Percents for activities] assigned activity = Education	
FILL	<p>{ActivityExplanation} 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 B8</p> <p>{ActivityExplanation}</p> <p>Looking at this list, what type of education is this?</p> <ol style="list-style-type: none"> 1 Elementary or middle school 2 High school 3 College or university 4 Preschool or daycare 5 Adult education 6 Career or vocational training 7 Religious education 8 Library 9 Laboratory 10 Vacant 11 Other type of classroom education 		
NEXT	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]	

B14	Assembly type	<i>ASSMSP9</i>
ASK	IF B2 [Primary activity] OR B4 [Percents for activities] assigned activity = Public assembly	
FILL	<p>{ActivityExplanation} 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 B9</p> <p>{ActivityExplanation}</p> <p>Looking at this list, what type of public assembly is this?</p> <ol style="list-style-type: none"> 1 Social or meeting such as a community center, lodge, meeting hall, convention center, or senior center 2 Recreation such as a gymnasium, health club, bowling alley, ice rink, field house, or indoor racquet sports 3 Entertainment or culture such as a museum, theater, cinema, sports arena, casino, or night club 4 Library 5 Religious worship 6 Funeral home 7 Student activities center 8 Armory 9 Exhibition hall 10 Broadcasting studio 11 Transportation terminal 12 Elementary or middle school 13 High school 14 Restaurant or cafeteria 15 Fast food 16 Bar, pub, or lounge 17 Vacant 18 Other type of public assembly 		
NEXT	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]	

B15	Health care type	<i>HLTHSP9</i>
ASK	IF B2 [Primary activity] OR B4 [Percents for activities] assigned activity = Health care	
FILL	<p>{ActivityExplanation} 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 B10</p> <p>{ActivityExplanation}</p> <p>Looking at this list, what type of health care is this?</p> <ol style="list-style-type: none"> 1 Doctor's or dentist's office 2 Clinic or other outpatient health care building 3 Hospital (inpatient) 4 Outpatient rehabilitation center 5 Inpatient rehabilitation center 6 Nursing home, assisted living center, or other residential care building 7 Retirement home 8 Veterinarian's office 9 Laboratory 10 Vacant 11 Other type of health care 		
NEXT	IF 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 Doctor's or dentist's office → B30 [Assign CBECS Activity = Office] 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]	

B16	Service type	<i>SERVSP9</i>
ASK	IF B2 [Primary activity] OR B4 [Percents for activities] assigned activity = Service	
FILL	{ActivityExplanation} IF (B1 [One activity in building] ≠ Yes) = “For the purposes of this survey, I will include your building in the general category of service.” OTHERWISE = BLANK	

 SHOW CARD B11

{ActivityExplanation}

Looking at this list, what type of service is this?

- 1 Auto service or auto repair shop
- 2 Vehicle storage and/or maintenance (car barn)
- 3 Contractor's office such as construction, plumbing, or HVAC
- 4 Building and grounds maintenance shop
- 5 Repair shop
- 6 Dry cleaner or laundromat
- 7 Post office or postal center
- 8 Bank or other financial institution
- 9 Restaurant or cafeteria
- 10 Fast food
- 11 Bar, pub, or lounge
- 12 Car wash
- 13 Gas station with a convenience store
- 14 Gas station (without convenience store)
- 15 Telephone switching facilities
- 16 Photo processing shop
- 17 Beauty parlor or barber shop
- 18 Tanning salon
- 19 Funeral home
- 20 Airplane hangar
- 21 Copy center or printing shop
- 22 Distribution or shipping center
- 23 Kennel
- 24 Library
- 25 Non-profit or social services office
- 26 Preschool or daycare
- 27 Recreation such as a gymnasium, health club, bowling alley, ice rink, field house, or indoor racquet sports
- 28 Rental center such as for videos, DVDs, equipment, or vehicles
- 29 Public rental storage units
- 30 Student activities center
- 31 Indoor parking garage
- 32 Vacant
- 33 Other type of service

NEXT	<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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B17	Dry cleaning onsite	<i>DRYCL9</i>
ASK	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>		
NEXT	→ B30 [Assign CBECS Activity = Service]	

B18	Lodging type	<i>LODGSP9</i>
ASK	IF B2 [Primary activity] OR B4 [Percents for activities] assigned activity = Lodging	
FILL	<p>{ActivityExplanation} 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 B12</p> <p>{ActivityExplanation}</p> <p>Looking at this list, what type of lodging is this?</p> <ol style="list-style-type: none"> 1 Motel or inn 2 Hotel 3 Dormitory, fraternity, or sorority 4 Retirement home 5 Nursing home, assisted living center, or other residential care building 6 Convent or monastery 7 Shelter, orphanage, or children's home 8 Halfway house 9 Jail, reformatory, or penitentiary 10 Vacant 11 Other type of lodging 		
NEXT	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]	

B19	Public order type	<i>ORDRSP9</i>
ASK	IF B2 [Primary activity] OR B4 [Percents for activities] assigned activity = Public order and safety	
FILL	<p>{ActivityExplanation} 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 B13</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"> 1 Police station 2 Fire station 3 Combination police and fire station 4 Jail, reformatory, or penitentiary 5 Courthouse or probation office 6 Halfway house 7 Armory 8 City hall or city center 9 Vacant 10 Other type of public order and safety 		
NEXT	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]	

B20	Residential type	<i>RESDSP9</i>
ASK	IF B2 [Primary activity] OR B4 [Percents for activities] assigned activity = Residential	
FILL	{ActivityExplanation} 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 B14 {ActivityExplanation} Looking at this list, what type of residential is this? <ol style="list-style-type: none"> 1 Hotel 2 Motel or inn 3 Retirement home 4 Shelter, orphanage, or children's home 5 Convent or monastery 6 Dormitory, fraternity, or sorority 7 Nursing home, assisted living center, or other residential care building 8 Halfway house 9 Other type of residential 		
NEXT	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]	

B21	Space for retail sales	<i>INDRET9</i>
ASK	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"> 1 Yes 2 No 		
NEXT	IF Yes → B30 [Assign CBECS Activity = Other] IF No OR DK/RF → B27 [End of interview]	

B22	Space for retail sales	<i>AGRRET9</i>
ASK	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		
NEXT	IF Yes → B30 [Assign CBECS Activity = Other] IF No OR DK/RF → B27 [End of interview]	

B23	Vacant for noncommercial	<i>VACUSE9</i>
ASK	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		
NEXT	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]	

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

B25	Other type	<i>OTHRSP9</i>
ASK	IF B2 [Primary activity] OR B4 [Percents for activities] assigned activity = Other	
FILL	{ActivityExplanation} 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	
 SHOW CARD B15 {ActivityExplanation} Looking at this list, what type of other activity is this? 1 Airplane hangar 2 Broadcasting studio 3 Crematorium 4 Entertainment or culture such as a museum, theater, cinema, sports arena, casino or night club 5 Funeral home 6 Laboratory 7 Library 8 Recreation such as a gymnasium, health club, bowling alley, ice rink, field house, or indoor racquet sports 9 Telephone switching facilities 10 Transportation terminal 11 Vehicle storage and/or maintenance (car barn) 12 Veterinarian's office 13 Vacant 14 Indoor parking garage 15 Agricultural building with some retail space 16 Manufacturing or industrial building with some retail space 17 Other type of building 18 50 percent commercial (for coding use only)		
NEXT	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]	

B26	Specify other activity
ASK	<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>	
NEXT	<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 service] 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>

B27	End of interview
ASK	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
FILL	{CollectWorksheet} 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]-Exit</p>	
NEXT	TERMINATE

B28	End of interview
ASK	IF B16 [Service type] OR B25 [Other type] = Indoor parking garage
FILL	{CollectWorksheet} 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]-Exit</p>	
NEXT	TERMINATE

B29	End of interview
ASK	IF B23 [Vacant for noncommercial] = Yes
FILL	{CollectWorksheet} 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]-Exit</p>	
NEXT	TERMINATE

B30	Assign CBECS Activity	<i>PBA9</i>
NEXT	<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"> 1 Vacant → B41 [On a multibuilding complex] 2 Office → B31 [Open plan office space] 3 Data center → B41 [On a multibuilding complex] 4 Laboratory → B41 [On a multibuilding complex] 5 Nonrefrigerated warehouse → B41 [On a multibuilding complex] 6 Food sales → B41 [On a multibuilding complex] 7 Public order and safety → B41 [On a multibuilding complex] 8 Outpatient health care → B41 [On a multibuilding complex] 11 Refrigerated warehouse → B41 [On a multibuilding complex] 12 Religious worship → B34 [Religious worship seating capacity] 13 Public assembly → B35 [Assembly seating capacity] 14 Education → B36 [Number of classroom seats] 15 Food service → B37 [Food service seating capacity] 16 Inpatient health care → B38 [Licensed bed capacity] 17 Nursing → B39 [Licensed bed capacity] 18 Lodging → B40 [Number of guest rooms] 25 Retail → B41 [On a multibuilding complex] 26 Service → B41 [On a multibuilding complex] 27 Enclosed mall → B41 [On a multibuilding complex] 91 Other → B41 [On a multibuilding complex] 	

B31	Open plan office space	<i>CUBE9</i>
ASK	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>		
NEXT	IF Yes → B32 [Percent open plan] IF No OR DK/RF → B41 [On a multibuilding complex]	

B32	Percent open plan	<i>CUBEC9</i>
ASK	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>		
NEXT	→ B33 [Location of open plan]	

B33	Location of open plan	<i>CUBELOC9</i>
ASK	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>		
NEXT	→ B41 [On a multibuilding complex]	

B34	Religious worship seating capacity	<i>RWSEAT9</i>
ASK	IF 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	
RANGE	0 to 99,999	
NEXT	→ B41 [On a multibuilding complex]	

B35	Assembly seating capacity	<i>PBSEAT9</i>
ASK	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	
RANGE	0 to 99,999	
NEXT	→ B41 [On a multibuilding complex]	

B36	Number of classroom seats	<i>EDSEAT9</i>
ASK	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	
RANGE	0 to 99,999	
NEXT	→ B41 [On a multibuilding complex]	

B37	Food service seating capacity	<i>FDSEAT9</i>
ASK	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	
RANGE	0 to 99,999	
NEXT	→ B41 [On a multibuilding complex]	

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

B39	Licensed bed capacity	<i>NRSBED9</i>
ASK	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	
RANGE	0 to 99,999	
NEXT	→ B41 [On a multibuilding complex]	

B40	Number of guest rooms	<i>LODGRM9</i>
ASK	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>		
RANGE	0 to 99,999	
NEXT	→ B41 [On a multibuilding complex]	

B41	On a multibuilding complex	<i>FACIL9</i>
ASK	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>		
NEXT	IF Yes → B42 [Federal complex] IF No OR DK/RF → C1 [Government owned]	

B42	Federal complex	<i>FEDFAC9</i>
ASK	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>		
NEXT	→ B43 [Type of complex]	

B43	Type of complex	<i>FACACT9</i>
ASK	IF B41 [On a multibuilding complex] = Yes	
 SHOW CARD B16		[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"> 1 College, university, or junior college 2 Primary or secondary school [GRADES K-12] 3 Other type of school 4 Office complex 5 Retail complex 6 Storage complex 7 Religious campus or complex 8 Hospital or other health care complex 9 Lodging or resort complex 10 Post office complex 11 Other type of government complex 12 Industrial complex 13 Transportation complex such as a terminal, depot, or airport 14 Other type of campus or complex 		
NEXT	IF Industrial complex → B44 [Manufacturing industrial] IF Any other type → B47 [Central physical plant]	

B44	Manufacturing industrial	<i>MANIND9</i>
ASK	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"> 1 Yes 2 No 		[F1]-HELP
NEXT	IF Yes → B45 [Same owner as manufacturing] IF No OR DK/RF → B47 [Central physical plant]	

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

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

B47	Central physical plant	<i>PLANT9</i>
ASK	IF B41 [On a multibuilding complex] = Yes & NOT (B43 [Type of complex] = Industrial complex & B44 [Manufacturing industrial] = Yes & B45 [Same owner as manufacturing] = Yes)	
		[F1]-HELP
	Does this campus or complex have a central physical plant that produces district hot water, district steam, district chilled water, or electricity?	
	1 Yes 2 No	
NEXT	IF Yes → B48 [Plant produces district steam] IF No OR DK/RF → C1 [Government owned]	

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

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

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

B51	Plant produces electricity	<i>FACELC9</i>
ASK	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
NEXT	→ B52 [Central plant in building]	

B52	Central plant in building	<i>BLDPLT9</i>
ASK	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
NEXT	→ C1 [Government owned]	

SECTION C. OCCUPANCY AND OPERATING HOURS

C1	Government owned	<i>GOVOWN9</i>
ASK	All Buildings	
FILL	<p>{BldgIntro} 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 {SchoolExample} 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>	
NEXT	IF Yes → C2 [Type of government] IF No OR DK/RF → C3 [Owner]	

C2	Type of government	<i>GOVTYP9</i>
ASK	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>	
NEXT	IF B24 [Completely vacant] = Yes → C10 [Owner operates] OTHERWISE → C5 [Number of businesses]	

C3	Owner	<i>OWNER9</i>
ASK	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"> 1 Property management company 2 Other corporation, partnership, LLC, or LLP 3 Individual owner(s) 4 Religious organization 5 Non-profit organization (other than religious or government) 6 Private academic institution 7 Other 		
NEXT	IF Other → C4 [Other owner] OTHERWISE: IF B24 [Completely vacant] ≠ Yes → C5 [Number of businesses] IF B24 [Completely vacant] = Yes: IF Owner known → C10 [Owner operates] IF DK/RF → C17 [Months in use]	

C4	Other owner
ASK	IF C3 [Owner] = Other
Please describe this other owner. ◆ RECORD in open box	
NEXT	IF B24 [Completely vacant] = Yes → C10 [Owner operates] OTHERWISE → C5 [Number of businesses]

C5	Number of businesses	<i>NOCC9</i>
ASK	IF B24 [Completely vacant] ≠ Yes	
RANGE	0 to 9,999	
		[F1]-HELP
How many different businesses or organizations use space full-time in this building?		
NEXT	IF Zero → C6 [Any occupants] IF ≥1 & NOT (C1 [Government owned] = DK/RF & C3 [Owner] = DK/RF) → C9 [Owner occupies] IF ≥1 & (C1 [Government owned] = DK/RF & C3 [Owner] = DK/RF) → C17 [Months in use] IF DK/RF → C8 [Number of businesses category]	

C6	Any occupants	VACCHK9
ASK	IF C5 [Number of businesses] = Zero & B24 [Completely vacant] ≠ Yes	
		[F1]-HELP
	<p>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?</p> <p>1 Yes 2 No</p>	
NEXT	IF Yes → C7 [Re-ask number of businesses] IF No & NOT (C1 [Government owned] = DK/RF & C3 [Owner] = DK/RF) → C10 [Owner operates] IF No & (C1 [Government owned] = DK/RF & C3 [Owner] = DK/RF) → C17 [Months in use] IF DK/RF → C8 [Number of businesses category]	

C7	Re-ask number of businesses	NOCC29
ASK	IF C5 [Number of businesses] = Zero & C6 [Any occupants] = Yes	
		[F1]-HELP
	How many businesses or organizations are there?	
RANGE	1 to 9,999	
NEXT	IF DK/RF → C8 [Number of businesses category] IF Number given & NOT (C1 [Government owned] = DK/RF & C3 [Owner] = DK/RF) → C9 [Owner occupies] IF Number given & (C1 [Government owned] = DK/RF & C3 [Owner] = DK/RF) → C17 [Months in use]	

C8	Number of businesses category	NOCCAT9
ASK	IF C5 [Number of businesses] = DK/RF OR C6 [Any occupants] = DK/RF OR C7 [Re-ask number of businesses] = DK/RF	
 SHOW CARD C2		[F1]-HELP
<p>Which category on this list best describes the number of businesses or organizations that use space full-time in this building?</p> <ul style="list-style-type: none"> 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 		
NEXT	IF Any category except Zero & NOT (C1 [Government owned] = DK/RF & C3 [Owner] = DK/RF) → C9 [Owner occupies] IF Any category except Zero & (C1 [Government owned] = DK/RF & C3 [Owner] = DK/RF) → C17 [Months in use] IF Zero OR DK/RF & NOT (C1 [Government owned] = DK/RF & C3 [Owner] = DK/RF) → C10 [Owner operates] IF Zero OR DK/RF & (C1 [Government owned] = DK/RF & C3 [Owner] = DK/RF) → C17 [Months in use]	

