

# 2018 Commercial Buildings Energy Consumption Survey (CBECS)

## Mall Establishment Questionnaire – Form EIA-871J

VERSION 2: Last Updated April 25, 2018

OMB No.: XXXX-YYYY Expires: MM/DD/YYYY

### HOW TO USE THIS QUESTIONNAIRE

The 2018 Commercial Buildings Energy Consumption Survey (CBECS) is programmed using a software called Blaise. The purpose of this paper representation of the questionnaire is to document the question text, fills, and skip patterns within the 2018 CBECS questionnaire. All the question fills and skip patterns are handled automatically by the software and will be transparent to the interviewer and respondent.

Each question is formatted as follows:

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

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

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

The **FILL** line describes any question fills and the conditions under which each appears. If the fill appears as something such as “A2 [Square footage]” this means that the figure given in question A2 will be filled in.

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


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


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

## RESPONDENT QUESTIONS

NOTE: Questions R1-R4 are asked each time a case is started and re-started (if more than one contact is necessary to complete the interview), except as specified in the ASK line.

<b>R1</b>	<b>Consent</b>	<i>R1CARI - RXCARI</i>
<b>ASK</b>	All Establishments	
<p>Some parts of this interview will be recorded for quality control purposes. I'd like to continue now unless you have any questions.</p> <ol style="list-style-type: none"> <li>1 Gives consent to record interview</li> <li>2 Does <u>not</u> give consent to record interview</li> </ol>		
<b>NEXT</b>	IF First time case started OR Restart but not done with Section E → R2 [Respondent function] OTHERWISE → R3 [Respondent function]	

<b>R2</b>	<b>Respondent function</b>	<i>R1JOB</i>
<b>ASK</b>	Establishments starting interview OR Restart but not yet done with Section E	
<p> SHOW CARD 1</p> <ul style="list-style-type: none"> <li>◆ Take out the Show Card booklet or make sure the respondent has access to them. 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</li> </ul> <p>Before we get started, we need to make sure that we have Show Cards available for some of the questions. Please turn to Show Card 1.</p> <p>Looking at this list, please tell me which of these best describes your job function.</p> <ol style="list-style-type: none"> <li>1 Operations, maintenance, or engineering</li> <li>2 Property management</li> <li>3 Store management</li> <li>4 Mall management</li> <li>5 Administration or company management</li> <li>6 Energy or environmental management</li> <li>7 Building owner</li> <li>8 Business owner</li> <li>9 Accounting, finances, or payroll</li> <li>10 Executive official</li> <li>11 School official</li> <li>12 Religious official</li> <li>13 Support staff</li> <li>14 Other</li> </ol>		
<b>NEXT</b>	IF Other → R4 [Other job function] OTHERWISE → A1 [Establishment name]	


<b>R3</b>	<b>Respondent function</b>	<i>R2JOB – RXJOB</i>
<b>ASK</b>	Establishments restarting after Section E	
	<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 1</p> <p>Before we get started, we need to make sure that we have Show Cards available for some of the questions. Please turn to Show Card 1.</p> <p>Looking at this list, please tell me which of these best describes your job function.</p> <ul style="list-style-type: none"> <li>0 Same respondent as previous interview</li> <li>1 Operations, maintenance, or engineering</li> <li>2 Property management</li> <li>3 Store management</li> <li>4 Mall management</li> <li>5 Administration or company management</li> <li>6 Energy or environmental management</li> <li>7 Building owner</li> <li>8 Business owner</li> <li>9 Accounting, finances, or payroll</li> <li>10 Executive official</li> <li>11 School official</li> <li>12 Religious official</li> <li>13 Support staff</li> <li>14 Other</li> </ul>	
<b>NEXT</b>	IF Other → R4 [Other job function] OTHERWISE → A1 [Establishment name]	

<b>R4</b>	<b>Other job function</b>	<i>R1JOBX – RXJOBX</i>
<b>ASK</b>	IF R2 [Respondent function] = Other OR R3 [Respondent function] = Other	
	What is your job function?	
<b>NEXT</b>	→ A1 [Establishment name]	

**SECTION A: ESTABLISHMENT SIZE**


<b>A1</b>	<b>Establishment name</b>	<i>ESTNAM</i>
<b>ASK</b>	All Establishments	
What is the name of this establishment?		
<b>NEXT</b>	→ A2 [Square footage]	

<b>A2</b>	<b>Square footage</b>	<i>SQFT</i>
<b>ASK</b>	All Establishments	
<p>What is the gross or total square footage of all the space in this establishment both finished and unfinished, including basements, hallways, lobbies, stairways, and elevator shafts?</p> <p>◆ VERIFY number <u>digit by digit</u></p>		
<b>RANGE</b>	1 to 999,999,999	
<b>NEXT</b>	IF DK/RF → A3 [Square footage category] OTHERWISE: IF Interviewer-coded establishment activity ≠ Other → B1 [Verify establishment activity] IF Interviewer-coded establishment activity = Other → B2 [Establishment activity]	

<b>A3</b>	<b>Square footage category</b>	<i>SQFTC</i>
<b>ASK</b>	IF A2 [Square footage] = DK/RF	
<p> SHOW CARD A1</p> <p>I understand that it may be difficult to give an exact figure for square footage. Please look at Show Card A1 and tell me which category best describes the total gross square footage in this establishment. There are examples provided to help you estimate.</p> <ul style="list-style-type: none"> <li>1 1,000 square feet or less</li> <li>2 1,001 to 5,000 square feet</li> <li>3 5,001 to 10,000 square feet</li> <li>4 10,001 to 25,000 square feet</li> <li>5 25,001 to 50,000 square feet</li> <li>6 50,001 to 100,000 square feet</li> <li>7 100,001 to 200,000 square feet</li> <li>8 200,001 to 500,000 square feet</li> <li>9 500,001 to 1 million square feet</li> <li>10 Over 1 million square feet</li> </ul>		
<b>NEXT</b>	IF Interviewer-coded establishment activity ≠ Other → B1 [Verify establishment activity] IF Interviewer-coded establishment activity = Other → B2 [Establishment activity]	

**SECTION B: ESTABLISHMENT ACTIVITY**

<b>B1</b>	<b>Verify establishment activity</b>	<i>VERPEA</i>
<b>ASK</b>	IF Interviewer-coded establishment activity ≠ Other	
<b>FILL</b>	<p><b>{Activity}</b>                  IF Retail store = “a retail store”                  IF Food sales = “a food sales establishment”                  IF Food service = “a food service establishment, bar, or nightclub”                  IF Dry cleaner/Laundromat = “a dry cleaner or laundromat”                  IF Office/Financial = “an office or financial establishment”                  IF Medical/Dental = “a medical or dental establishment”                  IF Education/Child care = “an education or child care establishment”                  IF Movie theater/Cinema = “a movie theater or cinema”                  IF Salon, spa, or barber shop = “a salon, spa, or barber shop”                  IF Fitness center/Dance studio = “a fitness center or dance studio”                  IF Vacant = “a vacant establishment”</p>	
<p>I have recorded that this is {Activity}. Is this correct?</p> <p>◆ EXP: [This activity should be the one that accounts for the majority of the floorspace in this establishment.]</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → C1 [Occupied/vacant all 2018] IF No OR DK/RF → B2 [Establishment activity]	