C9	Owner occupies	OWNOCC9
ASK	IF NOT (C1 [Government owned] = DK/RF & C3 [Owner] = DK/RF) & C5 [Number of businesses] ≠ 0 & C8 [Number of businesses category] ≠ Zero OR DK/RF	
FILL	{IsAreBusinesses} 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? <ul style="list-style-type: none"> 1 Yes 2 No 		
NEXT	→ C10 [Owner operates]	

C10	Owner operates	<i>OWNOPR9</i>
ASK	IF NOT (C1 [Government owned] = DK/RF & C3 [Owner] = DK/RF)	
<p>Is the building owner responsible for the operation and maintenance of the energy systems?</p> <p>1 Yes 2 No</p>		
NEXT	IF Yes → C11 [Owner has purchasing power] IF No → C13 [Nonowner operator] IF DK/RF → C17 [Months in use]	

C11	Owner has purchasing power	<i>OWNPPR9</i>
ASK	IF C10 [Owner operates] = Yes	
<p>Does the building owner also have direct input on decisions regarding purchases of energy-related equipment?</p> <p>1 Yes 2 No</p>		
NEXT	IF Yes OR DK/RF → C17 [Months in use] IF No → C12 [Nonowner has purchasing power]	

C12	Nonowner has purchasing power	<i>NWNPPR9</i>
ASK	IF C11 [Owner has purchasing power] = No	
<p> SHOW CARD C3</p> <p>Looking at this list, please tell me who does have direct input (on decisions regarding purchases of energy-related equipment).</p> <p>1 Property management company/leasing agent 2 Facilities personnel employed directly by the owner 3 Facilities/energy management consultant 4 Volunteer member of the organization 5 Manager with general supervisory duties 6 Other</p>		
NEXT	IF Other → C16 [Other with purchasing power] OTHERWISE → C17 [Months in use]	

C13	Nonowner operator	<i>NWNOPR9</i>
ASK	IF C10 [Owner operates] = No	
<p> SHOW CARD C3</p> <p>Looking at this next list, please tell me who <u>is</u> responsible for the operation and maintenance of the energy systems.</p> <ol style="list-style-type: none"> 1 Property management company/leasing agent 2 Facilities personnel employed directly by the owner 3 Facilities/energy management consultant 4 Volunteer member of the organization 5 Manager with general supervisory duties 6 Other 		
NEXT	IF Other → C14 [Other operator] OTHERWISE → C15 [Who has purchasing power]	

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

C15	Who has purchasing power	<i>WHOPPR9</i>
ASK	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"> 1 Building owner 2 Party responsible for building operations 3 IF VOLUNTEERED: Both (either they have equal input, or are the same person) 4 IF VOLUNTEERED: Other 		
NEXT	IF Other → C16 [Other with purchasing power] OTHERWISE → C17 [Months in use]	

C16	Other with purchasing power
ASK	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>	
NEXT	→C17 [Months in use]

C17	Months in use	<i>MONUSE9</i>
ASK	All Buildings	
		[F1]-HELP
Thinking of calendar year 2007, for how many months was this building in use?		
RANGE	0 to 12	
NEXT	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]	

C18	Previous use
ASK	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>	
NEXT	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]

C19	Space vacant 3 months in row	<i>PORVAC9</i>
ASK	IF C17 [Months in use] = 4-12 OR DK/RF	
		[F1]-HELP
<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>		
NEXT	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]	

C20	Open 24 hours a day	<i>OPEN249</i>
ASK	IF B24 [Completely vacant] ≠ Yes & C6 [Any occupants] ≠ No & C8 [Number of businesses category] ≠ Zero & C17 [Months in use] ≠ Zero	
		[F1]-HELP
<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>		
NEXT	IF Yes → C26 [Number of employees] IF No OR DK/RF → C21 [Open during week]	

C21	Open during week	<i>OPNMF9</i>
ASK	IF C20 [Open 24 hours a day] = No OR DK/RF	
		[F1]-HELP
<p>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?</p> <p>1 All five days 2 Some of these days 3 Not open at all Monday through Friday</p>		
NEXT	→ C22 [Open on weekend]	

C22	Open on weekend	<i>OPNWE9</i>
ASK	IF C20 [Open 24 hours a day] = No OR DK/RF	
<p>Is this building normally open at all on the weekend?</p> <p>◆ EXP: [If only open one day of the weekend, consider to be open.]</p> <p>1 Yes 2 No</p>		[F1]-HELP
NEXT	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]	

C23	No operating hours	<i>NOHRS9</i>
ASK	IF C21 [Open during week] = Not open at all Monday through Friday & C22 [Open on weekend] = No	
<p>I would just like to confirm that this building does not have any normal operating hours?</p> <p>1 True, no operating hours 2 False, there are operating hours</p>		[F1]-HELP
NEXT	IF True, no operating hours → C26 [Number of employees] IF False, there are operating hours OR DK/RF → C24 [Total hours open per week]	

C24	Total hours open per week	<i>WKHRS9</i>
ASK	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> <p>◆ DEF: ["Normally open" means the hours when the usual activities occur.]</p> <p>◆ EXP: [If the hours vary for different parts of the building, ask for the hours for most of the building, based on square footage.]</p>		[F1]-HELP
RANGE	0 to 168	
NEXT	Number given → C26 [Number of employees] DK/RF → C25 [Weekly hours category]	

C25	Weekly hours category	<i>WKHRSC9</i>
ASK	IF C24 [Total hours open per week] = DK/RF	
 SHOW CARD C4		[F1]-HELP
<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"> ◆ DEF: ["Normally open" means the hours when the usual activities occur.] ◆ EXP: [If the hours vary for different parts of the building, ask for the hours for most of the building, based on square footage.] <p>1 1 to 39 2 40 to 48 3 49 to 60 4 61 to 84 5 85 to 167 6 168</p>		
NEXT	→ C26 [Number of employees]	

C26	Number of employees	<i>NWKER9</i>
ASK	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> <ul style="list-style-type: none"> ◆ EXP: [Include any volunteer workers. Do not include employees who always work outside the building (such as drivers with delivery routes), customers, patients, students, or institutionalized residents.] 		
RANGE	0 to 99,999	
NEXT	Number given → D1 [Heating] DK/RF → C27 [Number of employees category]	

C27	Number of employees category	NWKERC9
ASK	IF C26 [Number of employees] = DK/RF	
 SHOW CARD C5		[F1]-HELP
<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"> 1 None 2 1 to 4 3 5 to 9 4 10 to 19 5 20 to 49 6 50 to 99 7 100 to 249 8 250 to 499 9 500 to 999 10 1,000 to 2,499 11 2,500 to 4,999 12 5,000 or More 		
NEXT	→ D1 [Heating]	

SECTION D. ENERGY USE AND EQUIPMENT

D1	Heating	<i>HT19</i>
ASK	All Buildings	
FILL	<p>{Worksheet1Intro} IF R has Worksheet 1 = "Please continue to refer to Worksheet 1 for some of these next questions on energy sources, uses, and equipment." OTHERWISE = BLANK</p>	
		[F1]-HELP
<p>{Worksheet1Intro}</p> <p>For the next five questions, please tell me if energy was used in this building for any of these purposes during calendar year 2007.</p> <p>Was any energy used for heating the building?</p> <p>1 Yes 2 No</p>		
NEXT	→ D2 [Cooling]	

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

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

D4	Cooking	<i>COOK9</i>
ASK	All Buildings	
	[F1]-HELP	
	<p>(Was any energy used...)</p> <p>For cooking?</p> <p>1 Yes</p> <p>2 No</p>	
NEXT	IF D1 [Heating] = DK/RF & D2 [Cooling] = DK/RF & D3 [Water heating] = DK/RF & D4 [Cooking] = DK/RF → D4a [Missing end uses] OTHERWISE → D4 [Manufacturing]	

D4a	Missing end uses	
SHOW	IF D1 [Heating] = DK/RF & D2 [Cooling] = DK/RF & D3 [Water heating] = DK/RF & D4 [Cooking] = DK/RF	
	<p>◆ INTERVIEWER: You have entered DK or RF for the four major end use questions. This information is important for understanding how energy is used in this building. You may need to find a new respondent at this point. Explain to the current respondent that the remainder of the questionnaire contains technical information about energy use and equipment and ask whether the respondent would want us to consult someone else in the building for these questions.</p> <p>◆ ENTER "1" when you are ready to continue</p>	
NEXT	→ D5 [Manufacturing]	

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

D6	Any energy used	<i>ANYEGY9</i>
ASK	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 2 No, no energy was used</p>		
NEXT	IF Yes, some energy was used OR DK/RF → D7 [Electricity generation capability] IF No, no energy was used → E63 [Window glass type]	

D7	Electricity generation capability	<i>CAPGEN9</i>
ASK	IF D1 [Heating] = Yes OR D2 [Cooling] = Yes OR D3 [Water heating] = Yes OR D4 [Cooking] = Yes OR D5 [Manufacturing] = Yes OR D6 [Any energy used] = Yes, some energy was used OR DK/RF	
		[F1]-HELP
<p>Does this building have the ability to generate electricity, including for emergency backup?</p> <p>1 Yes 2 No</p>		
NEXT	→ D8 [Energy sources used]	

D8	Energy sources used	<i>see below</i>																											
ASK	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																												
<p style="text-align: right;">[F1]-HELP</p> <p> SHOW CARD D1</p> <p>Looking at this list of energy sources, please tell me which ones were used <u>in this building</u> for any purpose in 2007.</p> <ul style="list-style-type: none"> ◆ EXP: [Include fuel oil, diesel, or kerosene if it was purchased or delivered in 2007, even if it was not used during that time.] ◆ EXP: [Do not include any fuels used in vehicles outside the building.] ◆ PROBE for any others ◆ ENTER all that apply <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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NEXT	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] 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]																												

D9	Fuel oil, diesel, or kerosene	<i>FKTYPE9</i>
ASK	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"> 1 Fuel oil 2 Diesel 3 Kerosene 	
NEXT	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]	

D10	Wood, coal, or solar	<i>see below</i>
ASK	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"> 1 Wood 2 Coal 3 Solar 	
		<i>WOUSED9</i> <i>COUSED9</i> <i>SOUSED9</i>
NEXT	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]	

D11	Other energy source 1	<i>OTUSDX19</i>
ASK	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>		
NEXT	➔ D12 [Other energy source 2]	

D12	Other energy source 2	<i>OTUSDX29</i>
ASK	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>◆ [ENTER] if no others</p>		
NEXT	<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] & B47 [Central physical plant] = Yes & 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>	

D13	Other energy source 3	<i>OTUSDX39</i>
ASK	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"> ◆ ENTER the next energy source ◆ [ENTER] if no others 		
NEXT	<p>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]</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>	

D14	From central plant	<i>DHFRPL9</i>
ASK	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> <p>1 Yes</p> <p>2 No</p>		
NEXT	<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>	

D15	Purchase from offsite	<i>DHOFF9</i>
ASK	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>		
NEXT	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]	

D16	Source for main heating	<i>see below</i>																																							
ASK	IF D1 [Heating] = Yes																																								
FILL	{Ht1SourcesList} = List of all energy sources used {Electricity} – {Other3} = If a source is used, it appears in this list; if not, the line is blank {FuelOilType} = Type or types specified in D9 [Fuel oil, diesel, or kerosene] {Other1} – {Other3} = Sources specified in D11 [Other energy source 1] – D13 [Other energy source 3]																																								
<p>What was the <u>main</u> energy source for heating? (Was it {Ht1SourcesList}?)</p> <ul style="list-style-type: none"> ◆ 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.] ◆ EXP: [Do not include electricity if it is used only to run fan motors.] ◆ Only sources already selected are shown here <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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D17	Other source for main heating	<i>see below</i>																														
ASK	IF D16 [Source for main heating] = Some other energy source																															
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NEXT	➔ D18 [Other sources for heating]																															

D18	Other sources for heating	<i>HT29 & see below</i>																																										
ASK	IF D1 [Heating] = Yes & More than one energy source used																																											
FILL	<p>{Ht2SourcesList} = List of all energy sources used, minus the one used for main heating {Electricity} – {Other3} = If a source is used (other than for main space heating), it appears in this list; if not, the line is blank {FuelOilType} = Type or types specified in D9 [Fuel oil, diesel, or kerosene] {Other1} – {Other3} = Sources specified in D11 [Other energy source 1] – D13 [Other energy source 3]</p>																																											
<p>Which other energy sources, if any, were used for heating? ({Ht2SourcesList})</p> <ul style="list-style-type: none"> ◆ EXP: [Do not include electricity if it is used only to run fan motors.] ◆ Only sources already selected are shown here ◆ PROBE for any others ◆ ENTER all that apply <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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NEXT	IF Some other energy source ➔ D20 [Other source for heating] IF Anything but Some other energy source OR DK/RF ➔ D21 [Percent heated]																																											

D19	Other sources for heating	<i>HT29</i>
ASK	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>		
NEXT	IF Yes → D20 [Other source for heating] IF No OR DK/RF → D21 [Percent heated]	

D20	Other source for heating																															
ASK	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> <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>Fuel oil/Diesel/Kerosene</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>24</td> <td>Some other energy source</td> <td><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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NEXT	→ 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.

D21	Percent heated	<i>HEATP9</i>
ASK	IF D1 [Heating] = Yes	
FILL	{SqFt} IF A1 [Square footage] known = "A1 [Square footage]" IF A1 [Square footage] = DK/RF = "floorspace"	
		[F1]-HELP
What percent of the {SqFt} in this building was heated to at least 50 degrees Fahrenheit during 2007, including basements and enclosed garages if they were heated to at least 50 degrees?		
<ul style="list-style-type: none"> ◆ If heated square footage is known, but not the percent, RECORD square footage in comments, then code DK ◆ PROBE for estimate if DK 		
RANGE	0 to 100	
NEXT	IF Zero → D22 [Heated to less than 50 degrees] IF Anything else → D23 [Heating equipment types]	

D22	Heated to less than 50 degrees	<i>HTLS509</i>
ASK	IF D21 [Percent heated] = Zero	
Was any of this building heated to less than 50 degrees Fahrenheit?		
<ul style="list-style-type: none"> ◆ EXP: [Areas may be heated to less than 50 degrees to prevent pipes from freezing.] 		
1 Yes 2 No		
NEXT	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]	

D23	Heating equipment types	<i>see below</i>														
ASK	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"> ◆ PROBE for any others ◆ ENTER all that apply <table style="width: 100%; border: none;"> <tr> <td style="width: 70%;">1 Furnaces that heat air directly, without using steam or hot water</td> <td style="width: 30%; 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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NEXT	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]															

D24	Type of furnace
ASK	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"> 1 Residential-type split system 2 Packaged central unit (roof mounted) 3 Individual room furnace (freestanding or floor-mounted) 	
NEXT	<p>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] IF 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]</p>

D25	Classify as packaged
ASK	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>	
NEXT	<p>IF Individual room furnace IN D24 [Type of furnace] → D26 [Classify as space heater] OTHERWISE: 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] OTHERWISE: Assign Packaged heating as Main heating equipment, THEN: IF 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]</p>

D26	Classify as space heater
ASK	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>	
NEXT	<p>IF Packaged central unit IN D23 [Heating equipment types] & NOT Packaged central unit IN D24 [Type of furnace] → D27 [Type of packaged heating]</p> <p>IF Boilers IN D23 [Heating equipment types] → D29 [Type of boiler system]</p> <p>IF District steam or hot water IN D23 [Heating equipment types] → D30 [Type of district system]</p> <p>IF Heat pumps IN D23 [Heating equipment types] → D31 [Heat pump heating system]</p> <p>IF Individual space heaters IN D23 [Heating equipment types] → D33 [Type of individual heater]</p> <p>IF Other heating equipment IN D23 [Heating equipment types] → D34 [Other heat specify]</p> <p>OTHERWISE:</p> <p>IF More than one heating equipment type → D36 [Percent heated by each type]</p> <p>OTHERWISE:</p> <p>Assign Space heater as Main heating equipment, THEN:</p> <p>IF A20 [Year of construction] < 1990 OR A21 [Year of construction category] ≠ 2000 to 2003 OR 2004 to 2007 → D38 [Main heating replaced]</p> <p>OTHERWISE → D39 [Heating ventilation types]</p>

D27	Type of packaged heating
ASK	IF Packaged central unit IN D23 [Heating equipment types] & NOT Packaged central unit IN D24 [Type of furnace]
<p style="text-align: right;">[F1]-HELP</p> <p>Just to verify, is the packaged unit a central roof-mounted unit or is it a packaged heat pump?</p> <ol style="list-style-type: none"> 1 Packaged central unit (roof mounted) 2 Packaged heat pump 3 [IF VOLUNTEERED] Both central and packaged heat pumps 	
NEXT	<p>IF Packaged heat pump or Both central and packaged heat pumps → D28 [Classify as heat pump]</p> <p>OTHERWISE:</p> <p>IF Boilers IN D23 [Heating equipment types] → D29 [Type of boiler system]</p> <p>IF District steam or hot water IN D23 [Heating equipment types] → D30 [Type of district system]</p> <p>IF Heat pumps IN D23 [Heating equipment types] → D31 [Heat pump heating system]</p> <p>IF Individual space heaters IN D23 [Heating equipment types] → D33 [Type of individual heater]</p> <p>IF Other heating equipment IN D23 [Heating equipment types] → D34 [Other heat specify]</p> <p>OTHERWISE:</p> <p>IF More than one heating equipment type → D36 [Percent heated by each type]</p> <p>OTHERWISE:</p> <p>Assign Packaged heating as Main heating equipment, THEN:</p> <p>IF A20 [Year of construction] < 1990 OR A21 [Year of construction category] ≠ 2000 to 2003 OR 2004 to 2007 → D38 [Main heating replaced]</p> <p>OTHERWISE → D39 [Heating ventilation types]</p>

D28	Classify as heat pump
ASK	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>	
NEXT	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] OTHERWISE → D32 [Heat pump heating type]

D29	Type of boiler system						
ASK	IF Boilers IN D23 [Heating equipment types]						
<p style="text-align: right;">[F1]-HELP</p> <p> SHOW CARD D4</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> <table style="width: 100%; border: none;"> <tr> <td style="width: 70%;">1 Radiators</td> <td style="text-align: right;"><i>RDTRBL9</i></td> </tr> <tr> <td>2 Fan coil units in rooms (or areas)</td> <td style="text-align: right;"><i>FNCLBL9</i></td> </tr> <tr> <td>3 Central air handling system</td> <td style="text-align: right;"><i>ARHDBL9</i></td> </tr> </table>		1 Radiators	<i>RDTRBL9</i>	2 Fan coil units in rooms (or areas)	<i>FNCLBL9</i>	3 Central air handling system	<i>ARHDBL9</i>
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3 Central air handling system	<i>ARHDBL9</i>						
NEXT	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] OTHERWISE: Assign Boiler as Main heating equipment, THEN: IF More than one energy source used for heating → D35 [Explain sources for heating] IF 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]						

D30	Type of district system						
ASK	IF District steam or hot water IN D23 [Heating equipment types]						
[F1]-HELP							
 SHOW CARD D4							
<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> <table style="width: 100%; border: none;"> <tr> <td style="width: 80%;">1 Radiators</td> <td style="text-align: right;"><i>RDTRDH9</i></td> </tr> <tr> <td>2 Fan coil units in rooms (or areas)</td> <td style="text-align: right;"><i>FNCLDH9</i></td> </tr> <tr> <td>3 Central air handling system</td> <td style="text-align: right;"><i>ARHDDH9</i></td> </tr> </table>		1 Radiators	<i>RDTRDH9</i>	2 Fan coil units in rooms (or areas)	<i>FNCLDH9</i>	3 Central air handling system	<i>ARHDDH9</i>
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2 Fan coil units in rooms (or areas)	<i>FNCLDH9</i>						
3 Central air handling system	<i>ARHDDH9</i>						
NEXT	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] OTHERWISE: Assign District steam or hot water as Main heating equipment, THEN: IF More than one energy source used for heating → D35 [Explain sources for heating] OTHERWISE → D39 [Heating ventilation types]						

D31	Heat pump heating system	<i>see below</i>						
ASK	IF Heat pumps IN D23 [Heating equipment types] OR Packaged heat pump OR Both central and packaged heat pumps IN D27 [Type of packaged heating]							
[F1]-HELP								
 SHOW CARD D5								
<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="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>							
NEXT	→ D32 [Heat pump heating type]							

D32	Heat pump heating type	<i>see below</i>
ASK	IF Heat pumps IN D23 [Heating equipment types] OR Packaged heat pump OR Both central and packaged heat pumps IN D27 [Type of packaged heating]	
		[F1]-HELP
 SHOW CARD D5		
Looking at the second list on this card, which types of heat pumps are these?		
◆ ENTER all that apply		
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>
NEXT	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] OTHERWISE: Assign Heat pump as Main heating equipment, THEN: IF 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]	

D33	Type of individual heater	
ASK	IF Individual space heaters IN D23 [Heating equipment types]	
		[F1]-HELP
 SHOW CARD D6		
Looking at this list, please tell me the type or types of individual heaters used in the building.		
◆ ENTER all that apply		
1 Infrared radiant heater (permanent)		<i>RDNTSH9</i>
2 Baseboard heater (permanent)		<i>BBRDSH9</i>
3 Portable space heater		<i>PORTSH9</i>
4 Wall heater		<i>WALLSH9</i>
5 Individual furnace		<i>FURNSH9</i>
NEXT	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] OTHERWISE: Assign Space heater as Main heating equipment, THEN: IF 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]	

D34	Other heat specify
ASK	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>	
NEXT	<p>IF More than one heating equipment type → D36 [Percent heated by each type]</p> <p>OTHERWISE:</p> <p>Assign Other heating equipment as Main heating equipment, THEN:</p> <p>IF A20 [Year of construction] < 1990 OR</p> <p>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>

D35	Explain sources for heating
ASK	IF ONLY Boiler, Furnace, OR District heat as heating equipment but more than one energy source used for heating
FILL	<p>{HeatEquip}</p> <p>IF Boilers = “boiler”</p> <p>IF Furnace = “furnace”</p> <p>IF District heat = “district heating system”</p> <p>{HeatSources} = 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>	
NEXT	<p>IF Main heating equipment ≠ District steam or hot water & (A20 [Year of construction] < 1990 OR</p> <p>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>

D36	Percent heated by each type <i>FURNP9, PKGHP9, BOILP9, STHWP9, HTPHP9, SLFCNP9, OTHTP9</i>
ASK	For each equipment type given in D23 [Heating equipment types]
FILL	<p>{Introduction} 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>{Explanation} IF First equipment and D21 [Percent heated] \neq 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>{Equipment} IF Furnaces that heat air directly IN D23 [Heating equipment types] = "furnace" IF Packaged heating units IN D23 [Heating equipment types] = "packaged heating" IF Boilers inside the building IN D23 [Heating equipment types] = "boiler" IF District steam or hot water IN D23 [Heating equipment types] = "district steam or hot water" IF Heat pumps IN D23 [Heating equipment types] = "heat pump" IF Individual space heaters IN D23 [Heating equipment types] = "space heater" IF Other heating equipment IN D23 [Heating equipment types] = "other heating equipment"</p>
 SHOW CARD D7 {Introduction} {Explanation} What percent of the heated area in this building is served by the {Equipment}? ◆ PROBE for estimate if DK	
RANGE	0 to 100
NEXT	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 & (A20 [Year of construction] < 1990 OR A21 [Year of construction category] \neq 2000 to 2003 OR 2004 to 2007) → D38 [Main heating replaced] OTHERWISE → D39 [Heating ventilation types]

D37	Main heating equipment	<i>MNHTEQ9</i>
ASK	IF D36 [Percent heated by each type] has equal maximum percents OR DK/RF	
FILL	{EquipmentList} = List of the equipments with equal maximum percents {Furnace} – {Other heating equipment} = 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"> 1 {Furnace} 2 {Packaged heating} 3 {Boiler} 4 {District steam or hot water} 5 {Heat pump} 6 {Space heater} 7 {Other heating equipment} 		
NEXT	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 OR 2004 to 2007) → D38 [Main heating replaced] OTHERWISE → D39 [Heating ventilation types]	

D38	Main heating replaced	<i>NWMNHT9</i>
ASK	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)	
FILL	{MainHeatEquip} 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"> 1 Yes 2 No 		
NEXT	→ D39 [Heating ventilation types]	

D39	Heating ventilation types	
ASK	IF D23 [Heating equipment types] ≠ DK/RF	
		[F1]-HELP
	 SHOW CARD D8 Looking at this list of mechanical ventilation equipment types, please tell me which types are used with the heating system.	
	<ul style="list-style-type: none"> ◆ PROBE for any others ◆ ENTER all that apply 	
	<ul style="list-style-type: none"> 1 No mechanical ventilation equipment <i>HTVNON9</i> 2 Central air handling unit(s) with outside air system and constant air volume control <i>HTVCAV9</i> 3 Central air handling unit(s) with outside air system and variable air volume (VAV) control <i>HTVVAV9</i> 4 Packaged unit(s) with outside air damper <i>HTVPKO9</i> 5 Through-the wall packaged units <i>HTVPKW9</i> 6 Stand-alone exhaust fans (or relief blowers) <i>HTVEXH9</i> 7 Dedicated outside air system <i>HTVOUT9</i> 	
NEXT	➔ D40 [Reduce heating]	

D40	Reduce heating	<i>RDHTNF9</i>
ASK	IF D21 [Percent heated] > 0 OR D22 [Heated to less than 50 degrees] = Yes	
FILL	{TimesNotInFullUse} 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? <ul style="list-style-type: none"> 1 Yes 2 No 	
NEXT	IF Yes ➔ D41 [How reduce heating] IF No OR DK/RF: IF D2 [Cooling] = Yes ➔ D42 [Sources for cooling] IF D2 [Cooling] ≠ Yes & More than just Individual space heaters IN D23 [Heating equipment types] ➔ D61 [Regular HVAC maintenance] 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]	

D41	How reduce heating	<i>HWRDHT9 & see below</i>
ASK	IF D40 [Reduce heating] = Yes	
 SHOW CARD D9 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)" <i>EMCS9</i>		
NEXT	IF D2 [Cooling] = Yes → D42 [Sources for cooling] IF D2 [Cooling] ≠ Yes & More than just Individual space heaters IN D23 [Heating equipment types] → D61 [Regular HVAC maintenance] 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]	

D42	Sources for cooling	<i>see below</i>																																	
ASK	IF D2 [Cooling] = Yes																																		
FILL	{CoolSourcesList} = List of all possible air conditioning energy sources used {Electricity} – {Other3} = If a source is used, it appears in this list; if not, the line is blank {FuelOilType} = Type or types specified in D9 [Fuel oil, diesel, or kerosene] {Other1} – {Other3} = Sources specified in D11 [Other energy source 1] – D13 [Other energy source 3]																																		
Which energy sources were used for air conditioning? ({CoolSourcesList}) <ul style="list-style-type: none"> ◆ Only sources already selected are shown here ◆ PROBE for any others ◆ ENTER all that apply <table style="width: 100%; border: none;"> <tr> <td style="width: 15%;">11</td> <td style="width: 65%;">{Electricity}</td> <td style="width: 20%; text-align: right;"><i>ELCOOL9</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>ELCOOL9</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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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																																		
NEXT	IF Some other energy source selected → D43 [Other source for cooling] OTHERWISE → D44 [Percent cooled]																																		

D43	Other source for cooling	<i>see below</i>																								
ASK	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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24	Some other energy source	<i>OTCOOL9</i>																								
NEXT	➔ D44 [Percent cooled]																									

D44	Percent cooled	<i>COOLP9</i>
ASK	IF D1 [Cooling] = Yes	
FILL	{SqFtIn} IF A1 [Square footage] known = A1 [Square footage] IF A1 [Square footage] = DK/RF = "floorspace"	
		[F1]-HELP
<p>What percent of the {SqFt} in this building was cooled by air conditioning equipment during 2007?</p> <ul style="list-style-type: none"> ◆ If cooled square footage is known, but not the percent, RECORD square footage in comments, then code DK ◆ PROBE for estimate if DK 		
RANGE	0 to 100	
NEXT	IF 1-100, DK/RF ➔ D45 [Cooling equipment types] IF Zero: IF More than just Individual space heaters IN D23 [Heating equipment types] ➔ D61 [Regular HVAC maintenance] 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]	

D45	Cooling equipment types	<i>see below</i>																
ASK	IF D44 [Percent cooled] = 1 to 100 OR DK/RF																	
<div style="text-align: right;">[F1]-HELP</div>  SHOW CARD D10 <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"> ◆ PROBE for any others ◆ ENTER all that apply <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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NEXT	<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 & 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/RF) → D56 [Cooling ventilation same as heating] OTHERWISE → D57 [Cooling ventilation types]</p>																	

D46	Type of packaged cooling	<i>see below</i>
ASK	IF Packaged air conditioning units IN D45 [Cooling equipment types]	
		[F1]-HELP
	Just to verify, is the packaged unit a central roof-mounted unit or is it a split system with outdoor and indoor units?	
	<ul style="list-style-type: none"> 1 Packaged central unit (roof mounted) <i>CNTLPC9</i> 2 Split system, with outdoor (condensor) and indoor (evaporator/blower) units <i>SPLTPC9</i> 3 [IF VOLUNTEERED] Both central unit and split system 	
NEXT	IF Central chillers IN D45 [Cooling equipment types] → D47 [Type of chiller system] IF District chilled water IN D45 [Cooling equipment types] → D48 [Type of chilled water system] IF Heat pumps for cooling IN D45 [Cooling equipment types] AND NOT Heat pumps for heating → D49 [Heat pump cooling system] IF Other cooling equipment IN D45 [Cooling equipment types] → D51 [Other cool specify] OTHERWISE: IF Any source(s) other than electricity or chilled water reported in 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] OTHERWISE: Assign Packaged cooling as Main cooling equipment. THEN: IF Main heating equipment ≠ Packaged heating & (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/RF) → D56 [Cooling ventilation same as heating] OTHERWISE → D57 [Cooling ventilation types]	

D47	Type of chiller system	<i>see below</i>
ASK	IF Central chillers IN D45 [Cooling equipment types]	
[F1]-HELP		
Is the water from the chiller distributed through a central air handling system or by fan coil units?		
<ul style="list-style-type: none"> 1 Central air handling system <i>ARHDCH9</i> 2 Fan coil units in rooms (or area) <i>FNCLCH9</i> 3 [IF VOLUNTEERED] Both air handling and fan coil units 		
NEXT	IF District chilled water IN D45 [Cooling equipment types] → D48 [Type of chilled water system] IF Heat pumps for cooling IN D45 [Cooling equipment types] AND NOT Heat pumps for heating → D49 [Heat pump cooling system] IF Other cooling equipment IN D45 [Cooling equipment types] → D51 [Other cool specify] OTHERWISE: IF More than one type in D45 [Cooling equipment types] → D53 [Percent cooled by each type] OTHERWISE: Assign Central chiller as Main cooling equipment. THEN: IF (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/RF) → D56 [Cooling ventilation same as heating] OTHERWISE → D57 [Cooling ventilation types]	

D48	Type of chilled water system	<i>see below</i>
ASK	IF District chilled water IN D45 [Cooling equipment types]	
[F1]-HELP		
Is the chilled water distributed through a central air handling system or by fan coil units?		
<ul style="list-style-type: none"> 1 Central air handling system <i>ARHDCW9</i> 2 Fan coil units in rooms (or area) <i>FNCLCW9</i> 3 [IF VOLUNTEERED] Both air handling and fan coil units 		
NEXT	IF Heat pumps for cooling IN D45 [Cooling equipment types] AND NOT Heat pumps for heating → D49 [Heat pump cooling system] IF Other cooling equipment IN D45 [Cooling equipment types] → D51 [Other cool specify] OTHERWISE: IF Any source(s) other than electricity or chilled water reported in 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] OTHERWISE: Assign District chilled water as Main cooling equipment. THEN: IF D1 [Heating] = Yes & D39 [Heating ventilation types] ≠ (No ventilation or DK/RF) → D56 [Cooling ventilation same as heating] OTHERWISE → D57 [Cooling ventilation types]	

D49	Heat pump cooling system	<i>see below</i>									
ASK	IF Heat pumps IN D45 [Cooling equipment types] & Heat pumps NOT IN D23 [Heating equipment types]										
 SHOW CARD D5		[F1]-HELP									
<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> <tr> <td>1</td> <td>Packaged unit</td> <td><i>PKGCPS9</i></td> </tr> <tr> <td>2</td> <td>Residential-type split system</td> <td><i>SPLCPS9</i></td> </tr> <tr> <td>3</td> <td>Individual room heat pump</td> <td><i>RMCP9</i></td> </tr> </table>			1	Packaged unit	<i>PKGCPS9</i>	2	Residential-type split system	<i>SPLCPS9</i>	3	Individual room heat pump	<i>RMCP9</i>
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2	Residential-type split system	<i>SPLCPS9</i>									
3	Individual room heat pump	<i>RMCP9</i>									
NEXT	→ D50 [Heat pump cooling type]										