<b>B2</b>	<b>Establishment activity</b>	<i>PEA</i>
<b>ASK</b>	IF Interviewer-coded establishment activity = Other OR B1 [Verify establishment activity] = No	
<p> SHOW CARD B2</p> <p>Please look at the list of activities on Show Card B2. Which one of these activities accounts for the majority of the floorspace in this establishment?</p> <p>1 Retail store                  2 Food sales                  3 Food service/Bar/Nightclub                  4 Dry cleaner/Laundromat                  5 Office/Financial                  6 Medical/Dental                  7 Education/Child care                  8 Movie theater/Cinema                  9 Salon, spa, or barber shop                  10 Fitness center/Dance studio                  11 Vacant                  12 Other</p>		
<b>NEXT</b>	IF Other → B3 [Specify other activity] OTHERWISE → C1 [Occupied/vacant all 2018]	


<b>B3</b>	<b>Specify other activity</b>
<b>ASK</b>	IF B2 [Establishment activity] = Other
<p>Please describe this other type of activity.</p> <p>◆ RECORD in open box</p>	
<b>NEXT</b>	→ C1 [Occupied/vacant all 2018]

**SECTION C. OCCUPANCY AND OPERATING HOURS**

<b>C1</b>	<b>Occupied/vacant all 2018</b>	<i>ESTOCC</i>
<b>ASK</b>	All Establishments	
<b>FILL</b>	<b>{VacOcc}</b> IF Establishment Activity = Vacant = "Was this establishment vacant" IF Establishment Activity ≠ Vacant = "Did this establishment occupy this same space"	
{VacOcc} for all of calendar year 2018?  1 Yes 2 No		
<b>NEXT</b>	IF Yes: IF Establishment Activity = Vacant → D1 [Heating] IF Establishment Activity ≠ Vacant → C6 [Open 24 hours a day] IF No → C2 [Month occupied/vacant] IF DK/RF → C6 [Open 24 hours a day]	

<b>C2</b>	<b>Month occupied/vacant</b>	<i>MONOCC</i>
<b>ASK</b>	IF C1 [Occupied/vacant all 2018] = No	
<b>FILL</b>	<b>{VacOcc}</b> IF Establishment Activity = Vacant = "become vacant" OTHERWISE = "begin occupying this space"	
In what month of 2018 did this establishment {VacOcc}?  1 January 2 February 3 March 4 April 5 May 6 June 7 July 8 August 9 September 10 October 11 November 12 December 13 IF VOLUNTEERED: Establishment did not {VacOcc} until 2019		
<b>NEXT</b>	IF Establishment did not begin occupying space until 2019 & Establishment Activity ≠ Vacant → C3 [Vacant in 2018] IF Establishment did not begin occupying space until 2019 & Establishment Activity = Vacant → C4 [Prior establishment activity] OTHERWISE: IF Establishment Activity = Vacant → D1 [Heating] OTHERWISE → C6 [Open 24 hours a day]	

<b>C3</b>	<b>Vacant in 2018</b>	<i>VACPRIOR</i>
<b>ASK</b>	IF C2 [Month occupied/vacant] = Establishment did not begin occupying space until 2019 & Establishment Activity ≠ Vacant	
<p>Was this space vacant for all of 2018, did some other establishment occupy this space for all or part of 2018, or do you not know about the activity in this space in 2018?</p> <ol style="list-style-type: none"> <li>1 Yes, it was vacant for all of 2018</li> <li>2 No, some other establishment occupied the space</li> </ol>		
<b>NEXT</b>	IF No, some other establishment occupied the space → C4 [Prior establishment activity] IF Yes OR DK/RF → C5 [End of interview]	

<b>C4</b>	<b>Prior establishment activity</b>	<i>ACTPRIOR</i>
<b>ASK</b>	IF (C2 [Month occupied/vacant] = Establishment did not begin occupying space until 2019 & Establishment Activity = Vacant) OR C3 [Vacant in 2018] = No, some other establishment occupied the space	
<p> SHOW CARD B2</p> <p>Looking at the list of activities on Show Card B2, which one best describes the activity of the establishment that occupied this space in 2018?</p> <ol style="list-style-type: none"> <li>1 Retail store</li> <li>2 Food sales</li> <li>3 Food service</li> <li>4 Dry cleaner/Laundromat</li> <li>5 Office/Financial</li> <li>6 Medical/Dental</li> <li>7 Education/Child care</li> <li>8 Movie theater/Cinema</li> <li>9 Spa, salon, or barber shop</li> <li>10 Fitness center/Dance studio</li> <li>11 Vacant</li> <li>12 Other</li> </ol>		
<b>NEXT</b>	→ C5 [End of interview]	

<b>C5</b>	<b>End of interview</b>	
<b>ASK</b>	IF C2 [Month occupied/vacant] = Establishment did not begin occupying space until 2019	
<p>Thank you, that's all the questions that I have at this time, since we are only interviewing establishments that were occupying this space in 2018.</p> <p>Thank you for your time and help.</p> <p>◆ [F10]-Exit</p>		
<b>NEXT</b>	TERMINATE	




<b>C6</b>	<b>Open 24 hours a day</b>	<i>OPEN24</i>
<b>ASK</b>	IF Establishment Activity ≠ Vacant	
<p>I have some questions about the hours that this establishment is normally open.</p> <p>"Normally open" means the hours when the usual activities occur. Do <u>not</u> consider the establishment to be open if <u>only</u> maintenance, housekeeping, or security personnel are present.</p> <p>Is this establishment normally open 24 hours a day, seven days a week?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → C12 [Number of employees] IF No OR DK/RF → C7 [Open during week]	

<b>C7</b>	<b>Open during week</b>	<i>OPNMF</i>
<b>ASK</b>	IF C6 [Open 24 hours a day] = No OR DK/RF	
<p>Thinking of Monday through Friday, is this establishment 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>		
<b>NEXT</b>	→ C8 [Open on weekend]	


<b>C8</b>	<b>Open on weekend</b>	<i>OPNWE</i>
<b>ASK</b>	IF C6 [Open 24 hours a day] = No OR DK/RF	
<p>Is this establishment 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>		
<b>NEXT</b>	IF No & C7 [Open during week] = Not open at all Monday through Friday → C9 [No operating hours] OTHERWISE → C10 [Total hours open per week]	

<b>C9</b>	<b>No operating hours</b>	<i>NOHRS</i>
<b>ASK</b>	IF C7 [Open during week] = Not open at all Monday through Friday & C8 [Open on weekend] = No	
<p>I would just like to confirm that this establishment does not have any normal operating hours?</p> <p>1 True, no operating hours 2 False, there are operating hours</p>		
<b>NEXT</b>	IF True, no operating hours → C12 [Number of employees] IF False, there are operating hours OR DK/RF → C10 [Total hours open per week]	

<b>C10</b>	<b>Total hours open per week</b>	<i>WKHRS</i>
<b>ASK</b>	IF (C7 [Open during week] = All five days OR Some of these days) OR C8 [Open on weekend] = Yes OR C9 [No operating hours] = False, there are operating hours	
<p>How many total hours per week is the establishment normally open?</p> <p>◆ DEF: ["Normally open" means the hours when the usual activities occur.]</p>		
<b>RANGE</b>	0 to 168	
<b>NEXT</b>	IF DK/RF → C11 [Weekly hours category] OTHERWISE → C12 [Number of employees]	

<b>C11</b>	<b>Weekly hours category</b>	<i>WKHRSC</i>
<b>ASK</b>	IF C10 [Total hours open per week] = DK/RF	
<p> SHOW CARD C4</p> <p>Which category on Show Card C4 best describes the total hours per week that the establishment is normally open?</p> <p>◆ DEF: ["Normally open" means the hours when the usual activities occur.]</p> <p>1 1 to 39 2 40 to 48 3 49 to 60 4 61 to 84 5 85 to 167 6 168</p>		
<b>NEXT</b>	→ C12 [Number of employees]	

<b>C12</b>	<b>Number of employees</b>	<i>NWKER</i>
<b>ASK</b>	IF Establishment Activity ≠ Vacant	
<p>How many employees work <u>in the establishment</u> during the main shift, that is, when most employees are present?</p> <p>◆ EXP: [Include any volunteer workers. Do not include employees who always work outside the establishment (such as drivers with delivery routes), customers, patients, students, or institutionalized residents.]</p>		
<b>RANGE</b>	0 to 99,999	
<b>NEXT</b>	IF Number given → D1 [Heating] IF DK/RF → C13 [Number of employees category]	

<b>C13</b>	<b>Number of employees category</b>	<i>NWKERC</i>
<b>ASK</b>	IF C12 [Number of employees] = DK/RF	
<p> SHOW CARD C5</p> <p>Which category on Show Card C5 best describes how many employees work <u>in the establishment</u> during the main shift?</p> <ul style="list-style-type: none"> <li>1 None</li> <li>2 1 to 4</li> <li>3 5 to 9</li> <li>4 10 to 19</li> <li>5 20 to 49</li> <li>6 50 to 99</li> <li>7 100 to 249</li> <li>8 250 to 499</li> <li>9 500 to 999</li> <li>10 1,000 to 2,499</li> <li>11 2,500 to 4,999</li> <li>12 5,000 or More</li> </ul>		
<b>NEXT</b>	→ D1 [Heating]	

**SECTION D. ENERGY USE AND EQUIPMENT**

<b>D1</b>	<b>Heating</b>	<i>HT1</i>
<b>ASK</b>	All Establishments	
<p>The next section is about energy sources, uses, and equipment.</p> <p>For the next five questions, please tell me if energy was used in this establishment for any of these purposes during calendar year 2018.</p> <p>Was any energy used for heating the establishment?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF No & Establishment Activity ≠ Vacant → D2 [Why no heating] OTHERWISE → D4 [Cooling]	

<b>D2</b>	<b>Why no heating</b>	<i>NOHEAT</i>
<b>ASK</b>	IF D1 [Heating] = No & Establishment Activity ≠ Vacant	
<p>Which of the following reasons best explains why there was no heating in this establishment during 2018?</p> <p>1 Previous answer incorrect, establishment does have heating 2 Climate doesn't require heating 3 Establishment not used during the 2018 heating season 4 Waste heat from other equipment is sufficient 5 Heating equipment was broken during 2018 6 Some other reason</p>		
<b>NEXT</b>	IF Some other reason → D3 [Other no heating specify] OTHERWISE → D4 [Cooling]	
<b>NOTE</b>	If "Previous answer incorrect, establishment does have heating" is selected, interview will proceed as if D1 [Heating] = Yes.	

<b>D3</b>	<b>Other no heating specify</b>
<b>ASK</b>	IF D2 [Why no heating] = Some other reason
<p>Please briefly explain why there was no heating in this establishment during 2018.</p> <p>◆ RECORD in open box</p>	
<b>NEXT</b>	→ D4 [Cooling]

<b>D4</b>	<b>Cooling</b>	<i>COOL</i>
<b>ASK</b>	All Establishments	
<p>(Was any energy used...)</p> <p>For air conditioning?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF No & Establishment Activity ≠ Vacant & C2 [Month occupied] ≠ September, October, November, OR December → D5 [Why no cooling] OTHERWISE → D7 [Water heating]	

<b>D5</b>	<b>Why no cooling</b>	<i>NOCOOL</i>
<b>ASK</b>	IF D4 [Cooling] = No & Establishment Activity ≠ Vacant & C2 [Month occupied] ≠ September, October, November, OR December	
<p>Which of the following reasons best explains why there was no cooling in this establishment during 2018?</p> <p>1 Previous answer incorrect, establishment does have cooling 2 Climate doesn't require cooling 3 Establishment not used during the 2018 cooling season 4 Air conditioning equipment was broken during 2018 5 Can not afford air conditioning 6 Some other reason</p>		
<b>NEXT</b>	IF Some other reason → D6 [Other no cooling specify] OTHERWISE → D7 [Water heating]	
<b>NOTE</b>	If "Previous answer incorrect, establishment does have cooling" is selected, interview will proceed as if D4 [Cooling] = Yes.	

<b>D6</b>	<b>Other no cooling specify</b>
<b>ASK</b>	IF D5 [Why no cooling] = Some other reason
<p>Please briefly explain why there was no cooling in this establishment during 2018.</p> <p>◆ RECORD in open box</p>	
<b>NEXT</b>	→ D7 [Water heating]

<b>D7</b>	<b>Water heating</b>	<i>WATR</i>
<b>ASK</b>	All Establishments	
<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>		
<b>NEXT</b>	IF No & Establishment Activity ≠ Vacant → D8 [Why no water heating] OTHERWISE → D10 [Cooking]	

<b>D8</b>	<b>Why no water heating</b>	<i>NOWATR</i>
<b>ASK</b>	IF D7 [Water heating] = No & Establishment Activity ≠ Vacant	
<p>Which of the following reasons best explains why there was no water heating in this establishment during 2018?</p> <p>1 Previous answer incorrect, establishment does have water heating 2 No plumbing in establishment 3 Cold water only 4 Water heater was broken during 2018 5 Some other reason</p>		
<b>NEXT</b>	IF Some other reason → D9 [Other no water heating specify] OTHERWISE → D10 [Cooking]	
<b>NOTE</b>	If “Previous answer incorrect, establishment does have water heating” is selected, interview will proceed as if D7 [Water heating] = Yes.	

<b>D9</b>	<b>Other no water heating specify</b>
<b>ASK</b>	IF D8 [Why no water heating] = Some other reason
<p>Please briefly explain why there was no water heating in this establishment during 2018.</p> <p>◆ RECORD in open box</p>	
<b>NEXT</b>	→ D10 [Cooking]


<b>D10</b>	<b>Cooking</b>	<i>COOK</i>
<b>ASK</b>	All Establishments	
<p>(Was any energy used...)</p> <p>For cooking?</p> <ul style="list-style-type: none"> <li>◆ EXP: [If there is only minimal cooking, such as microwaves, hot plates, or toaster ovens, answer "No."]</li> </ul> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF D1 [Heating] = DK/RF & D4 [Cooling] = DK/RF & D7 [Water heating] = DK/RF & D10 [Cooking] = DK/RF → D11 [Missing end uses] OTHERWISE → D12 [Manufacturing]	

<b>D11</b>	<b>Missing end uses</b>
<b>SHOW</b>	IF D1 [Heating] = DK/RF & D4 [Cooling] = DK/RF & D7 [Water heating] = DK/RF & D10 [Cooking] = DK/RF
<ul style="list-style-type: none"> <li>◆ INTERVIEWER: You have entered DK or RF for the four major end use questions. <b>This information is important for understanding how energy is used in this establishment.</b> 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 for these questions.</li> <li>◆ ENTER "1" when you are ready to continue</li> </ul>	
<b>NEXT</b>	→ D12 [Manufacturing]

<b>D12</b>	<b>Manufacturing</b>	<i>MANU</i>
<b>ASK</b>	All Establishments	
<p>(Was any energy used...)</p> <p>For manufacturing?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF No & D1 [Heating] = No & D4 [Cooling] = No & D7 [Water heating] = No & D10 [Cooking] = No → D13 [Any energy used] OTHERWISE → D14 [Energy sources used]	