D50	Heat pump cooling type	<i>see below</i>									
ASK	IF Heat pumps in D45 [Cooling equipment types] & Heat pumps NOT IN D23 [Heating equipment types]										
 SHOW CARD D5		[F1]-HELP									
<p>Looking at the second list on this card, which types of heat pumps are these?</p> <p>◆ ENTER all that apply</p> <table> <tr> <td>1</td> <td>Air source heat pump</td> <td><i>AIRCPT9</i></td> </tr> <tr> <td>2</td> <td>Ground source or ground water heat pump</td> <td><i>GRDCPT9</i></td> </tr> <tr> <td>3</td> <td>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>
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NEXT	IF Other cooling equipment IN D45 [Cooling equipment types] → D51 [Other cool specify] OTHERWISE: IF Any source(s) other than electricity or chilled water reported in 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] OTHERWISE: Assign Heat pump as Main cooling equipment. THEN: IF Main heating equipment ≠ 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/RF) → D56 [Cooling ventilation same as heating] OTHERWISE → D57 [Cooling ventilation types]										

D51	Other cool specify
ASK	IF Other cooling equipment in D45 [Cooling equipment types]
<p>Please describe the other type of cooling equipment.</p> <p>◆ RECORD in open box</p>	
NEXT	<p>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] OTHERWISE: Assign Other cooling equipment as Main cooling equipment. THEN: IF 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/RF) → D56 [Cooling ventilation same as heating] OTHERWISE → D57 [Cooling ventilation types]</p>

D52	Cool source explanation
ASK	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]
FILL	<p>{CoolSources} = List of the energy sources given for cooling, other than electricity or chilled water {IsAre} = IF Only one cooling source in list = "is" IF More than one cooling source in list = "are"</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>	
NEXT	<p>IF More than one type in D45 [Cooling equipment types] → D53 [Percent cooled by each type] IF Main cooling equipment ≠ (District chilled water OR Packaged cooling, IF Main heating equipment = Packaged heating OR Heat pump, IF Main heating equipment = 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/RF) → D56 [Cooling ventilation same as heating] OTHERWISE → D57 [Cooling ventilation types]</p>

D53	Percent cooled by each type <p style="text-align: right;"><i>RCACP9, PKGCP9, CHILP9, CHWTP9, HTPCP9, ACWNWP9, EVAPP9, OTCLP9</i></p>
ASK	For each equipment type given in D45 [Cooling equipment types]
FILL	<p>{Introduction} 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>{Explanation} IF First equipment and D44 [Percent cooled] \neq 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>{Equipment} IF Residential-type central air conditioners IN D45 [Cooling equipment types] = "central air conditioner" IF Packaged air conditioning units IN D45 [Cooling equipment types] = "packaged cooling" IF Central chillers inside the building IN D45 [Cooling equipment types] = "central chiller" IF District chilled water IN D45 [Cooling equipment types] = "district chilled water" IF Heat pumps for cooling IN D45 [Cooling equipment types] = "heat pump" IF Individual room air conditioners IN D45 [Cooling equipment types] = "room air conditioner" 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 D11 {Introduction} {Explanation} What percent of the cooled area in this building is served by the {Equipment}? ◆ PROBE for estimate if DK	
RANGE	0 to 100
NEXT	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/RF) → D56 [Cooling ventilation same as heating] OTHERWISE → D57 [Cooling ventilation types]

D54	Main cooling equipment	<i>MNCLEQ9</i>
ASK	IF D53 [Percent cooled by each type] has equal maximum percents OR DK/RF	
FILL	<p>{EquipmentList} = List of the equipments with equal maximum percents {Packaged cooling} – {Other cooling equipment} = 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"> 1 {Central air conditioner} 2 {Packaged cooling} 3 {Central chiller} 4 {District chilled water} 5 {Heat pump} 6 {Room air conditioner} 7 {Swamp coolers} 8 {Other cooling equipment} 		
NEXT	<p>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] ≠ 2000 to 2003 OR 2004 to 2007) → D55 [Main cooling replaced]</p> <p>IF D1 [Heating] = Yes & D39 [Heating ventilation types] ≠ (No ventilation or DK/RF) → D56 [Cooling ventilation same as heating] OTHERWISE → D57 [Cooling ventilation types]</p>	

D55	Main cooling replaced	NWMNCL9
ASK	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 OR 2004 to 2007)	
FILL	{MainCoolEquip} 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		
NEXT	IF D1 [Heating] = Yes & D39 [Heating ventilation types] ≠ (No ventilation or DK/RF) → D56 [Cooling ventilation same as heating] OTHERWISE → D57 [Cooling ventilation types]	

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

D57	Cooling ventilation types																
ASK	IF D56 [Cooling ventilation same as heating] = No																
[F1]-HELP																	
 SHOW CARD D12																	
<p>Looking at this list of mechanical ventilation equipment types, please tell me which types are used with the cooling system.</p> <ul style="list-style-type: none"> ◆ PROBE for any others ◆ ENTER all that apply <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">1 No mechanical ventilation equipment</td> <td style="text-align: right;">CLVNON9</td> </tr> <tr> <td>2 Central air handling unit(s) with outside air system and constant air volume control</td> <td style="text-align: right;">CLVCAV9</td> </tr> <tr> <td>3 Central air handling unit(s) with outside air system and variable air volume (VAV) control</td> <td style="text-align: right;">CLVVAV9</td> </tr> <tr> <td>4 Packaged unit(s) with outside air damper</td> <td style="text-align: right;">CLFPK09</td> </tr> <tr> <td>5 Through-the wall packaged units</td> <td style="text-align: right;">CLVPKW9</td> </tr> <tr> <td>6 Stand-alone exhaust fans (or relief blowers)</td> <td style="text-align: right;">CLVEXH9</td> </tr> <tr> <td>7 Dedicated outside air system</td> <td style="text-align: right;">CLVOUT9</td> </tr> <tr> <td>8 Fans, including ceiling fans</td> <td style="text-align: right;">CLVFAN9</td> </tr> </table>		1 No mechanical ventilation equipment	CLVNON9	2 Central air handling unit(s) with outside air system and constant air volume control	CLVCAV9	3 Central air handling unit(s) with outside air system and variable air volume (VAV) control	CLVVAV9	4 Packaged unit(s) with outside air damper	CLFPK09	5 Through-the wall packaged units	CLVPKW9	6 Stand-alone exhaust fans (or relief blowers)	CLVEXH9	7 Dedicated outside air system	CLVOUT9	8 Fans, including ceiling fans	CLVFAN9
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6 Stand-alone exhaust fans (or relief blowers)	CLVEXH9																
7 Dedicated outside air system	CLVOUT9																
8 Fans, including ceiling fans	CLVFAN9																
NEXT	➔ D58 [Reduce cooling]																

D58	Reduce cooling	<i>RDCLNF9</i>
ASK	IF D44 [Percent cooled] > 0	
FILL	{TimesNotInFullUse} 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> <ul style="list-style-type: none"> 1 Yes 2 No 		
NEXT	IF Yes ➔ D59 [How reduce cooling] IF No OR DK/RF: IF More than just Individual room air conditioners IN D45 [Cooling equipment types] ➔ D60 [Economizer cycle] IF More than just individual space heaters IN D23 [Heating equipment types] ➔ D61 [Regular HVAC maintenance] 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]	

D59	How reduce cooling	<i>HWRDCL9 & see below</i>
ASK	IF D58 [Reduce cooling] = Yes	
 SHOW CARD D9 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)" <i>EMCS9</i>		
NEXT	IF More than just Individual room air conditioners IN D45 [Cooling equipment types] → D60 [Economizer cycle] IF More than just individual space heaters IN D23 [Heating equipment types] → D61 [Regular HVAC maintenance] 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]	

D60	Economizer cycle	<i>ECN9</i>
ASK	IF D44 [Percent cooled] > 0 & More than just Individual room air conditioners IN D45 [Cooling equipment types]	
[F1]-HELP		
Does this building have any equipment that uses outside air for cooling, often called an "economizer cycle"? 1 Yes 2 No		
NEXT	→ D61 [Regular HVAC maintenance]	

D61	Regular HVAC maintenance	<i>MAINT9</i>
ASK	IF More than just Individual space heaters IN D23 [Heating equipment types] OR More than just Individual room air conditioners IN D45 [Cooling equipment types]	
FILL	{HeatCool} IF Heating only = "heating" IF Cooling only = "cooling" IF Heating & Cooling = "heating and cooling"	
		[F1]-HELP
Is there any regularly scheduled maintenance and repair for the {HeatCool} system? 1 Yes 2 No		
NEXT	IF D3 [Water heating] = Yes → 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]	

D62	Sources for water heating	<i>see below</i>																																							
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FILL	{WatrSourcesList} = List of all energy sources used {Electricity} – {Other3} = If a source is used, it appears in this list; if not, the line is blank {FuelOilType} = Type or types specified in D9 [Fuel oil, diesel, or kerosene] {Other1} – {Other3} = Sources specified in D11 [Other energy source 1] – D13 [Other energy source 3]																																								
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NEXT	➔ D64 [Water heating equipment]																															

D64	Water heating equipment	<i>WTHTEQ9</i>
ASK	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"> 1 One or more centralized water heaters 2 One or more "point-of-use" water heaters 3 Both types 		
NEXT	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]	

D65	Instant hot water	<i>INSTWT9</i>
ASK	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"> 1 Yes 2 No 		
NEXT	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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NEXT	IF D7 [Electricity generation capability] = Yes → D70 [Energy for generation] IF D7 [Electricity generation capability] ≠ Yes → D76 [Any other sources]																															

D70	Energy for generation	<i>GENR9</i>
ASK	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>		
NEXT	IF Yes → D71 [Sources for electricity generation] IF No OR DK/RF → D76 [Any other sources]	

D71	Sources for electricity generation	<i>see below</i>																														
ASK	IF D70 [Energy for generation] = Yes																															
FILL	{Other1} – {Other3} = Sources specified in D11 [Other energy source 1] – D13 [Other energy source 3]																															
<p> SHOW CARD D13</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"> ◆ PROBE for any others ◆ ENTER all that apply <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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24	Some other energy source	<i>OTGENR9</i>																														
NEXT	→ D72 [Generation technologies]																															

D72	Generation technologies	<i>see below</i>								
ASK	IF D70 [Energy for generation] = Yes									
<p> SHOW CARD D13</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"> ◆ PROBE for any others ◆ ENTER all that apply <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>MCROTB9</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>MCROTB9</i>	4 IF VOLUNTEERED: None of these	
1 Photovoltaic cells	<i>PHOTVL9</i>									
2 Fuel cells	<i>FUELCL9</i>									
3 Microturbines	<i>MCROTB9</i>									
4 IF VOLUNTEERED: None of these										
NEXT	➔ D73 [Use of generated electricity]									

D73	Use of generated electricity	<i>GENUSE9</i>
ASK	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"> 1 Primarily for emergency back-up 2 During periods of high electricity demand 3 Whenever electricity was used 		
NEXT	IF Primarily for emergency back-up OR DK/RF ➔ D76 [Any other sources] IF During periods of high electricity demand OR Whenever electricity was used ➔ D74 [Cogeneration system]	

D74	Cogeneration system	<i>COGEN9</i>
ASK	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"> 1 Yes 2 No 		
NEXT	➔ D75 [Deliver electricity to grid]	

D75	Deliver electricity to grid	<i>GRID9</i>
ASK	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>		
NEXT	➔ D76 [Any other sources]	

D76	Any other sources	
ASK	IF D8 [Energy sources used] was answered	
FILL	{SourcesList} = 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>		
NEXT	<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>	

D77	Other sources	<i>see below</i>																																	
ASK	IF D76 [Any other sources] =Yes																																		
FILL	{Electricity} – {Solar} = If a source has NOT been mentioned, it appears in this list; if it has, the line is blank																																		
<p>What other sources were used?</p> <ul style="list-style-type: none"> ◆ PROBE for any others ◆ ENTER all that apply <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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NEXT	➔ D78 [{Energy source} use]																																		

D78	{Energy source} use <i>see below where {XX} is the energy source abbreviation</i>																
ASK	For each source selected in D77 [Other sources]																
FILL	<p>{EnergySource} 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 energy" IF Other IN D77 [Other sources] = "other fuel"</p> <p>{Cooling} Does not appear as a choice for Wood use, Coal use, OR Solar use</p> <p>{Electricity generation} 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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NEXT	<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>																

D79	{Energy source} use <i>see below where {XX} is the energy source abbreviation</i>																
ASK	For every energy source given in D8 [Energy sources used] that was not assigned an end use (other than electricity)																
FILL	<p>{EnergySource} IF No end use for Natural gas = "natural gas" IF No end use for Fuel oil = Type or types specified in D9 [Fuel oil, diesel, or kerosene] IF No end use for Bottled gas = "bottled gas" IF No end use for District steam = "district steam" IF No end use for District hot water = "district hot water" IF No end use for District chilled water = "district chilled water" IF No end use for Wood = "wood" IF No end use for Coal = "coal" IF No end use for Solar = "solar energy" IF No end use for Other = "another energy source" (second fill = "other energy source")</p> <p>{Heating}, {Water heating}, {Cooking}, {Manufacturing} Do not appear as a choice for District chilled water use</p> <p>{Cooling} Does not appear as a choice for Wood use, Coal use, OR Solar use</p> <p>{Electricity generation} Does not appear as a choice for District chilled water use, 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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NEXT	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

D80	How purchase electricity	<i>see below</i>								
ASK	IF Electricity used									
 SHOW CARD D14		[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"> ◆ EXP: [If electricity is bought from the city, that is considered to be the local utility.] ◆ PROBE for any others ◆ ENTER all that apply <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>									
NEXT	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]									

D81	Percent from local utility	<i>ELLUPCT9</i>
ASK	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?		
RANGE	1 to 100	
NEXT	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]	

D82	How purchase natural gas	<i>NGSRC9 & see below</i>
ASK	IF Natural gas used	
FILL	<p>{Introduction} IF Electricity used = “Consumers may also be able to purchase their natural gas from more than one supplier.” IF Electricity not used = “In some areas of the country, consumers may purchase their natural gas from more than one supplier.”</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> <p>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</p>		
NEXT	IF Bottled gas used → D83 [Bottled gas amount] IF Wood used → D85 [Amount wood burned] OTHERWISE → E1 [Section E Routing]	

D83	Bottled gas amount	<i>PRAMTC9</i>
ASK	IF Bottled gas used	
 SHOW CARD D15 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? 1 Less than 100 2 100 to 499 3 500 to 999 4 1,000 or more		
NEXT	IF Amount given → D84 [Bottled gas units] IF DK/RF: IF Wood used → D85 [Amount wood burned] OTHERWISE → E1 [Section E Routing]	

D84	Bottled gas units	<i>PRUNIT9</i>
ASK	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>		
NEXT	IF Wood used → D85 [Amount wood burned] OTHERWISE → E1 [Section E Routing]	

D85	Amount wood burned	<i>WOAMT9</i>
ASK	IF Wood used	
<p> SHOW CARD D16</p> <p>Looking at this card, which range best describes how much wood was 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>		
NEXT	→ D86 [How obtain wood]	

D86	How obtain wood	<i>WOSRC9</i>
ASK	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>		
NEXT	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]	

D87	Expenditures for wood	<i>WOEXP9</i>
ASK	IF D86 [How obtain wood] = Purchase all the wood OR Some purchased 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"> ◆ Do not enter cents ◆ VERIFY number digit by digit 		
RANGE	1 to 99,999	
NEXT	IF DK/RF → D88 [Wood expenditures category] IF Amount given → E1 [Section E Routing]	

D88	Wood expenditures category	<i>WOEXPC9</i>
ASK	IF D87 [Expenditures for wood] = DK/RF	
<p> SHOW CARD D17</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"> 1 \$1 to \$100 2 \$101 to \$500 3 \$501 to \$1,000 4 \$1,001 to \$2,000 5 Over \$2,000 		
NEXT	→ E1 [Section E Routing]	

SECTION E. MISCELLANEOUS EQUIPMENT

E1	Section E Routing
NEXT	<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] IF CBECS Activity = Food sales; Food service; Public order and safety; OR Religious worship → E14 [Sewer flow metered] OTHERWISE: IF Electricity NOT used & D70 [Energy for generation] ≠ Yes → E17 [Verify no electricity] OTHERWISE → E18 [Refrigeration]</p>

E2	Commercial food prep	<i>FDRM9</i>
ASK	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>	
NEXT	<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 & D70 [Energy for generation] ≠ Yes → E17 [Verify no electricity] OTHERWISE → E18 [Refrigeration]</p>	

E3	Type of food area	<i>see below</i>												
ASK	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"> ◆ PROBE for any others ◆ ENTER all that apply <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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5 Small kitchen area	KITCHN9													
6 Some other type of food preparation area	OTFDRM9													
NEXT	IF Some other type selected → E4 [Other food area] OTHERWISE: IF Water heating → E5 [Large amounts of hot water] IF CBECS Activity = 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 & D70 [Energy for generation] ≠ Yes → E17 [Verify no electricity] OTHERWISE → E18 [Refrigeration]													

E4	Other food area
ASK	IF Some other type IN E3 [Type of food area]
<p>Please describe this other type of food preparation or serving area.</p> <ul style="list-style-type: none"> ◆ RECORD in open box 	
NEXT	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 & D70 [Energy for generation] ≠ Yes → E17 [Verify no electricity] OTHERWISE → E18 [Refrigeration]

E5	Large amounts of hot water	<i>HWTRM9</i>
ASK	IF Water heating	
FILL	{Introduction} IF E2 [Commercial food prep] was NOT 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		
NEXT	IF CB ECS 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 CB ECS Activity = Education; Laboratory; Office; Outpatient health care; Public assembly; Retail; OR Service → E8 [Laboratory equipment] IF CB ECS Activity = Nonrefrigerated OR Refrigerated warehouse → E9 [Machine equipment] IF CB ECS Activity = Enclosed mall → E13 [Indoor ice rink] OTHERWISE: IF Electricity NOT used & D70 [Energy for generation] ≠ Yes → E17 [Verify no electricity] OTHERWISE → E18 [Refrigeration]	

E6	Laundry onsite	<i>LAUNDR9</i>
ASK	IF Any energy used & CB ECS 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? ◆ EXP: [Linens include sheets, bedding, towels, tablecloths, and napkins.] 1 In this building 2 In another building on-site 3 By an off-site laundry service		
NEXT	IF B15 [Health care type] = Inpatient rehabilitation center → E7 [Medical equipment] IF CB ECS Activity = Inpatient health care → E8 [Laboratory equipment] IF CB ECS Activity = Lodging → E10 [Indoor pool] IF CB ECS Activity = Nursing → E14 [Sewer flow metered] OTHERWISE: IF Electricity NOT used & D70 [Energy for generation] ≠ Yes → E17 [Verify no electricity] OTHERWISE → E18 [Refrigeration]	

E7	Medical equipment	<i>MEDEQP9</i>
ASK	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		
NEXT	IF CBECS Activity = Outpatient health care OR B15 [Health care type] = Inpatient rehabilitation center → E8 [Laboratory equipment] IF CBECS Activity = Office → E14 [Sewer flow metered] OTHERWISE: IF Electricity NOT used & D70 [Energy for generation] ≠ Yes → E17 [Verify no electricity] OTHERWISE → E18 [Refrigeration]	
NOTE	IF the building is a Doctor's or dentist's office (from either B5 [Office type] OR B14 [Health care type]): IF Medical equipment = Yes, the CBECS Activity = Outpatient health care IF Medical equipment = No, the CBECS Activity = Office	

E8	Laboratory equipment	<i>LABEQP9</i>
ASK	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		
NEXT	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 & D70 [Energy for generation] ≠ Yes → E17 [Verify no electricity] OTHERWISE → E18 [Refrigeration]	

E9	Machine equipment	<i>MCHEQP9</i>
ASK	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>		
NEXT	IF CBECS Activity = Education → E10 [Indoor pool] IF CBECS Activity = Laboratory → E14 [Sewer flow metered] OTHERWISE: IF Electricity NOT used & D70 [Energy for generation] ≠ Yes → E17 [Verify no electricity] OTHERWISE → E18 [Refrigeration]	

E10	Indoor pool	<i>POOL9</i>
ASK	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>		
NEXT	IF Yes → E11 [Heated pool] IF No OR DK/RF: IF CBECS Activity = Education; Lodging; OR Public assembly → E13 [Indoor ice rink] IF B15 [Health care type] = Outpatient rehabilitation center OR Inpatient rehabilitation center → E14 [Sewer flow metered]	

E11	Heated pool	<i>HTPOOL9</i>
ASK	IF E10 [Indoor pool] =Yes	
<p>Is it a heated pool?</p> <p>1 Yes 2 No</p>		
NEXT	IF Yes → E12 [Pool energy source] IF No OR DK/RF: IF CBECS Activity = Education; Lodging; OR Public assembly → E13 [Indoor ice rink] IF B15 [Health care type] = Outpatient rehabilitation center OR Inpatient rehabilitation center → E14 [Sewer flow metered]	

E12	Pool energy source	<i>PLSRC9</i>
ASK	IF E11 [Heated 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"> 1 Electricity 2 Natural gas 3 Fuel oil/Diesel/Kerosene 4 Bottled gas/LPG/Propane 5 Solar 6 Some other energy source 		
NEXT	IF CBECS Activity = Education; Lodging; OR Public assembly → E13 [Indoor ice rink] OTHERWISE → E14 [Sewer flow metered]	

E13	Indoor ice rink	<i>RINK9</i>
ASK	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"> 1 Yes 2 No 		
NEXT	IF Enclosed mall & Electricity NOT used & D70 [Energy for generation] ≠ Yes → E17 [Verify no electricity] IF Enclosed mall & Electricity used → E18 [Refrigeration] OTHERWISE → E14 [Sewer flow metered]	

E14	Sewer flow metered	<i>SWRMET9</i>
ASK	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"> 1 Yes 2 No 		
NEXT	→ E15 [Sterilizers or autoclaves]	

E15	Sterilizers or autoclaves	<i>STRLZR9</i>
ASK	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>Does this building use any sterilizers or autoclaves?</p> <ul style="list-style-type: none"> ◆ DEF: [Sterilizers are used to sterilize containers, medical instruments, surgical tools, and trays. Sterilizers use water to produce steam, to cool steam, and in some units, to create a vacuum to accelerate drying of disinfected items.] ◆ DEF: [Autoclaves are similar to sterilizers except that they use ethylene oxide as the sterilizing medium and a stream of pressurized water at high temperatures to draw off spent ethylene oxide. Like steam sterilizers, some autoclaves also use a continuous stream of water to create a vacuum to speed the drying process.] <p>1 Yes 2 No</p>		
NEXT	➔ E16 [Irrigation system]	

E16	Irrigation system	<i>IRRIGAT9</i>
ASK	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>Does this building have a landscape irrigation system?</p> <ul style="list-style-type: none"> ◆ DEF: [Irrigation systems are used to water outdoor landscape plantings. They consist of a circuit of equipment controlled by a central valve that can include: pipes, sprinkler heads, rotors and drip or bubble emitters. The central valve can be operated either manually or by an automatic controller.] <p>1 Yes 2 No</p>		
NEXT	IF Electricity NOT used & D70 [Energy for generation] ≠ Yes ➔ E17 [Verify no electricity] OTHERWISE ➔ E18 [Refrigeration]	

E17	Verify no electricity	<i>NOELEC9</i>
ASK	IF Any energy used & Electricity NOT used & D70 [Energy for generation] ≠ Yes	
<p>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?</p> <p>1 True, electricity is <u>not</u> used 2 False, electricity is used</p>		
NEXT	IF True, electricity is not used OR DK/RF ➔ E63 [Window glass type] IF False, electricity is used ➔ E18 [Refrigeration]	

E18	Refrigeration	<i>RFGEQP9</i>
ASK	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		
NEXT	IF Yes → E19 [Refrigeration types] IF No OR DK/RF & NOT(B24 [Completely vacant] = Yes & C17 [Months in use] = Zero OR DK/RF) → E27 [Computers used] 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 off hours]	

E19	Refrigeration types	<i>see below</i>														
ASK	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 border="0"> <tr> <td>1 Walk-in refrigeration/freezer units</td> <td><i>RFGWI9</i></td> </tr> <tr> <td>2 Open refrigerated/freezer cases or cabinets</td> <td><i>RFGOP9</i></td> </tr> <tr> <td>3 Residential-type refrigerators/freezers</td> <td><i>RFGCL9</i></td> </tr> <tr> <td>4 Closed refrigerated/freezer cases or cabinets</td> <td><i>RFGRES9</i></td> </tr> <tr> <td>5 Refrigerated vending machines</td> <td><i>RFGVEN9</i></td> </tr> <tr> <td>6 Commercial ice makers</td> <td><i>RFGICE9</i></td> </tr> <tr> <td>7 Large cold storage areas</td> <td><i>RFGSTO9</i></td> </tr> </table>			1 Walk-in refrigeration/freezer units	<i>RFGWI9</i>	2 Open refrigerated/freezer cases or cabinets	<i>RFGOP9</i>	3 Residential-type refrigerators/freezers	<i>RFGCL9</i>	4 Closed refrigerated/freezer cases or cabinets	<i>RFGRES9</i>	5 Refrigerated vending machines	<i>RFGVEN9</i>	6 Commercial ice makers	<i>RFGICE9</i>	7 Large cold storage areas	<i>RFGSTO9</i>
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NEXT	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]															

E20	Number walk-in units	<i>RFGWIN9</i>
ASK	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>		
RANGE	1 to 999	
NEXT	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]	

E21	Number open cases	<i>RFGOPN9</i>
ASK	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>		
RANGE	1 to 999	
NEXT	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]	

E22	Number residential refrigerators	<i>RFGRSN9</i>
ASK	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>		
RANGE	1 to 999	
NEXT	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]	

E23	Number closed cases	<i>RFGLN9</i>
ASK	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>		
RANGE	1 to 999	
NEXT	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]	

E24	Number vending	<i>RFVNN9</i>
ASK	IF Refrigerated vending machines IN E19 [Refrigeration types]	
<p>How many refrigerated vending machines are there?</p> <p>◆ PROBE for estimate if DK</p>		
RANGE	1 to 999	
NEXT	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]	

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

E26	Percent cold storage	<i>RFGSTP9</i>
ASK	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>		
RANGE	1 to 100	
NEXT	→ E27 [Computers used]	

E27	Computers used	<i>PCTERM9</i>
ASK	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 OR DK/RF)	
<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>		
NEXT	IF Yes → E28 [Number of computers] IF No OR DK/RF → E38 [Dedicated servers]	

E28	Number of computers	<i>PCNUM9</i>
ASK	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>		
RANGE	0 to 9,999,999	
NEXT	IF DK/RF → E29 [Computers category] IF > Zero → E30 [Multiple monitors] IF Zero → E34 [Number of laptops]	

E29	Computers category	<i>PCTRMC9</i>
ASK	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		
NEXT	→ E30 [Multiple monitors]	

E30	Multiple monitors	<i>MLTMON9</i>
ASK	IF E28 [Number of computers] > Zero	
Do any of the computers use more than one monitor? 1 Yes 2 No		
NEXT	IF Yes → E31 [Multiple monitor category] IF No OR DK/RF → E32 [Flat screen]	

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

E32	Flat screen	<i>FLAT9</i>
ASK	IF E28 [Number of computers] > Zero	
FILL	{FlatQuestion} 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"> ◆ DEF: [A flat screen monitor, also known as a liquid crystal display or LCD, is lightweight and very thin, in contrast to most standard monitors which have bulky backs and take up a lot of desk space.] 1 Yes 2 No		
NEXT	Yes → E33 [Flat screen category] No OR DK/RF → E34 [Number of laptops]	

E33	Flat screen category	<i>FLATC9</i>
ASK	IF E32 [Flat screen] =Yes	
FILL	{MonitorsComputers} 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"> 1 All 2 Most 3 Some 4 A few 		
NEXT	→ E34 [Number of laptops]	

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

E35	Laptops category	<i>LAPTPC9</i>
ASK	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		
NEXT	→ E36 [Number of printers]	

E36	Number of printers	<i>PRNTRN9</i>
ASK	IF E27 [Computers used] = Yes	
About how many printers are there in this building? ◆ PROBE for estimate if DK		
RANGE	0 to 9,999,999	
NEXT	IF ≥ 1 → E37 [Type of printers] IF Zero OR DK/RF → E38 [Dedicated servers]	

E37	Type of printers	<i>PRNTYP9</i>
ASK	IF E36 [Number of printers] ≥ 1	
<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		
NEXT	→ E38 [Dedicated servers]	

E38	Dedicated servers	<i>SERVER9</i>
ASK	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 OR DK/RF)	
<p>Are there any dedicated computer servers used in this building?</p> <ul style="list-style-type: none"> ◆ DEF: [A server is usually just the CPU, or "case," portion of a computer that manages network resources such as computer files, printers, databases, or network traffic; servers do not require much human operation, so most do not have keyboards or monitors.] ◆ DEF: [Dedicated means that the server performs no other tasks besides server tasks.] <p>1 Yes 2 No</p>		
NEXT	IF Yes → E39 [Number of servers] IF No OR DK/RF → E41 [Separate computer areas]	

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

E40	Servers category	<i>SRVRC9</i>
ASK	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"> 1 1 to 4 2 5 to 9 3 10 to 19 4 20 to 49 5 50 to 99 6 100 to 249 7 250 to 499 8 500 to 999 9 1,000 to 2,499 10 2,500 to 4,999 11 5,000 or more 		
NEXT	→ E41 [Separate computer areas]	

E41	Separate computer areas	<i>see below</i>										
ASK	IF E27 [Computers used] = Yes OR E38 [Dedicated servers] = 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"> ◆ PROBE for any others ◆ ENTER all that apply <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>											
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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												
NEXT	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]											

E42	Other computer area
ASK	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"> ◆ RECORD in open box 	
NEXT	→ E43 [Computer area percent]

E43	Computer area percent	<i>PCRMP9</i>
ASK	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?		
RANGE	1 to 100	
NEXT	→ E44a [Cash registers]	

E44a	Cash registers	<i>RGSTR9</i>
ASK	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>		
NEXT	IF Yes → E44 [Number of cash registers] IF No OR DK/RF → E45 [Photocopiers]	

E44	Number of cash registers	<i>RGSTR9</i>
ASK	IF E44a [Cash registers] = Yes	
<p>About how many cash registers or "point-of-sales" terminals are used in this building?</p> <p>◆ PROBE for estimate if DK</p>		
RANGE	1 to 9,999	
NEXT	→ E45 [Photocopiers]	

E45	Photocopiers	<i>COPIER9</i>
ASK	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>		
NEXT	IF Yes → E46 [Number of photocopiers] IF No OR DK/RF → E47 [FAX machines]	

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

E47	FAX machines	<i>FAX9</i>
ASK	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>		
NEXT	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 off hours]	

E48	Equipment turned off	<i>RDOFEQ9</i>
ASK	IF E27 [Computers used] = Yes & C20 [Open 24 hours a day] ≠ Yes & C24 [Total hours open per week] ≠ 168 & C25 [Weekly hours category] ≠ 168	
FILL	{Equipment} 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"		
NEXT	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 off hours]	

E49	Percent lit when open	<i>LTOHRP9</i>
ASK	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)	
FILL	{SqFt} IF A1 [Square footage] known = "A1 [Square footage] square feet" IF A1 [Square footage] = DK/RF = "square footage"	
[F1]-HELP		
The next questions are about the lighting inside the building.		
What percent 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		
RANGE	0 to 100	
NEXT	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 off hours]	

E50	Lit when open category	<i>LOHRPC9</i>
ASK	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 when the building is normally open?</p> <ol style="list-style-type: none"> 1 1 to 25 percent 2 26 to 50 percent 3 51 to 75 percent 4 76 to 100 percent 5 Not lit at all when it is normally open 		
NEXT	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 off hours]	

E51	Lights off during 24 hours	<i>LTNR249</i>
ASK	IF C20 [Open 24 hours a day] = Yes OR C24 [Total hours open per week] = 168 OR C25 [Weekly hours category] = 168 & (Electricity used OR D70 [Energy for generation] = Yes OR E17 [Verify no electricity] = False, electricity is used)	
<p>Are there any periods during a normal 24-hour day when some of the lights are turned off?</p> <ol style="list-style-type: none"> 1 Yes 2 No 		
NEXT	IF Yes → E52 [Percent lit off hours] IF No OR DK/RF: IF E49 [Percent lit when open] > 0 OR E50 [Lit when open category] ≠ Not lit → E54 [Lighting types] OTHERWISE → E60 [Percent of exterior lighted]	

E52	Percent lit off hours	<i>LTNHRP9</i>
ASK	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)	
FILL	{SqFt} IF A1 [Square footage] known = "A1 [Square footage] square feet" IF A1 [Square footage] = DK/RF = "square footage" {OffHours} 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 percent 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		
RANGE	0 to 100	
NEXT	IF DK/RF → E53 [Lit off hours category] IF 1-100 → E54 [Lighting types] IF Zero: IF E49 [Percent lit when open] > 0 OR E50 [Lit when open category] ≠ Not lit → E54 [Lighting types] OTHERWISE → E60 [Percent of exterior lighted]	