<b>D13</b>	<b>Any energy used</b>	<i>ANYEGY</i>
<b>ASK</b>	IF D1 [Heating] = No & D4 [Cooling] = No & D7 [Water heating] = No & D10 [Cooking] = No & D12 [Manufacturing] = No	
<p>I did not record any uses of energy for this establishment. Did this establishment use <u>any</u> energy in 2018 for other purposes, such as lighting or appliances?</p> <p>1 Yes, some energy was used in 2018  2 No, no energy was used</p>		
<b>NEXT</b>	IF Yes, some energy was used OR DK/RF → D14 [Energy sources used] IF No, no energy was used → E57 [Window glass type]	



<b>D14</b>	<b>Energy sources used</b>	<i>see below</i>																														
<b>ASK</b>	IF D1 [Heating] = Yes OR D4 [Cooling] = Yes OR D7 [Water heating] = Yes OR D10 [Cooking] = Yes OR D12 [Manufacturing] = Yes OR D13 [Any energy used] = Yes, some energy was used OR DK/RF																															
<p> SHOW CARD D1</p> <p>Looking at this list of energy sources on Show Card D1, please tell me which ones were used <u>in this establishment</u> for any purpose in 2018.</p> <ul style="list-style-type: none"> <li>◆ EXP: [Include fuel oil, diesel, or kerosene if it was purchased or delivered in 2018, even if it was not used during that time.]</li> <li>◆ EXP: [Do not include any fuels used in vehicles outside the establishment.]</li> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul> <table> <tr> <td>11</td> <td>Electricity</td> <td><i>ELUSED</i></td> </tr> <tr> <td>12</td> <td>Natural gas</td> <td><i>NGUSED</i></td> </tr> <tr> <td>13</td> <td>Fuel oil, diesel, or kerosene</td> <td><i>FKUSED</i></td> </tr> <tr> <td>14</td> <td>Propane, also known as bottled gas or LPG</td> <td><i>PRUSED</i></td> </tr> <tr> <td>15</td> <td>District steam piped in from a separate building or utility</td> <td><i>STUSED</i></td> </tr> <tr> <td>16</td> <td>District hot water piped in from a separate building or utility</td> <td><i>HWUSED</i></td> </tr> <tr> <td>17</td> <td>District chilled water piped in from a separate building or utility</td> <td><i>CWUSED</i></td> </tr> <tr> <td>18</td> <td>Wood or coal</td> <td></td> </tr> <tr> <td>19</td> <td>Solar</td> <td><i>SOUSED</i></td> </tr> <tr> <td>24</td> <td>Other source or sources</td> <td><i>OTUSED</i></td> </tr> </table>			11	Electricity	<i>ELUSED</i>	12	Natural gas	<i>NGUSED</i>	13	Fuel oil, diesel, or kerosene	<i>FKUSED</i>	14	Propane, also known as bottled gas or LPG	<i>PRUSED</i>	15	District steam piped in from a separate building or utility	<i>STUSED</i>	16	District hot water piped in from a separate building or utility	<i>HWUSED</i>	17	District chilled water piped in from a separate building or utility	<i>CWUSED</i>	18	Wood or coal		19	Solar	<i>SOUSED</i>	24	Other source or sources	<i>OTUSED</i>
11	Electricity	<i>ELUSED</i>																														
12	Natural gas	<i>NGUSED</i>																														
13	Fuel oil, diesel, or kerosene	<i>FKUSED</i>																														
14	Propane, also known as bottled gas or LPG	<i>PRUSED</i>																														
15	District steam piped in from a separate building or utility	<i>STUSED</i>																														
16	District hot water piped in from a separate building or utility	<i>HWUSED</i>																														
17	District chilled water piped in from a separate building or utility	<i>CWUSED</i>																														
18	Wood or coal																															
19	Solar	<i>SOUSED</i>																														
24	Other source or sources	<i>OTUSED</i>																														
<b>NEXT</b>	IF Fuel, oil, diesel, or kerosene selected → D15 [Fuel oil, diesel, or kerosene] IF Wood or coal selected → D16 [Wood or coal] IF Solar selected → D17 [Type of solar] IF Other source or sources selected → D18 [Other energy source 1] IF DK/RF → D115 [Electricity generation capability] <b>OTHERWISE:</b> IF D1 [Heating] = Yes → D21 [Source for main heating] IF D4 [Cooling] = Yes & (Electricity used & NOT District chilled water used) → D75 [Electricity only used for cooling] IF D4 [Cooling] = Yes & NOT Electricity used & NOT District chilled water used → D76 [Sources for cooling] IF D4 [Cooling] = Yes & District chilled water used → D77 [EL or CW for cooling] IF D7 [Water heating] = Yes → D107 [Sources for water heating] IF D10 [Cooking] = Yes → D111 [Sources for cooking] IF D12 [Manufacturing] = Yes → D113 [Sources for manufacturing] <b>OTHERWISE</b> → D115 [Electricity generation capability]																															

<b>D15</b>	<b>Fuel oil, diesel, or kerosene</b>	<i>FKTYPE</i>
<b>ASK</b>	IF Fuel oil, diesel, or kerosene IN D14 [Energy sources used]	
	<p>◆ VERIFY if volunteered in previous question</p> <p>You mentioned fuel oil, diesel, or kerosene. Which of these were used (in this establishment in 2018)?</p> <p>◆ ENTER all that apply</p> <p>1 Fuel oil 2 Diesel 3 Kerosene</p>	
<b>NEXT</b>	IF Wood or coal IN D14 [Energy sources used] → D16 [Wood or coal] IF Solar IN D14 [Energy sources used] → D17 [Type of solar] IF Other source or sources IN D14 [Energy sources used] → D18 [Other energy source 1] IF D1 [Heating] = Yes → D21 [Source for main heating] IF D4 [Cooling] = Yes & (Electricity used & NOT District chilled water used) → D75 [Electricity only used for cooling] IF D4 [Cooling] = Yes & NOT Electricity used & NOT District chilled water used → D76 [Sources for cooling] IF D4 [Cooling] = Yes & District chilled water used → D77 [EL or CW for cooling] IF D7 [Water heating] = Yes → D107 [Sources for water heating] IF D10 [Cooking] = Yes → D111 [Sources for cooking] IF D12 [Manufacturing] = Yes → D113 [Sources for manufacturing] OTHERWISE → D115 [Electricity generation capability]	

<b>D16</b>	<b>Wood or coal</b>	<i>see below</i>
<b>ASK</b>	IF Wood or coal IN D14 [Energy sources used]	
	<p>◆ VERIFY if volunteered in previous question</p> <p>You mentioned wood or coal. Which of these were used (in this establishment in 2018)?</p> <p>◆ ENTER all that apply</p> <p>1 Wood <span style="float: right;"><i>WOUSED</i></span> 2 Coal <span style="float: right;"><i>COUSED</i></span></p>	
<b>NEXT</b>	IF Solar IN D8 → D17 [Type of solar] IF Other source or sources IN D14 [Energy sources used] → D18 [Other energy source 1] IF D1 [Heating] = Yes → D21 [Source for main heating] IF D4 [Cooling] = Yes & (Electricity used & NOT District chilled water used) → D75 [Electricity only used for cooling] IF D4 [Cooling] = Yes & NOT Electricity used & NOT District chilled water used → D76 [Sources for cooling] IF D4 [Cooling] = Yes & District chilled water used → D77 [EL or CW for cooling] IF D7 [Water heating] = Yes → D107 [Sources for water heating] IF D10 [Cooking] = Yes → D111 [Sources for cooking] IF D12 [Manufacturing] = Yes → D113 [Sources for manufacturing] OTHERWISE → D115 [Electricity generation capability]	

<b>D17</b>	<b>Type of solar</b>	<i>see below</i>
<b>ASK</b>	IF Solar IN D14 [Energy sources used]	
	<p>◆ VERIFY if volunteered in previous question</p> <p>Which type of solar was used: solar panels to generate electricity or solar thermal energy, which is the direct use of solar energy <u>without</u> generating electricity?</p> <p>◆ ENTER all that apply</p> <p>1 Solar panels used to generate electricity <span style="float: right;"><i>PVC/SOGENR/CAPGEN</i></span>  2 Solar thermal energy (use of solar energy <u>without</u> generating electricity) <span style="float: right;"><i>SOTHERM</i></span></p>	
<b>NEXT</b>	IF Other source or sources IN D14 [Energy sources used] → D18 [Other energy source 1] IF D1 [Heating] = Yes → D21 [Source for main heating] IF D4 [Cooling] = Yes & (Electricity used & NOT District chilled water used) → D75 [Electricity only used for cooling] IF D4 [Cooling] = Yes & NOT Electricity used & NOT District chilled water used → D76 [Sources for cooling] IF D4 [Cooling] = Yes & District chilled water used → D77 [EL or CW for cooling] IF D7 [Water heating] = Yes → D107 [Sources for water heating] IF D10 [Cooking] = Yes → D111 [Sources for cooking] IF D12 [Manufacturing] = Yes → D113 [Sources for manufacturing] IF Solar panels used to generate electricity → D117 [Generation technologies other than solar] OTHERWISE → D115 [Electricity generation capability]	

<b>D18</b>	<b>Other energy source 1</b>	<i>OTUSDX1</i>
<b>ASK</b>	IF Other source or sources IN D14 [Energy sources used]	
	<p>What was the first other energy source used (in this establishment in 2018)?</p> <p>◆ ENTER the first energy source used</p>	
<b>NEXT</b>	→ D19 [Other energy source 2]	

<b>D19</b>	<b>Other energy source 2</b>	<i>OTUSDX2</i>
<b>ASK</b>	IF Other source or sources IN D14 [Energy sources used]	
<p>Were there any other energy sources used (in this establishment in 2018)?</p> <ul style="list-style-type: none"> <li>◆ ENTER the next energy source</li> <li>◆ [ENTER] if no others</li> </ul>		
<b>NEXT</b>	<p>IF Source entered here → D20 [Other energy source 3]  IF No source entered here:  IF D1 [Heating] = Yes → D21 [Source for main heating]  IF D4 [Cooling] = Yes &amp; (Electricity used &amp; NOT District chilled water used)  → D75 [Electricity only used for cooling]  IF D4 [Cooling] = Yes &amp; NOT Electricity used &amp; NOT District chilled water used  → D76 [Sources for cooling]  IF D4 [Cooling] = Yes &amp; District chilled water used → D77 [EL or CW for cooling]  IF D7 [Water heating] = Yes → D107 [Sources for water heating]  IF D10 [Cooking] = Yes → D111 [Sources for cooking]  IF D12 [Manufacturing] = Yes → D113 [Sources for manufacturing]  IF D17 [Type of solar] = Solar panels → D117 [Generation technologies other than solar]  OTHERWISE → D115 [Electricity generation capability]</p>	

<b>D20</b>	<b>Other energy source 3</b>	<i>OTUSDX3</i>
<b>ASK</b>	IF Source was entered in D19 [Other energy source 2]	
<p>Were there any other energy sources used (in this establishment in 2018)?</p> <ul style="list-style-type: none"> <li>◆ ENTER the next energy source</li> <li>◆ [ENTER] if no others</li> </ul>		
<b>NEXT</b>	<p>IF D1 [Heating] = Yes → D21 [Source for main heating]  IF D4 [Cooling] = Yes &amp; (Electricity used &amp; NOT District chilled water used)  → D75 [Electricity only used for cooling]  IF D4 [Cooling] = Yes &amp; NOT Electricity used &amp; NOT District chilled water used  → D76 [Sources for cooling]  IF D4 [Cooling] = Yes &amp; District chilled water used → D77 [EL or CW for cooling]  IF D7 [Water heating] = Yes → D107 [Sources for water heating]  IF D10 [Cooking] = Yes → D111 [Sources for cooking]  IF D12 [Manufacturing] = Yes → D113 [Sources for manufacturing]  IF D17 [Type of solar] = Solar panels → D117 [Generation technologies other than solar]  OTHERWISE → D115 [Electricity generation capability]</p>	

<b>D21</b>	<b>Source for main heating</b>	<i>see below</i>																																							
<b>ASK</b>	IF D1 [Heating] = Yes																																								
<b>FILL</b>	<p><b>{Ht1SourcesList}</b> = List of all energy sources used  <b>{Electricity} – {Other3}</b> = If a source is used, it appears in this list; if not, the line is blank  <b>{FuelOilType}</b> = Type or types specified in D15 [Fuel oil, diesel, or kerosene]  <b>{Other1} – {Other3}</b> = Sources specified in D18 [Other energy source 1] – D20 [Other energy source 3]</p>																																								
<p>These next questions are about heating in the establishment.</p> <p>What was the <u>main</u> energy source for heating? Do not include electricity if it is used only to run fan motors. (Was it {Ht1SourcesList}?)</p> <ul style="list-style-type: none"> <li>◆ DEF: [The main energy source for heating is the energy source used to heat most of the square footage in this establishment most of the time.]</li> <li>◆ Only sources already selected are shown here</li> </ul> <table style="width: 100%; border: none;"> <tr> <td style="width: 10%;">11</td> <td style="width: 70%;">{Electricity}</td> <td style="width: 20%; text-align: right;"><i>ELHT1</i></td> </tr> <tr> <td>12</td> <td>{Natural gas}</td> <td style="text-align: right;"><i>NGHT1</i></td> </tr> <tr> <td>13</td> <td>{FuelOilType}</td> <td style="text-align: right;"><i>FKHT1</i></td> </tr> <tr> <td>14</td> <td>{Propane}</td> <td style="text-align: right;"><i>PRHT1</i></td> </tr> <tr> <td>15</td> <td>{District steam}</td> <td style="text-align: right;"><i>STHT1</i></td> </tr> <tr> <td>16</td> <td>{District hot water}</td> <td style="text-align: right;"><i>HWHT1</i></td> </tr> <tr> <td>18</td> <td>{Wood}</td> <td style="text-align: right;"><i>WOHT1</i></td> </tr> <tr> <td>19</td> <td>{Coal}</td> <td style="text-align: right;"><i>COHT1</i></td> </tr> <tr> <td>20</td> <td>{Solar thermal}</td> <td style="text-align: right;"><i>SOHT1</i></td> </tr> <tr> <td>21</td> <td>{Other1}</td> <td style="text-align: right;"><i>OTHT1</i></td> </tr> <tr> <td>22</td> <td>{Other2}</td> <td style="text-align: right;"><i>OTHT1</i></td> </tr> <tr> <td>23</td> <td>{Other3}</td> <td style="text-align: right;"><i>OTHT1</i></td> </tr> <tr> <td>24</td> <td>Some other energy source</td> <td></td> </tr> </table>			11	{Electricity}	<i>ELHT1</i>	12	{Natural gas}	<i>NGHT1</i>	13	{FuelOilType}	<i>FKHT1</i>	14	{Propane}	<i>PRHT1</i>	15	{District steam}	<i>STHT1</i>	16	{District hot water}	<i>HWHT1</i>	18	{Wood}	<i>WOHT1</i>	19	{Coal}	<i>COHT1</i>	20	{Solar thermal}	<i>SOHT1</i>	21	{Other1}	<i>OTHT1</i>	22	{Other2}	<i>OTHT1</i>	23	{Other3}	<i>OTHT1</i>	24	Some other energy source	
11	{Electricity}	<i>ELHT1</i>																																							
12	{Natural gas}	<i>NGHT1</i>																																							
13	{FuelOilType}	<i>FKHT1</i>																																							
14	{Propane}	<i>PRHT1</i>																																							
15	{District steam}	<i>STHT1</i>																																							
16	{District hot water}	<i>HWHT1</i>																																							
18	{Wood}	<i>WOHT1</i>																																							
19	{Coal}	<i>COHT1</i>																																							
20	{Solar thermal}	<i>SOHT1</i>																																							
21	{Other1}	<i>OTHT1</i>																																							
22	{Other2}	<i>OTHT1</i>																																							
23	{Other3}	<i>OTHT1</i>																																							
24	Some other energy source																																								
<b>NEXT</b>	<p>IF Some other energy source → D22 [Other source for main heating]  IF DK/RF → D27 [Heating equipment for unknown source]  OTHERWISE:  IF More than one energy source used → D23 [Which other sources for heating]  IF Only one energy source used → D24 [Any other sources for heating]</p>																																								