E53	Lit off hours category	<i>LNHRPC9</i>
ASK	IF E52 [Percent lit off hours] = 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		
NEXT	IF 1 to 100 percent OR DK/RF → 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]	

E54	Lighting types	<i>see below</i>														
ASK	IF E49 [Percent lit when open] > 0 OR E50 [Lit when open category] = 1 to 100 OR DK/RF OR E52 [Percent lit off hours] > 0 OR E53 [Lit off hours category] = 1 to 100 OR DK/RF															
 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"> ◆ PROBE for any others ◆ ENTER all that apply <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>
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>															
NEXT	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]															

E55	Other bulb type	<i>OTLT9</i>
ASK	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"> ◆ RECORD in space below 		
NEXT	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]	

E56	Percent lit by bulb type <i>FLUORP9, CFLRP9, BULBP9, HALOP9, HIDP9, LEDP9, OTLTP9</i>
ASK	For each lighting type given in E54 [Lighting types]
FILL	<p>{Introduction} IF First lighting type = “The next questions are about the percent of floorspace lit by the types of lighting you just mentioned. Please keep in mind: “ OTHERWISE = BLANK</p> <p>{Explanation} 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 than 100.</u>” OTHERWISE = BLANK</p> <p>{BulbType} 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	
RANGE	0 to 100
NEXT	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]

E57	Specular reflectors	<i>SREF9</i>
ASK	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>		
NEXT	→ E58 [Electronic ballasts]	

E58	Electronic ballasts	<i>HEB9</i>
ASK	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>		
NEXT	IF D41 [How reduce heating] = EMCS OR D59 [How reduce cooling] = EMCS → E59 [EMCS controls lighting] OTHERWISE → E60 [Percent of exterior lighted]	

E59	EMCS controls lighting	<i>EMCSLT9</i>
ASK	IF (E49 [Percent lit when open] > 0 OR E50 [Lit when open category] ≠ Not lit OR E52 [Percent lit off hours] > 0 OR E53 [Lit off hours 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>		
NEXT	→ E60 [Percent of exterior lighted]	

E60	Percent of exterior lighted	<i>LTEXPC9</i>
ASK	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>		
NEXT	→ E61 [Lighted parking area]	

E61	Lighted parking area	<i>PKLT9</i>
ASK	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>		
NEXT	IF Yes → E62 [Vehicle parking capacity] IF No → E63 [Window glass type]	

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

E63	Window glass type	<i>WINTYP9</i>
ASK	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		
NEXT	IF Single layer, Multi-layer, OR Combination → E64 [Daylighting features] IF No windows OR DK/RF → F1 [Section F Routing]	

E64	Daylighting features	<i>see below</i>														
ASK	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	
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																
NEXT	→ E65 [Percent daylight]															

E65	Percent daylight	<i>DAYLTP9</i>
ASK	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"> ◆ If none, ENTER "0" ◆ PROBE for estimate if DK 		
RANGE	0 to 100	
NEXT	→ F1 [Section F Routing]	

SECTION F. ELECTRICITY

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

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

F3	Provide electricity figures	<i>ELFIGS9</i>
ASK	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>		
NEXT	IF Yes → F4 [Electricity consumption] IF No OR DK/RF → F26 [Number electricity suppliers]	

F4	Electricity consumption	<i>ELCNS9</i>
ASK	IF F2 [WS2 electricity filled out] = Yes OR F3 [Provide electricity figures] = Yes	
		[F1]-HELP
	Please give me the total number of kilowatthours of electricity used in calendar year 2007.	
	<ul style="list-style-type: none"> ◆ 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.] ◆ VERIFY number <u>digit by digit</u> 	
RANGE	1 to 99,999,999,999,999	
NEXT	→ F5 [Electricity expenditures]	

F5	Electricity expenditures	<i>ELEXP9</i>
ASK	IF F2 [WS2 electricity filled out] = Yes OR F3 [Provide electricity figures] = Yes	
		[F1]-HELP
	Please give me the total dollars spent on electricity in calendar year 2007. This should include state and local taxes and the following charges: fuel adjustment, system, distribution, and demand.	
	<ul style="list-style-type: none"> ◆ Do <u>not</u> enter cents ◆ VERIFY number <u>digit by digit</u> 	
RANGE	0 to 999,999,999	
NEXT	IF F4 [Electricity consumption] = DK/RF & F5 [Electricity expenditures] = DK/RF → F26 [Number electricity suppliers] OTHERWISE → F6 [Starting date for electricity figures]	

F6	Starting date for electricity figures	<i>ELSTDAT9</i>
ASK	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"> ◆ ENTER date as MMDDYYYY ◆ If the day is not known, ENTER "15" for DD 	
NEXT	→ F7 [Ending date for electricity figures]	

F7	Ending date for electricity figures	<i>ELENDAT9</i>
ASK	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"> ◆ ENTER date as MMDDYYYY ◆ VERIFY that this is the <u>last</u> day of the last billing period ◆ If the day is not known, ENTER "15" for DD 	
NEXT	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]	

F8	All occupants electricity included	<i>ELALL9</i>
ASK	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	
	<p>Do these figures include the electricity for all of the businesses or organizations in this building?</p> <p>1 Yes 2 No</p>	
NEXT	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]	

F9	Sq ft not included	<i>ELNISF9</i>
ASK	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"> ◆ PROBE for estimate if DK 	
RANGE	1 to 999,999,999	
NEXT	IF Enclosed mall & A5 [Food court] = Yes & Electricity IN D66 [Sources for cooking] → F10 [Electricity covers food court] OTHERWISE → F11 [Other bldgs electricity included]	

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

F11	Other bldgs electricity included	<i>ELOTBD9</i>
ASK	IF F4 [Electricity consumption] given OR F5 [Electricity expenditures] given	
Is any consumption from other buildings included in these figures?		
1 Yes 2 No		
NEXT	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]	

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

F13	Verify sq ft other bldgs	<i>ELOTVY9</i>
ASK	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	
FILL	{SqFt} = A1 [Square footage] square feet {OtherSqFt} = F12 [Sq ft of other included] {TotalSqFt} = 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"> 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 		
NEXT	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]	

F14	What sq ft included	<i>ELTOSF9</i>
ASK	IF F13 [Verify sq ft 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>		
RANGE	1 to 999,999,999	
NEXT	IF E61 [Lighted parking area] = Yes → F15 [Include parking lot lights] OTHERWISE → F16 [Include other major electricity]	

F15	Include parking lot lights	<i>ELPKLT9</i>
ASK	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"> 1 Yes 2 No 		
NEXT	→ F16 [Include other major electricity]	

F16	Include other major electricity	<i>ELOTUS9</i>
ASK	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>		
NEXT	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) & D1 [Heating] ≠ DK/RF & D2 [Cooling] ≠ DK/RF & D3 [Water heating] ≠ 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]	

F17	Include all non-local electricity	<i>ELNONU9</i>
ASK	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>		
NEXT	IF No → F18 [What not included] IF Yes OR DK/RF: IF (A1 [Square footage] known OR A2 [Square footage category] known) & D1 [Heating] ≠ DK/RF & D2 [Cooling] ≠ DK/RF & D3 [Water heating] ≠ 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]	

F18	What not included	
ASK	IF F17 [Include all non-local electricity] = No	
<p>What was not included?</p> <p>◆ RECORD the additional charges in the open box</p>		
NEXT	IF (A1 [Square footage] known OR A2 [Square footage category] known) & D1 [Heating] ≠ DK/RF & D2 [Cooling] ≠ DK/RF & D3 [Water heating] ≠ 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]	

F19	Electricity regression check
ASK	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
<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] > [Predicted consumption] × 8 OR F5 [Electricity expenditures] > [Predicted expenditures] × 8 → FAIL (HIGH) IF F4 [Electricity consumption] < [Predicted consumption] ÷ 13 OR F5 [Electricity expenditures] < [Predicted expenditures] ÷ 13 → FAIL (LOW) OTHERWISE → PASS</p>	
NEXT	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]

F20	Anything unusual high	<i>ELHIGH9</i>
ASK	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>		
NEXT	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]	

F21	Anything unusual low	<i>ELLOW9</i>
ASK	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>		
NEXT	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]	

F22	What is unusual
ASK	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>	
NEXT	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]

F23	Monthly electricity included	<i>ELINC129</i>
ASK	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>		
NEXT	IF No OR DK/RF → F24 [Monthly electricity available] IF Yes: IF F19 [Electricity regression check] = FAIL (HIGH) OR FAIL (LOW) OR F9 [Sq ft not included] / A1 [Square footage] > 0.25 → F26 [Number electricity suppliers] IF F19 [Electricity regression check] = PASS → F25 [Electricity bill available]	

F24	Monthly electricity available	<i>ELHAV129</i>
ASK	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>		
NEXT	IF ((A1 [Square footage] = DK/RF & A2 [Square footage category] = DK/RF) OR D1 [Heating] = DK/RF OR D2 [Cooling] = DK/RF OR D3 [Water heating] = DK/RF) OR F19 [Electricity regression check] = FAIL (HIGH) OR FAIL (LOW) OR F9 [Sq ft not included] / A1 [Square footage] > 0.25 → F26 [Number electricity suppliers] OTHERWISE → F25 [Electricity bill available]	

F25	Electricity bill available	<i>ELBILL9</i>
ASK	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"> ◆ 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 <p>1 Yes, bill available 2 No, will not be able to provide bill</p>		
NEXT	→ G1 [Section G Routing]	

F26	Number electricity suppliers	<i>ELNUMSP9</i>
ASK	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) OR (A1 [Square footage] = DK/RF & A2 [Square footage category]) OR D1 [Heating] = DK/RF OR D2 [Cooling] = DK/RF OR D3 [Water heating] = DK/RF OR F9 [Sq ft not included] / A1 [Square footage] > 0.25	
FILL	{SuppliersIntro} IF (F3 [Provide electricity figures] = No OR DK/RF) OR (F4 [Electricity consumption] = DK/RF & 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."	
{SuppliersIntro} 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?		
RANGE	1 to 4	
NEXT	Number given → F27 [Electricity suppliers] DK/RF → G1 [Section G Routing]	

F27	Electricity suppliers	<i>EL1LKP9—EL4LKP9</i>
ASK	IF F26 [Number electricity suppliers] given	
FILL	{FirstNext} 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"> ◆ Start typing the name of the supplier or use [BACKSPACE] to bring up the look-up table ◆ Type in the first few letters of the supplier name, and the look-up table will scroll to the closest match ◆ If you find a match, make sure the correct line is highlighted (blue) and press [ENTER] ◆ If you don't find a match, use [BACKSPACE] to clear the Search line, which will bring you back to the top of the look-up table where ** NOT ON LIST will be highlighted, then press [ENTER] two times 		
NEXT	IF NOT ON LIST selected → F28 [Supplier name] IF Supplier found in look-up table → F27a [Verify electricity supplier] 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	

F27a	Verify electricity supplier
ASK	IF Supplier found in F27 [Electricity suppliers] look-up table
FILL	{Supplier} = Supplier name from F27 [Electricity suppliers] look-up table
<p>Just to verify, I have selected that your electricity supplier is {Supplier}. Is that correct?</p> <ul style="list-style-type: none"> ◆ If No, you will be taken back to the previous screen to select again <ol style="list-style-type: none"> 1 Yes 2 No 	
NEXT	IF Yes → F34 [Number electricity accounts] IF No → F27 [Electricity suppliers]

F28	Supplier name	<i>EL1NEW9—EL4NEW9</i>
ASK	IF NOT ON LIST selected in F27 [Electricity suppliers]	
<p>◆ ENTER the name of the supplier</p>		
NEXT	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	

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

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

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

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

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

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

F35	Electricity account number	<i>EL1AC19—EL4AC109</i>
ASK	IF F34 [Number electricity accounts] = 1 to 10 Ask as many times as account numbers given, or until DK/RF	
FILL	{FirstNext} IF Only one account = BLANK IF First account given = "first" OTHERWISE = "next" {Supplier} = Supplier name from F27 [Electricity suppliers] look-up table OR F28 [Supplier name]	
<p>Please give me the {FirstNext} electricity account number for {Supplier}.</p> <p>◆ VERIFY number <u>digit by digit</u></p>		
NEXT	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]	

F36	Supplier is non-local utility <i>EL1NONU9—EL4NONU9</i>
ASK	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])
FILL	{Supplier} = Supplier name from F27 [Electricity suppliers] look-up table OR F28 [Supplier name]
<p>You mentioned earlier that you purchase electricity from an independent power producer, non-local utility, or broker. Is {Supplier} one of those companies?</p> <p>1 Yes 2 No</p>	
NEXT	→ F37 [Bills cover only building]

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

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

F39	Include other major electricity <i>EL10TU9—EL40TU9</i>
ASK	IF Supplier found in F27 [Electricity suppliers] look-up table OR F28 [Supplier name] given
FILL	{Bills} 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 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>	
NEXT	→ F40 [Electricity bill available]

F40	Electricity bill available <i>EL1BILL9—EL4BILL9</i>
ASK	IF (Supplier found in F27 [Electricity suppliers] look-up table OR F28 [Supplier name] given)
FILL	{Supplier} = 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"> ◆ EXP: [Examples of these items include other miscellaneous charges, past months data, and units of measure.] ◆ If available, you will be prompted to scan the bill at the end of the interview, so it is not necessary to stop the interview here <p>1 Yes, bill available 2 No, will not be able to provide bill</p>	
NEXT	IF More suppliers left to answer for → Back to F27 [Electricity suppliers] for next supplier OTHERWISE → G1 [Section G Routing]

SECTION G. NATURAL GAS

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

G2	WS2 natural gas filled out	<i>WS2NGCE9</i>
ASK	IF Natural gas used	
<p>Do you have Worksheet 2 with you and filled out for natural gas?</p> <p>1 Yes 2 No</p>		
NEXT	IF No OR DK/RF → G3 [Provide natural gas figures] IF Yes → G4 [Units for natural gas]	

G3	Provide natural gas figures	<i>NGFIGS9</i>
ASK	IF G2 [WS2 natural gas filled out] = No OR DK/RF	
<p>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?</p> <p>1 Yes 2 No</p>		
NEXT	IF Yes → G4 [Units for natural gas] IF No OR DK/RF → G27 [Number natural gas suppliers]	

G4	Units for natural gas	<i>NGUNIT9</i>
ASK	IF G2 [WS2 natural gas filled out] = Yes OR G3 [Provide natural gas figures] = Yes	
<p> SHOW CARD G1</p> <p>Please look at this card and tell me the units in which your natural gas is measured.</p> <p>1 Hundred cubic feet (Ccf) 2 Therms 3 Thousand cubic feet (Mcf) 4 Dekatherms 5 Cubic feet (cf) 6 IF VOLUNTEERED: Some other units</p>		
NEXT	IF Some other units → G5 [Other natural gas units] IF Anything else OR DK/RF → G6 [Natural gas consumption]	

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

G6	Natural gas consumption	<i>NGCNS9</i>
ASK	IF G2 [WS2 natural gas filled out] = Yes OR G3 [Provide natural gas figures] = Yes	
[F1]-HELP		
Please give me the total amount of natural gas used in calendar year 2007.		
<ul style="list-style-type: none"> ◆ 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.] ◆ VERIFY number <u>digit by digit</u> 		
RANGE	1 to 99,999,999,999,999	
NEXT	→ G7 [Natural gas expenditures]	

G7	Natural gas expenditures	<i>NGEXP9</i>
ASK	IF G2 [WS2 natural gas filled out] = Yes OR G3 [Provide natural gas figures] = Yes	
[F1]-HELP		
Please give me the total dollars spent on natural gas in calendar year 2007. This should include state and local taxes and the following charges: fuel adjustment, system, demand, and distribution.		
<ul style="list-style-type: none"> ◆ Do <u>not</u> enter cents ◆ VERIFY number <u>digit by digit</u> 		
RANGE	0 to 999,999,999	
NEXT	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]	

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

G9	Ending date for natural gas figures	<i>NGENDAT9</i>
ASK	IF G6 [Natural gas consumption] given OR G7 [Natural gas expenditures] given	
		[F1]-HELP
	<p>What is the ending date [for these natural gas usage figures]?</p> <ul style="list-style-type: none"> ◆ ENTER date as MMDDYYYY ◆ VERIFY that this is the <u>last</u> day of the last billing period ◆ If the day is not known, ENTER "15" for DD 	
NEXT	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]	

G10	All occupants natural gas included	<i>NGALL9</i>
ASK	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	
	<p>Do these figures include the natural gas for all of the businesses or organizations in this building?</p> <p>1 Yes 2 No</p>	
NEXT	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]	

G11	Sq ft not included	<i>NGNISF9</i>
ASK	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>		
RANGE	1 to 999,999,999	
NEXT	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]	

G12	Natural gas covers food court	<i>NGFDCT9</i>
ASK	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>		
NEXT	→ G13 [Other bldgs natural gas included]	

G13	Other bldgs natural gas included	<i>NGOTBD9</i>
ASK	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>		
NEXT	IF Yes → G14 [Sq ft of other included] IF No OR DK/RF → G17 [Include other major natural gas]	

G14	Sq ft of other included	<i>NGOTSF9</i>
ASK	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>		
RANGE	1 to 999,999,999	
NEXT	IF A1 [Square footage] known & Number given > A1 [Square footage] & Number given < A1 [Square footage] x 50 → G15 [Verify sq ft other bldgs] OTHERWISE → G17 [Include other major natural gas]	

G15	Verify sq ft other bldgs	<i>NGOTVY9</i>
ASK	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	
FILL	<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"> 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 		
NEXT	IF No, consumption is for some other number of square feet → G16 [What sq ft included] OTHERWISE → G17 [Include other major natural gas]	

G16	What sq ft included	<i>NGTOSF9</i>
ASK	IF G15 [Verify sq ft 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>		
RANGE	1 to 999,999,999	
NEXT	→ G17 [Include other major natural gas]	

G17	Include other major natural gas	<i>NGOTUS9</i>
ASK	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>		
NEXT	<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) & D1 [Heating] ≠ DK/RF & D2 [Cooling] ≠ DK/RF & D3 [Water heating] ≠ DK/RF & D16 [Source for main heating] ≠ 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>	

G18	Include all non-local natural gas	<i>NGNONU9</i>
ASK	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>		
NEXT	<p>IF No → G19 [What not included] IF Yes OR DK/RF: IF (A1 [Square footage] known OR A2 [Square footage category] known) & D1 [Heating] ≠ DK/RF & D2 [Cooling] ≠ DK/RF & D3 [Water heating] ≠ DK/RF & D16 [Source for main heating] ≠ 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>	

G19	What not included	
ASK	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>		
NEXT	<p>IF (A1 [Square footage] known OR A2 [Square footage category] known) & D1 [Heating] ≠ DK/RF & D2 [Cooling] ≠ DK/RF & D3 [Water heating] ≠ DK/RF & D16 [Source for main heating] ≠ 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>	

G20	Natural gas regression check
ASK	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 & D16 [Source for main heating] ≠ 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] > [Predicted consumption] × 8 OR F13 [Natural gas expenditures] > [Predicted expenditures] × 8 → FAIL (HIGH) IF F12 [Natural gas consumption] < [Predicted consumption] ÷ 13 OR F13 [Natural gas expenditures] < [Predicted expenditures] ÷ 13 → FAIL (LOW) OTHERWISE → PASS</p>	
NEXT	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]

G21	Anything unusual high	<i>NGHIGH9</i>
ASK	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>		
NEXT	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]	

G22	Anything unusual low	<i>NGLOW9</i>
ASK	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>		
NEXT	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]	

G23	What is unusual	
ASK	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>		
NEXT	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]	

G24	Monthly natural gas included	<i>NGINC129</i>
ASK	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>		
NEXT	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]	

G25	Monthly natural gas available	<i>NGHAV129</i>
ASK	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"> ◆ 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 <ol style="list-style-type: none"> 1 Yes, monthly natural gas available 2 No, will not be able to provide monthly natural gas 		
NEXT	IF ((A1 [Square footage] = DK/RF & A2 [Square footage category] = DK/RF) OR D1 [Heating] = DK/RF OR D2 [Cooling] = DK/RF OR D3 [Water heating] = DK/RF OR D16 [Source for main heating] = DK/RF) OR G20 [Natural gas regression check] = FAIL (HIGH) OR FAIL (LOW) OR G11 [Sq ft not included] / A1 [Square footage] > 0.25 → G27 [Number natural gas suppliers] OTHERWISE → G26 [Natural gas bill available]	

G26	Natural gas bill available	<i>NGBILL9</i>
ASK	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"> ◆ 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 <ol style="list-style-type: none"> 1 Yes, bill available 2 No, will not be able to provide bill 		
NEXT	→ H1 [Section H Routing]	

G27	Number natural gas suppliers	<i>NGNUMSP9</i>
ASK	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) OR ((A1 [Square footage] = DK/RF & A2 [Square footage category]) OR D1 [Heating] = DK/RF OR D2 [Cooling] = DK/RF OR D3 [Water heating] = DK/RF OR D16 [Source for main heating] = DK/RF) OR G11 [Sq ft not included] / A1 [Square footage] > 0.25	
FILL	{SuppliersIntro} 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."	
<p>{SuppliersIntro}</p> <p>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?</p>		
RANGE	1 to 4	
NEXT	Number given → G28 [Natural gas suppliers] DK/RF → H1 [Section H Routing]	

G28	Natural gas suppliers	NG1LKP9—NG2LKP9
ASK	IF G27 [Number natural gas suppliers] given	
FILL	{FirstNext} IF Only one supplier = BLANK IF First supplier given = "first" OTHERWISE = "next"	
<p>What is the name of the {FirstNext} supplier that provided natural gas in calendar year 2007?</p> <ul style="list-style-type: none"> ◆ Start typing the name of the supplier or use [BACKSPACE] to bring up the look-up table ◆ Type in the first few letters of the supplier name, and the look-up table will scroll to the closest match ◆ If you find a match, make sure the correct line is highlighted (blue) and press [ENTER] ◆ If you don't find a match, use [BACKSPACE] to clear the Search line, which will bring you back to the top of the look-up table where ** NOT ON LIST will be highlighted, then press [ENTER] two times 		
NEXT	IF NOT ON LIST selected → G29 [Supplier name] IF Supplier found in look-up table → G28a [Verify natural gas supplier] 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	

G28a	Verify natural gas supplier
ASK	IF Supplier found in G28 [Natural gas suppliers] look-up table
FILL	{Supplier} = Supplier name from G28 [Natural gas suppliers] look-up table
<p>Just to verify, I have selected that your natural gas supplier is {Supplier}. Is that correct?</p> <ul style="list-style-type: none"> ◆ If No, you will be taken back to the previous screen to select again <p>1 Yes 2 No</p>	
NEXT	IF Yes → G35 [Number natural gas accounts] IF No → G28 [Natural gas suppliers]

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

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

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

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

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

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

G35	Number natural gas accounts	<i>NG1NAC9—NG4NAC9</i>
ASK	IF Supplier found in G28 [Natural gas suppliers] look-up table OR G29 [Supplier name] given	
FILL	{Supplier} = 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>		
RANGE	1 to 999	
NEXT	IF 1 to 10 accounts ➔ G36 [Natural gas account number] IF More than 10 accounts OR DK/RF ➔ G41 [Natural gas bill available]	

G36	Natural gas account number	<i>NG1AC19—NG4AC109</i>
ASK	IF G35 [Number natural gas accounts] = 1 to 10 Ask as many times as account numbers given, or until DK/RF	
FILL	{FirstNext} IF Only one account = BLANK IF First account given = "first" OTHERWISE = "next" {Supplier} = Supplier name from G28 [Natural gas suppliers] look-up table OR G29 [Supplier name]	
<p>Please give me the {FirstNext} natural gas account number for {Supplier}.</p> <p>◆ VERIFY number <u>digit by digit</u></p>		
NEXT	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]	

G37	Supplier is non-local utility	<i>NG1NONU9—NG4NONU9</i>
ASK	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)	
FILL	{Supplier} = Supplier name from G28 [Natural gas suppliers] look-up table OR G29 [Supplier name]	
<p>You mentioned earlier that you purchase natural gas from a non-utility or broker. Is {Supplier} one of those companies?</p> <p>1 Yes 2 No</p>		
NEXT	→ G38 [Bills cover only building]	

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

G39	Sq ft of others included	<i>NG1OTS9—NG4OTS9</i>
ASK	IF G38 [Bills cover only building] = Other buildings	
FILL	{Bills} 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>		
RANGE	1 to 999,999,999	
NEXT	→ G40 [Include other major natural gas]	

G40	Include other major natural gas <i>NG10TU9—NG40TU9</i>
ASK	IF Supplier found in G28 [Natural gas suppliers] look-up table OR G29 [Supplier name] given
FILL	{Bills} 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>	
NEXT	→ G41 [Natural gas bill available]

G41	Natural gas bill available <i>NG1BILL9—NG4BILL9</i>
ASK	IF (Supplier found in G28 [Natural gas suppliers] look-up table OR G29 [Supplier name] given)
FILL	{Supplier} = 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> <ul style="list-style-type: none"> ◆ 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 <p>1 Yes, bill available 2 No, will not be able to provide bill</p>	
NEXT	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.

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

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

H3	Provide fuel oil figures	<i>FKFIGS9</i>
ASK	IF H2 [WS2 fuel oil filled out] = No OR DK/RF	
FILL	{FuelOilType} = Type or types specified in D9 [Fuel oil, diesel, or kerosene]	
The next questions are about {FuelOilType} usage and purchases in this 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"> 1 Yes 2 No 		
NEXT	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]	

H4	Fuel oil purchases	<i>FKCNSP9</i>
ASK	IF H2 [WS2 fuel oil filled out] = Yes OR H3 [Provide fuel oil figures] = Yes	
FILL	{FuelOilType} = Type or types specified in D9 [Fuel oil, diesel, or kerosene]	
		[F1]-HELP
Please give me the total number of gallons of {FuelOilType} purchased in calendar year 2007.		
<ul style="list-style-type: none"> ◆ 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.] ◆ VERIFY number <u>digit by digit</u> 		
RANGE	0 to 99,999,999,999	
NEXT	➔ H5 [Fuel oil expenditures]	

H5	Fuel oil expenditures	<i>FKEXP9</i>
ASK	IF H2 [WS2 fuel oil filled out] = Yes OR H3 [Provide fuel oil figures] = Yes	
FILL	{FuelOilType} = Type or types specified in D9 [Fuel oil, diesel, or kerosene]	
		[F1]-HELP
Please give me the total dollars spent on {FuelOilType} in calendar year 2007, including state and local taxes.		
<ul style="list-style-type: none"> ◆ Do <u>not</u> enter cents ◆ VERIFY number <u>digit by digit</u> 		
RANGE	0 to 999,999,999	
NEXT	IF H4 [Fuel oil purchases] = Zero & H5 [Fuel oil expenditures] = Zero (OR one is Zero and one is DK/RF) ➔ 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]	

H6	Purchased before 2007	<i>FKSTORD9</i>
ASK	IF H4 [Fuel oil purchases] = Zero & H5 [Fuel oil expenditures] = Zero (OR one is Zero and one is DK/RF)	
FILL	{FuelOilType} = Type or types specified in D9 [Fuel oil, diesel, or kerosene]	
<p>Was any {FuelOilType} used in 2007 that was purchased or delivered in 2006 or before?</p> <p>1 Yes 2 No</p>		
NEXT	IF Yes OR DK/RF → H9 [Fuel oil use measured] IF No → I1 [Section I Routing]	

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

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

H9	Fuel oil use measured	<i>FKMEAS9</i>
ASK	IF H2 [WS2 fuel oil filled out] = Yes OR H3 [Provide fuel oil figures] = Yes	
FILL	{FuelOilType} = Type or types specified in D9 [Fuel oil, diesel, or kerosene]	
<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>		
NEXT	<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] >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] IF (H4 [Fuel oil purchases] = DK/RF & H5 [Fuel oil expenditures] = DK/RF) & (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]</p>	

H10	Fuel oil actual consumption	<i>FKCNSA9</i>
ASK	IF H9 [Fuel oil use measured] = Yes OR DK/RF	
FILL	{FuelOilType} = Type or types specified in D9 [Fuel oil, diesel, or kerosene]	
<p style="text-align: right;">[F1]-HELP</p> <p>Please give me the total number of gallons of {FuelOilType} that was <u>consumed</u> in calendar year 2007.</p> <p>◆ VERIFY number <u>digit by digit</u></p>		
RANGE	1 to 99,999,999,999,999	
NEXT	<p>IF Number given & (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] IF Number given & (C5 [Number of businesses] = 0 OR 1 OR C7 [Re-ask number of businesses] = 1 OR C8 [Number of businesses category] = Zero OR One → H13 [Other bldgs 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] IF (H4 [Fuel oil purchases] = DK/RF & H5 [Fuel oil expenditures] = DK/RF) & (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]</p>	

H11	All occupants fuel oil included	<i>FKALL9</i>
ASK	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)	
FILL	{FuelOilType} = Type or types specified in D9 [Fuel oil, diesel, or kerosene]	
<p>Do these figures include the {FuelOilType} for all of the businesses or organizations in this building?</p> <p>1 Yes 2 No</p>		
NEXT	IF No → H12 [Sq ft not included] IF Yes OR DK/RF → H13 [Other bldgs fuel oil included]	

H12	Sq ft not included	<i>FKNISF9</i>
ASK	IF H11 [All occupants fuel oil 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>		
RANGE	1 to 999,999,999	
NEXT	→ H13 [Other bldgs fuel oil included]	

H13	Other bldgs fuel oil included	<i>FKOTBD9</i>
ASK	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>		
NEXT	IF Yes → H14 [Sq ft of other included] IF No OR DK/RF → H17 [Include other major fuel oil]	

H14	Sq ft of other included	<i>FKOTSF9</i>
ASK	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>		
RANGE	1 to 999,999,999	
NEXT	IF A1 [Square footage] known & Number given > A1 [Square footage] & Number given < A1 [Square footage] x 50 → H15 [Verify sq ft other bldgs] OTHERWISE → H17 [Include other major fuel oil]	

H15	Verify sq ft other bldgs	<i>FKOTVY9</i>
ASK	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	
FILL	<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> <ol style="list-style-type: none"> 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 		
NEXT	IF No, consumption is for some other number of square feet → H16 [What sq ft included] OTHERWISE → H17 [Include other major fuel oil]	

H16	What sq ft included	<i>FKTOSF9</i>
ASK	IF H15 [Verify sq ft other bldgs] = No, consumption is for some other number of square feet	
FILL	{FuelOilType} = 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>		
RANGE	1 to 999,999,999	
NEXT	→ H17 [Include other major fuel oil]	

H17	Include other major fuel oil	<i>FKOTUS9</i>
ASK	IF H4 [Fuel oil purchases] given OR H5 [Fuel oil expenditures] given OR H10 [Fuel oil actual consumption] given	
FILL	{FuelOilType} = 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>		
NEXT	IF H10 [Fuel oil actual consumption] given & A2 [Square footage category] given & D16 [Source for main heating] = Fuel oil OR D17 [Other source for main heating] = Fuel oil & D3 [Water heating] ≠ DK/RF → H18 [Fuel oil regression check] OTHERWISE: IF D16 [Source for main heating] = Fuel oil OR D17 [Other source for main heating] = Fuel oil & (H12 [Sq ft not included] / A1 [Square footage] > 0.25 OR A2 [Square footage category] = DK/RF OR D3 [Water heating] = DK/RF → H23 [Number fuel oil suppliers] OTHERWISE → H22 [Fuel oil bill available]	

H18	Fuel oil regression check	
DO	IF H10 [Fuel oil actual consumption] given & A2 [Square footage category] given & D16 [Source for main heating] = Fuel oil OR D17 [Other source for main heating] = Fuel oil & D3 [Water heating] ≠ DK/RF	
<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 formula:</p> <p>IF H10 [Fuel oil actual consumption] > (Predicted consumption × 10) → FAIL (HIGH) IF H10 [Fuel oil actual consumption] < (Predicted consumption ÷ 20) → FAIL (LOW) OTHERWISE → PASS</p>		
NEXT	IF FAIL (HIGH) → H19 [Anything unusual high] IF FAIL (LOW) → H20 [Anything unusual low] IF PASS & H12 [Sq ft not included] / A1 [Square footage] > 0.25 → H23 [Number fuel oil suppliers] OTHERWISE → H22 [Fuel oil bill available]	

H19	Anything unusual high	<i>FKHIGH9</i>
ASK	IF H18 [Fuel oil regression check] = FAIL (HIGH)	
FILL	{FuelOilType} = 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>		
NEXT	IF Yes → H21 [What is unusual] IF No OR DK/RF → H23 [Number fuel oil suppliers]	