<b>D22</b>	<b>Other source for main heating</b>	<i>see below</i>																														
<b>ASK</b>	IF D21 [Source for main heating] = Some other energy source																															
<p>What was the other energy source used for <u>main</u> space heating?</p> <table> <tr> <td>11</td> <td>Electricity</td> <td><i>ELHT1</i></td> </tr> <tr> <td>12</td> <td>Natural gas</td> <td><i>NGHT1</i></td> </tr> <tr> <td>13</td> <td>Fuel oil/Diesel/Kerosene</td> <td><i>FKHT1</i></td> </tr> <tr> <td>14</td> <td>Propane</td> <td><i>PRHT1</i></td> </tr> <tr> <td>15</td> <td>District steam</td> <td><i>STHT1</i></td> </tr> <tr> <td>16</td> <td>District hot water</td> <td><i>HWHT1</i></td> </tr> <tr> <td>18</td> <td>Wood</td> <td><i>WOHT1</i></td> </tr> <tr> <td>19</td> <td>Coal</td> <td><i>COHT1</i></td> </tr> <tr> <td>20</td> <td>Solar thermal</td> <td><i>SOHT1</i></td> </tr> <tr> <td>24</td> <td>Some other energy source</td> <td><i>OTHT1</i></td> </tr> </table>			11	Electricity	<i>ELHT1</i>	12	Natural gas	<i>NGHT1</i>	13	Fuel oil/Diesel/Kerosene	<i>FKHT1</i>	14	Propane	<i>PRHT1</i>	15	District steam	<i>STHT1</i>	16	District hot water	<i>HWHT1</i>	18	Wood	<i>WOHT1</i>	19	Coal	<i>COHT1</i>	20	Solar thermal	<i>SOHT1</i>	24	Some other energy source	<i>OTHT1</i>
11	Electricity	<i>ELHT1</i>																														
12	Natural gas	<i>NGHT1</i>																														
13	Fuel oil/Diesel/Kerosene	<i>FKHT1</i>																														
14	Propane	<i>PRHT1</i>																														
15	District steam	<i>STHT1</i>																														
16	District hot water	<i>HWHT1</i>																														
18	Wood	<i>WOHT1</i>																														
19	Coal	<i>COHT1</i>																														
20	Solar thermal	<i>SOHT1</i>																														
24	Some other energy source	<i>OTHT1</i>																														
<b>NEXT</b>	➔ D23 [Which other sources for heating]																															

<b>D23</b>	<b>Which other sources for heating</b>	<i>HT2 &amp; see below</i>																																										
<b>ASK</b>	IF D21 [Source for main heating] ≠ DK/RF & More than one energy source used																																											
<b>FILL</b>	<p><b>{Ht2SourcesList}</b> = List of all energy sources used, minus the one used for main heating  <b>{Electricity} – {Other3}</b> = If a source is used (other than for main space heating), it appears in this list; if not, the line is blank  <b>{FuelOilType}</b> = Type or types specified in D15 [Fuel oil, diesel, or kerosene]  <b>{Other1} – {Other3}</b> = Sources specified in D18 [Other energy source 1] – D20 [Other energy source 3]</p>																																											
<p>Which other energy sources, if any, were used for heating? Do not include electricity if it is used only to run fan motors. ({Ht2SourcesList})</p> <ul style="list-style-type: none"> <li>◆ Only sources already selected are shown here</li> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul> <table> <tr> <td>11</td> <td>{Electricity}</td> <td><i>ELHT2</i></td> </tr> <tr> <td>12</td> <td>{Natural gas}</td> <td><i>NGHT2</i></td> </tr> <tr> <td>13</td> <td>{FuelOilType}</td> <td><i>FKHT2</i></td> </tr> <tr> <td>14</td> <td>{Propane}</td> <td><i>PRHT2</i></td> </tr> <tr> <td>15</td> <td>{District steam}</td> <td><i>STHT2</i></td> </tr> <tr> <td>16</td> <td>{District hot water}</td> <td><i>HWHT2</i></td> </tr> <tr> <td>18</td> <td>{Wood}</td> <td><i>WOHT2</i></td> </tr> <tr> <td>19</td> <td>{Coal}</td> <td><i>COHT2</i></td> </tr> <tr> <td>20</td> <td>{Solar thermal}</td> <td><i>SOHT2</i></td> </tr> <tr> <td>21</td> <td>{Other1}</td> <td><i>OTHT2</i></td> </tr> <tr> <td>22</td> <td>{Other2}</td> <td><i>OTHT2</i></td> </tr> <tr> <td>23</td> <td>{Other3}</td> <td><i>OTHT2</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>ELHT2</i>	12	{Natural gas}	<i>NGHT2</i>	13	{FuelOilType}	<i>FKHT2</i>	14	{Propane}	<i>PRHT2</i>	15	{District steam}	<i>STHT2</i>	16	{District hot water}	<i>HWHT2</i>	18	{Wood}	<i>WOHT2</i>	19	{Coal}	<i>COHT2</i>	20	{Solar thermal}	<i>SOHT2</i>	21	{Other1}	<i>OTHT2</i>	22	{Other2}	<i>OTHT2</i>	23	{Other3}	<i>OTHT2</i>	24	Some other energy source		99	No other sources for heating	
11	{Electricity}	<i>ELHT2</i>																																										
12	{Natural gas}	<i>NGHT2</i>																																										
13	{FuelOilType}	<i>FKHT2</i>																																										
14	{Propane}	<i>PRHT2</i>																																										
15	{District steam}	<i>STHT2</i>																																										
16	{District hot water}	<i>HWHT2</i>																																										
18	{Wood}	<i>WOHT2</i>																																										
19	{Coal}	<i>COHT2</i>																																										
20	{Solar thermal}	<i>SOHT2</i>																																										
21	{Other1}	<i>OTHT2</i>																																										
22	{Other2}	<i>OTHT2</i>																																										
23	{Other3}	<i>OTHT2</i>																																										
24	Some other energy source																																											
99	No other sources for heating																																											
<b>NEXT</b>	IF Some other energy source ➔ D25 [Other source for heating] OTHERWISE ➔ D26 [Main heating routing]																																											


<b>D24</b>	<b>Any other sources for heating</b>	<i>HT2</i>
<b>ASK</b>	IF D21 [Source for main heating] ≠ DK/RF & Only one energy source used	
<p>Were there any other energy sources used for heating?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → D25 [Other source for heating] IF No OR DK/RF → D26 [Main heating routing]	

<b>D25</b>	<b>Other source for heating</b>																															
<b>ASK</b>	IF D23 [Which other sources for heating] = Some other energy source OR D24 [Any 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>ELHT2</i></td> </tr> <tr> <td>12</td> <td>Natural gas</td> <td><i>NGHT2</i></td> </tr> <tr> <td>13</td> <td>Fuel oil/Diesel/Kerosene</td> <td><i>FKHT2</i></td> </tr> <tr> <td>14</td> <td>Propane</td> <td><i>PRHT2</i></td> </tr> <tr> <td>15</td> <td>District steam</td> <td><i>STHT2</i></td> </tr> <tr> <td>16</td> <td>District hot water</td> <td><i>HWHT2</i></td> </tr> <tr> <td>18</td> <td>Wood</td> <td><i>WOHT2</i></td> </tr> <tr> <td>19</td> <td>Coal</td> <td><i>COHT2</i></td> </tr> <tr> <td>20</td> <td>Solar thermal</td> <td><i>SOHT2</i></td> </tr> <tr> <td>24</td> <td>Some other energy source</td> <td><i>OTHT2</i></td> </tr> </table>			11	Electricity	<i>ELHT2</i>	12	Natural gas	<i>NGHT2</i>	13	Fuel oil/Diesel/Kerosene	<i>FKHT2</i>	14	Propane	<i>PRHT2</i>	15	District steam	<i>STHT2</i>	16	District hot water	<i>HWHT2</i>	18	Wood	<i>WOHT2</i>	19	Coal	<i>COHT2</i>	20	Solar thermal	<i>SOHT2</i>	24	Some other energy source	<i>OTHT2</i>
11	Electricity	<i>ELHT2</i>																														
12	Natural gas	<i>NGHT2</i>																														
13	Fuel oil/Diesel/Kerosene	<i>FKHT2</i>																														
14	Propane	<i>PRHT2</i>																														
15	District steam	<i>STHT2</i>																														
16	District hot water	<i>HWHT2</i>																														
18	Wood	<i>WOHT2</i>																														
19	Coal	<i>COHT2</i>																														
20	Solar thermal	<i>SOHT2</i>																														
24	Some other energy source	<i>OTHT2</i>																														
<b>NEXT</b>	→ D26 [Main heating routing]																															


**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 D14 [Energy sources used], if sources are added along the way, such as in D22 [Other source for main heating] OR D25 [Other source for heating], those sources are then also considered to be used.


<b>D26</b>	<b>Main heating routing</b>
<b>NEXT</b>	<p>IF D21 [Source for main heating] OR D22 [Other source for main heating] = Electricity  → D28 [Elec main heating equipment]</p> <p>IF D21 [Source for main heating] OR D22 [Other source for main heating] = Natural gas  → D29 [Nat gas main heating equipment]</p> <p>IF D21 [Source for main heating] OR D22 [Other source for main heating] = Fuel oil/Diesel/Kerosene  → D30 [Fuel oil main heating equipment]</p> <p>IF D21 [Source for main heating] OR D22 [Other source for main heating] = Propane  → D31 [Propane main heating equipment]</p> <p>IF D21 [Source for main heating] OR D22 [Other source for main heating] = District steam  → D32 [District steam distribution]</p> <p>IF D21 [Source for main heating] OR D22 [Other source for main heating] = District hot water  → D33 [District hot water distribution]</p> <p>IF D21 [Source for main heating] OR D22 [Other source for main heating] = Wood  → D34 [Wood main heating equipment]</p> <p>IF D21 [Source for main heating] OR D22 [Other source for main heating] = Coal  → D35 [Coal main heating equipment]</p> <p>IF D21 [Source for main heating] OR D22 [Other source for main heating] = Solar thermal  → D36 [Solar thermal heating equipment]</p> <p>IF D21 [Source for main heating] = {Other} OR  D22 [Other source for main heating] = Some other energy source  → D37 [Other source main heating equipment]</p>


<b>D27</b>	<b>Heating equipment for unknown source</b>	<i>see below</i>																						
<b>ASK</b>	IF D21 [Source for main heating] = DK/REF																							
 SHOW CARD D2																								
<p>Even though you aren't sure of the energy source used for heating this establishment, you may still be familiar with the equipment. Looking at the list of heating equipment and distribution types on Show Card D2, please tell me which one (or ones) are used in this establishment.</p> <ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul> <table style="width: 100%; border: none;"> <tr> <td style="width: 70%;">1 Packaged central units (such as roof mounted units, or RTUs)</td> <td style="width: 30%; text-align: right;"><i>PKGHT</i></td> </tr> <tr> <td>2 Boilers that produce steam or hot water</td> <td style="text-align: right;"><i>BOILER</i></td> </tr> <tr> <td>3 Heat pumps (other than components of a packaged unit)</td> <td style="text-align: right;"><i>HTPMPH</i></td> </tr> <tr> <td>4 Residential-type furnaces</td> <td style="text-align: right;"><i>FURNAC</i></td> </tr> <tr> <td>5 Individual space heaters (other than heat pumps)</td> <td style="text-align: right;"><i>SLFCON</i></td> </tr> <tr> <td>6 Fireplace</td> <td style="text-align: right;"><i>FIREPLC</i></td> </tr> <tr> <td>7 Central air handlers</td> <td style="text-align: right;"><i>AIRHAND</i></td> </tr> <tr> <td>8 Fan coil units</td> <td style="text-align: right;"><i>FANCOIL</i></td> </tr> <tr> <td>9 Duct reheat</td> <td style="text-align: right;"><i>REHEAT</i></td> </tr> <tr> <td>10 Radiators</td> <td style="text-align: right;"><i>RADIATR</i></td> </tr> <tr> <td>11 Other heating equipment</td> <td style="text-align: right;"><i>OTHTEQ</i></td> </tr> </table>			1 Packaged central units (such as roof mounted units, or RTUs)	<i>PKGHT</i>	2 Boilers that produce steam or hot water	<i>BOILER</i>	3 Heat pumps (other than components of a packaged unit)	<i>HTPMPH</i>	4 Residential-type furnaces	<i>FURNAC</i>	5 Individual space heaters (other than heat pumps)	<i>SLFCON</i>	6 Fireplace	<i>FIREPLC</i>	7 Central air handlers	<i>AIRHAND</i>	8 Fan coil units	<i>FANCOIL</i>	9 Duct reheat	<i>REHEAT</i>	10 Radiators	<i>RADIATR</i>	11 Other heating equipment	<i>OTHTEQ</i>
1 Packaged central units (such as roof mounted units, or RTUs)	<i>PKGHT</i>																							
2 Boilers that produce steam or hot water	<i>BOILER</i>																							
3 Heat pumps (other than components of a packaged unit)	<i>HTPMPH</i>																							
4 Residential-type furnaces	<i>FURNAC</i>																							
5 Individual space heaters (other than heat pumps)	<i>SLFCON</i>																							
6 Fireplace	<i>FIREPLC</i>																							
7 Central air handlers	<i>AIRHAND</i>																							
8 Fan coil units	<i>FANCOIL</i>																							
9 Duct reheat	<i>REHEAT</i>																							
10 Radiators	<i>RADIATR</i>																							
11 Other heating equipment	<i>OTHTEQ</i>																							
<b>NEXT</b>	<p>IF Other heating equipment selected → D38 [Unknown source main equip specify]</p> <p>IF D4 [Cooling] = Yes &amp; (Electricity used &amp; NOT District chilled water used)  → D75 [Electricity only used for cooling]</p> <p>IF D4 [Cooling] = Yes &amp; NOT Electricity used &amp; NOT District chilled water used  → D76 [Sources for cooling]</p> <p>IF D4 [Cooling] = Yes &amp; District chilled water used → D77 [EL or CW for cooling]</p> <p>OTHERWISE → D96 [Who has temperature control]</p>																							