H20	Anything unusual low	<i>FKLOW9</i>
ASK	IF H18 [Fuel oil regression check] = FAIL (LOW)	
FILL	{FuelOilType} = 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>		
NEXT	IF Yes → H21 [What is unusual] IF No OR DK/RF → H23 [Number fuel oil suppliers]	

H21	What is unusual
ASK	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>	
NEXT	→ H23 [Number fuel oil suppliers]

H22	Fuel oil bill available	<i>FKBILL9</i>
FILL	{FuelOilType} = Type or types specified in D9 [Fuel oil, diesel, or kerosene]	
ASK	<p>IF (H4 [Fuel oil purchases] given OR H5 [Fuel oil expenditures] given OR H10 [Fuel oil actual consumption] given) & ((D16 [Source for main heating] ≠ Fuel oil & D17 [Other source for main heating] ≠ Fuel oil) OR ((D16 [Source for main heating] = Fuel oil OR D17 [Other source for main heating] = Fuel oil) & H12 [Sq ft not included] / A1 [Square footage] ≤ 0.25 & A2 [Square footage category] ≠ DK & D3 [Water heating] ≠ DK) OR (H10 [Fuel oil actual consumption] given & H18 [Fuel oil regression check] = PASS & H12 [Sq ft not included] / A1 [Square footage] ≤ 0.25)</p>	
<p>Would it be possible for me to scan one of your {FuelOilType} bills? (There is information on some utility bills that may help energy researchers who use these data.)</p> <ul style="list-style-type: none"> ◆ 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 <p>1 Yes, bill available 2 No, will not be able to provide bill</p>		
NEXT	→ I1 [Section I Routing]	

H23	Number fuel oil suppliers	<i>FKNUMSP9</i>
ASK	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/EMPTY OR A2 [Square footage category] = DK OR D3 [Water heating] = DK OR H18 [Fuel oil regression check] = FAIL (LOW) OR FAIL (HIGH) OR H12 [Sq ft not included] / A1 [Square footage] > 0.25)	
FILL	{SuppliersIntro} 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." {FuelOilType} = Type or types specified in D9 [Fuel oil, diesel, or kerosene]	
	{SuppliersIntro} How many different companies supplied {FuelOilType} to building during calendar year 2007?	
RANGE	1 to 4	
NEXT	Number given → H24 [Fuel oil supplier name] DK/RF → I1 [Section I Routing]	

H24	Fuel oil supplier name	<i>FK1SUP9—FK4SUP9</i>
ASK	IF H23 [Number fuel oil suppliers] given	
FILL	{FirstNext} IF Only one supplier = BLANK IF First supplier given = "first" OTHERWISE = "next" {FuelOilType} = Type or types specified in D9 [Fuel oil, diesel, or kerosene]	
	What is the name of the {FirstNext} supplier that provided {FuelOilType} during 2007? ◆ ENTER the name of the supplier	
NEXT	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	

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

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

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

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

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

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

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

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

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

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

H35	Fuel oil bill available	<i>FK1BILL9—FK4BILL9</i>
ASK	IF Name given in H24 [Fuel oil supplier name]	
FILL	{FuelOilType} = Type or types specified in D9 [Fuel oil, diesel, or kerosene] {Supplier} = H24 [Fuel oil supplier name]	
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 who use these data.) ◆ EXP: [Examples of these items include miscellaneous charges, past months data, and units of measure.] ◆ If available, you will be prompted to scan the bill at the end of the interview, so it is not necessary to stop the interview here 1 Yes, bill available 2 No, will not be able to provide bill		
NEXT	IF More suppliers left to answer for ➔ Back to H21 [Fuel oil supplier name] for next supplier OTHERWISE ➔ I1 [Section I Routing]	

SECTION I. DISTRICT STEAM

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

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

I3	Provide district steam figures	<i>STFIGS9</i>
ASK	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"> 1 Yes 2 No 		
NEXT	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]	

I4	Units for district steam	<i>STUNIT9</i>
ASK	IF I2 [WS2 district steam filled out] = Yes OR I3 [Provide district steam figures] = Yes	
 SHOW CARD I1 Please look at this card and tell me the units in which your district steam is measured. <ul style="list-style-type: none"> 1 Thousand pounds 2 Pounds 3 Million Btu 4 IF VOLUNTEERED: Some other units 		
NEXT	IF Some other units → I5 [Other district steam units] OTHERWISE → I6 [District steam consumption]	

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

I6	District steam consumption	<i>STCNS9</i>
ASK	IF I2 [WS2 district steam filled out] = Yes OR I3 [Provide district steam figures] = Yes	
[F1]-HELP		
Please give me the total amount of district steam used in calendar year 2007.		
<ul style="list-style-type: none"> ◆ 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.] ◆ VERIFY number <u>digit by digit</u> 		
RANGE	1 to 99,999,999,999,999	
NEXT	→ I7 [District steam expenditures]	

I7	District steam expenditures	<i>STEXP9</i>
ASK	IF I2 [WS2 district steam filled out] = Yes OR I3 [Provide district steam figures] = Yes	
[F1]-HELP		
Please give me the total dollars spent on district steam in calendar year 2007, including state and local taxes.		
<ul style="list-style-type: none"> ◆ Do <u>not</u> enter cents ◆ VERIFY number <u>digit by digit</u> 		
RANGE	0 to 999,999,999	
NEXT	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]	

I8	Starting date for district steam figures	<i>STSTDAT9</i>
ASK	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"> ◆ ENTER date as MMDDYYYY ◆ If the day is not known, ENTER "15" for DD 	
NEXT	➔ I9 [Ending date for district steam figures]	

I9	Ending date for district steam figures	<i>STENDAT9</i>
ASK	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"> ◆ ENTER date as MMDDYYYY ◆ VERIFY that this is the <u>last</u> day of the last billing period ◆ If the day is not known, ENTER "15" for DD 	
NEXT	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]	

I10	All occupants steam included	<i>STALL9</i>
ASK	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"> 1 Yes 2 No 	
NEXT	IF No ➔ I11 [Sq ft not included] OTHERWISE ➔ I12 [Other bldgs steam included]	

I11	Sq ft not included	<i>STNISF9</i>
ASK	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>		
RANGE	1 to 999,999,999	
NEXT	→ I12 [Other bldgs steam included]	

I12	Other bldgs steam included	<i>STOTBD9</i>
ASK	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>		
NEXT	IF Yes → I13 [Sq ft of other included] IF No OR DK/RF → I17 [District steam bill available]	

I13	Sq ft of other included	<i>STOTSF9</i>
ASK	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>		
RANGE	1 to 999,999,999	
NEXT	IF A1 [Square footage] known & Number given > A1 [Square footage] & Number given < A1 [Square footage] x 50 → I14 [Verify sq ft other bldgs] OTHERWISE → I17 [District steam bill available]	

I14	Verify sq ft other bldgs	<i>STOTVY9</i>
ASK	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	
FILL	{SqFt} = A1 [Square footage] square feet {OtherSqFt} = I13 [Sq ft of other included] {TotalSqFt} = 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"> 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 		
NEXT	IF No, consumption is for some other number of square feet → I15 [What sq ft included] OTHERWISE → I17 [District steam bill available]	

I15	What sq ft included	<i>STTOSF9</i>
ASK	IF I14 [Verify sq ft 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>		
RANGE	1 to 999,999,999	
NEXT	→ I17 [District steam bill available]	

[I16 deleted]

I17	District steam bill available	<i>STBILL9</i>
ASK	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"> ◆ 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 <p>1 Yes, bill available 2 No, will not be able to provide bill</p>		
NEXT	→ J1 [Section J Routing]	

I18	District steam supplier name	<i>STSUP9</i>
ASK	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> <ul style="list-style-type: none"> ◆ ENTER the name of the supplier 		
NEXT	IF Name given → I19 [Street address] IF DK/RF → J1 [Section J Routing]	

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

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

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

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

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

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

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

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

I27	Sq ft of others included	<i>STOTS9</i>
ASK	IF I26 [Bills cover only building] = Other buildings	
FILL	{Bills} 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>		
RANGE	1 to 999,999,999	
NEXT	➔ I28 [District steam bill available]	

I28	District steam bill available	<i>STBILL29</i>
ASK	IF Name given in I18 [District steam supplier name]	
<p>Would it be possible for me to scan one district steam bill 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>		
NEXT	➔ J1 [Section J Routing]	

SECTION J. DISTRICT HOT WATER

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

J2	WS2 district hot water filled out	<i>WS2HWCE9</i>
ASK	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>		
NEXT	IF No OR DK/RF → J3 [Provide district hot water figures] IF Yes → J4 [District hot water consumption]	

J3	Provide district hot water figures	<i>HWFIGS9</i>
ASK	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>		
NEXT	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]	

J4	District hot water consumption	<i>HWCNS9</i>
ASK	IF J2 [WS2 district hot water filled out] = Yes OR J3 [Provide district hot water figures] = Yes	
		[F1]-HELP
	Please give me the total amount, in million Btu, of district hot water used in calendar year 2007.	
	<ul style="list-style-type: none"> ◆ 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.] ◆ VERIFY number <u>digit by digit</u> 	
RANGE	1 to 99,999,999,999,999	
NEXT	➔ J5 [District hot water expenditures]	

J5	District hot water expenditures	<i>HWEXP9</i>
ASK	IF J2 [WS2 district hot water filled out] = Yes OR J3 [Provide district hot water figures] = Yes	
		[F1]-HELP
	Please give me the total dollars spent on district hot water in calendar year 2007, including state and local taxes.	
	<ul style="list-style-type: none"> ◆ Do <u>not</u> enter cents ◆ VERIFY number <u>digit by digit</u> 	
RANGE	0 to 999,999,999	
NEXT	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]	

J6	Starting date for district hot water figures	<i>HWSTDAT9</i>
ASK	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"> ◆ ENTER date as MMDDYYYY ◆ If the day is not known, ENTER "15" for DD 	
NEXT	➔ J7 [Ending date for district hot water figures]	

J7	Ending date for district hot water figures	<i>HWENDAT9</i>
ASK	IF J4 [District hot water consumption] given OR J5 [District hot water expenditures] given	
		[F1]-HELP
	<p>What is the ending date [for these district hot water usage figures]?</p> <ul style="list-style-type: none"> ◆ ENTER date as MMDDYYYY ◆ VERIFY that this is the <u>last</u> day of the last billing period ◆ If the day is not known, ENTER "15" for DD 	
NEXT	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]	

J8	All occupants hot water included	<i>HWALL9</i>
ASK	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	
	<p>Do these figures include the district hot water for all of the businesses or organizations in this building?</p> <p>1 Yes 2 No</p>	
NEXT	IF No → J9 [Sq ft not included] OTHERWISE → J10 [Other bldgs hot water included]	

J9	Sq ft not included	<i>HWNISF9</i>
ASK	IF J8 [All occupants hot water 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"> ◆ PROBE for estimate if DK 	
RANGE	1 to 999,999,999	
NEXT	→ J10 [Other bldgs hot water included]	

J10	Other bldgs hot water included	<i>HWOTBD9</i>
ASK	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>		
NEXT	IF Yes → J11 [Sq ft of other included] IF No OR DK/RF → J15 [District hot water bill available]	

J11	Sq ft of other included	<i>HWOTSF9</i>
ASK	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>		
RANGE	1 to 999,999,999	
NEXT	IF A1 [Square footage] known & Number given > A1 [Square footage] & Number given < A1 [Square footage] x 50 → J12 [Verify sq ft other bldgs] OTHERWISE → J15 [District hot water bill available]	

J12	Verify sq ft other bldgs	<i>HWOTVY9</i>
ASK	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	
FILL	<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>		
NEXT	IF No, consumption is for some other number of square feet → J13 [What sq ft included] OTHERWISE → J15 [District hot water bill available]	

J13	What sq ft included	<i>HWTOSF9</i>
ASK	IF J12 [Verify sq ft 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>		
RANGE	1 to 999,999,999	
NEXT	→ J15 [District hot water bill available]	

[J14 deleted]

J15	District hot water bill available	<i>HWBILL9</i>
ASK	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>		
NEXT	→ K1 [Section K Routing]	

J16	District hot water supplier name	<i>HWSUP9</i>
ASK	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> <p>◆ ENTER the name of the supplier</p>		
NEXT	IF Name given → J17 [Street address] IF DK/RF → K1 [Section K Routing]	

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

J18	P.O. Box or Suite	<i>HWAD29</i>
ASK	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 [ENTER]</p>		
NEXT	→ J19 [City]	

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

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

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

J22	Number district hot water accounts	<i>HWNAC9</i>
ASK	IF Name given in J16 [District hot water supplier name]	
FILL	{Supplier} = J16 [District hot water supplier name]	
<p>How many different district hot water accounts does this building have with {Supplier}?</p>		
RANGE	1 to 999	
NEXT	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]	

J23	District hot water account number	<i>HWAC19—HWAC109</i>
ASK	IF J22 [Number district hot water accounts] = 1 to 10 Ask as many times as account numbers given, or until DK/RF	
FILL	{FirstNext} IF Only one account = BLANK IF First account given = "first" OTHERWISE = "next" {Supplier} = 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>		
NEXT	→ J24 [Bills cover only building]	

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

J25	Sq ft of others included	<i>HWOTS9</i>
ASK	IF J24 [Bills cover only building] = Other buildings	
FILL	{Bills} IF Only one account = "bill or statement" IF 2 to 10 accounts = "bills or statements"	
What is the approximate square footage of the <u>other</u> buildings included on the {Bills}? ◆ PROBE for estimate if DK		
RANGE	1 to 999,999,999	
NEXT	→ J26 [District hot water bill available]	

J26	District hot water bill available	<i>HWBILL29</i>
ASK	IF Name given in J16 [District hot water supplier name]	
Would it be possible for me to scan one district hot water bill from {Supplier}? (There is information on some utility bills that may help energy researchers who use these data.) ◆ EXP: [Examples of these items include miscellaneous charges, past months data, and units of measure.] ◆ If available, you will be prompted to scan the bill at the end of the interview, so it is not necessary to stop the interview here 1 Yes, bill available 2 No, will not be able to provide bill		
NEXT	→ K1 [Section K Routing]	

SECTION K. DOMESTIC WATER

K1	Domestic water consumption	<i>WTRCNS9</i>
ASK	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 gallons, please give me the total volume of water used in 2007.</p> <p>◆ VERIFY that the number the Respondent provides is in gallons, not millions of gallons. Worksheet 2 asks for this number in millions of gallons.</p>	
RANGE	0 to 99,999,999,999,999	
NEXT	IF Amount given → K2 [Outside water consumption] IF DK/RF → K4 [Domestic water expenditures]	

K2	Outside water consumption	<i>WTROUT9</i>
ASK	IF Amount given in K1 [Domestic water consumption]	
	<p>In gallons, how much of this water was used outside the building?</p> <p>◆ VERIFY that the number the Respondent provides is in gallons, not millions of gallons. Worksheet 2 asks for this number in millions of gallons.</p>	
RANGE	0 to 99,999,999,999,999	
NEXT	→ K3 [How water volume determined]	

K3	How water volume determined	<i>WTRMET9</i>
ASK	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>	
NEXT	→ K4 [Domestic water expenditures]	

K4	Domestic water expenditures	<i>WTREXP9</i>
ASK	All Buildings	
<p>Please give me the total dollars spent on domestic water in 2007, including state and local taxes.</p> <ul style="list-style-type: none"> ◆ Do <u>not</u> enter cents ◆ VERIFY number <u>digit by digit</u> 		
RANGE	0 to 999,999,999	
NEXT	IF Amount given in K1 [Domestic water consumption] OR K4 [Domestic water expenditures] → K5 [Starting date for water figures] OTHERWISE → K8 [Heard of WaterSense]	

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

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

K7	Cooling tower water consumption	<i>CHLRCNS9</i>
ASK	IF (K1 [Domestic water consumption] given OR K4 [Domestic water expenditures] given) & Central chillers in D33 [Cooling equipment type]	
<p>If the cooling towers on your chilled water system are metered, please give the volume of water used for the cooling towers in gallons.</p> <p>◆ VERIFY that the number the Respondent provides is in gallons, not millions of gallons. Worksheet 2 asks for this number in millions of gallons.</p>		
RANGE	0 to 99,999,999,999,999	
NEXT	➔ K8 [Heard of WaterSense]	

K8	Heard of WaterSense	<i>WTRSENS9</i>
ASK	All Buildings	
<p>Have you heard of the WaterSense program of the U.S. Environmental Protection Agency?</p> <p>1 Yes 2 No</p>		
NEXT	INTERVIEW COMPLETE	