<b>D28</b>	<b>Elec main heating equipment</b>	<i>see below</i>														
<b>ASK</b>	IF D21 [Source for main heating] OR D22 [Other source for main heating] = Electricity															
 SHOW CARD D3  Looking at the list of heating equipment types on Show Card D3, please tell me which one (or ones) are powered by <u>electricity</u> in this establishment.																
<ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul>																
<table style="width: 100%; border: none;"> <tr> <td style="width: 70%;">1 Packaged central units (such as roof mounted units, or RTUs)</td> <td style="width: 30%; text-align: right;"><i>PKGHT_EL</i></td> </tr> <tr> <td>2 Boilers that produce steam or hot water</td> <td style="text-align: right;"><i>BOILER_EL</i></td> </tr> <tr> <td>3 Heat pumps (other than components of a packaged unit)</td> <td style="text-align: right;"><i>HTPMPH_EL</i></td> </tr> <tr> <td>4 Residential-type furnaces</td> <td style="text-align: right;"><i>FURNAC_EL</i></td> </tr> <tr> <td>5 Individual space heaters (other than heat pumps)</td> <td style="text-align: right;"><i>SLFCON_EL</i></td> </tr> <tr> <td>6 Duct reheat coils</td> <td style="text-align: right;"><i>REHEAT_EL</i></td> </tr> <tr> <td>7 Other heating equipment</td> <td style="text-align: right;"><i>OTHTEQ_EL</i></td> </tr> </table>			1 Packaged central units (such as roof mounted units, or RTUs)	<i>PKGHT_EL</i>	2 Boilers that produce steam or hot water	<i>BOILER_EL</i>	3 Heat pumps (other than components of a packaged unit)	<i>HTPMPH_EL</i>	4 Residential-type furnaces	<i>FURNAC_EL</i>	5 Individual space heaters (other than heat pumps)	<i>SLFCON_EL</i>	6 Duct reheat coils	<i>REHEAT_EL</i>	7 Other heating equipment	<i>OTHTEQ_EL</i>
1 Packaged central units (such as roof mounted units, or RTUs)	<i>PKGHT_EL</i>															
2 Boilers that produce steam or hot water	<i>BOILER_EL</i>															
3 Heat pumps (other than components of a packaged unit)	<i>HTPMPH_EL</i>															
4 Residential-type furnaces	<i>FURNAC_EL</i>															
5 Individual space heaters (other than heat pumps)	<i>SLFCON_EL</i>															
6 Duct reheat coils	<i>REHEAT_EL</i>															
7 Other heating equipment	<i>OTHTEQ_EL</i>															
<b>NEXT</b>	IF Boiler selected → D39 [Boiler heat distribution] IF Other heating equipment selected → D40 [Elec other main heat equip specify] OTHERWISE → D47 [Secondary heating routing]															


<b>D29</b>	<b>Nat gas main heating equipment</b>	<i>see below</i>														
<b>ASK</b>	IF D21 [Source for main heating] OR D22 [Other source for main heating] = Natural gas															
 SHOW CARD D4  Looking at the list of heating equipment types on Show Card D4, please tell me which one (or ones) are fueled by <u>natural gas</u> in this establishment.																
<ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul>																
<table style="width: 100%; border: none;"> <tr> <td style="width: 70%;">1 Packaged central units (such as roof mounted units, or RTUs)</td> <td style="width: 30%; text-align: right;"><i>PKGHT_NG</i></td> </tr> <tr> <td>2 Boilers that produce steam or hot water</td> <td style="text-align: right;"><i>BOILER_NG</i></td> </tr> <tr> <td>1 Heat pumps (other than components of a packaged unit)</td> <td style="text-align: right;"><i>HTPMPH_NG</i></td> </tr> <tr> <td>4 Residential-type furnaces</td> <td style="text-align: right;"><i>FURNAC_NG</i></td> </tr> <tr> <td>5 Individual space heaters (other than heat pumps)</td> <td style="text-align: right;"><i>SLFCON_NG</i></td> </tr> <tr> <td>6 Fireplace</td> <td style="text-align: right;"><i>FIREPLC_NG</i></td> </tr> <tr> <td>7 Other heating equipment</td> <td style="text-align: right;"><i>OTHTEQ_NG</i></td> </tr> </table>			1 Packaged central units (such as roof mounted units, or RTUs)	<i>PKGHT_NG</i>	2 Boilers that produce steam or hot water	<i>BOILER_NG</i>	1 Heat pumps (other than components of a packaged unit)	<i>HTPMPH_NG</i>	4 Residential-type furnaces	<i>FURNAC_NG</i>	5 Individual space heaters (other than heat pumps)	<i>SLFCON_NG</i>	6 Fireplace	<i>FIREPLC_NG</i>	7 Other heating equipment	<i>OTHTEQ_NG</i>
1 Packaged central units (such as roof mounted units, or RTUs)	<i>PKGHT_NG</i>															
2 Boilers that produce steam or hot water	<i>BOILER_NG</i>															
1 Heat pumps (other than components of a packaged unit)	<i>HTPMPH_NG</i>															
4 Residential-type furnaces	<i>FURNAC_NG</i>															
5 Individual space heaters (other than heat pumps)	<i>SLFCON_NG</i>															
6 Fireplace	<i>FIREPLC_NG</i>															
7 Other heating equipment	<i>OTHTEQ_NG</i>															
<b>NEXT</b>	IF Boiler selected → D39 [Boiler heat distribution] IF Other heating equipment selected → D41 [Nat gas other main heat equip specify] OTHERWISE → D47 [Secondary heating routing]															


<b>D30</b>	<b>Fuel oil main heating equipment</b>	<i>see below</i>								
<b>ASK</b>	IF D21 [Source for main heating] OR D22 [Other source for main heating] = Fuel Oil/Diesel/Kerosene									
<b>FILL</b>	{FuelOilType} = Type or types specified in D15 [Fuel oil, diesel, or kerosene]									
 SHOW CARD D5  Looking at the list of heating equipment types on Show Card D5, please tell me which one (or ones) are fueled by {FuelOilType} in this establishment.										
<ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul>										
<table style="width: 100%; border: none;"> <tr> <td style="width: 80%;">1 Boilers that produce steam or hot water</td> <td style="width: 20%; text-align: right;"><i>BOILER_FK</i></td> </tr> <tr> <td>2 Residential-type furnaces</td> <td style="text-align: right;"><i>FURNAC_FK</i></td> </tr> <tr> <td>3 Individual space heaters (other than heat pumps)</td> <td style="text-align: right;"><i>SLFCON_FK</i></td> </tr> <tr> <td>4 Other heating equipment</td> <td style="text-align: right;"><i>OTHTEQ_FK</i></td> </tr> </table>			1 Boilers that produce steam or hot water	<i>BOILER_FK</i>	2 Residential-type furnaces	<i>FURNAC_FK</i>	3 Individual space heaters (other than heat pumps)	<i>SLFCON_FK</i>	4 Other heating equipment	<i>OTHTEQ_FK</i>
1 Boilers that produce steam or hot water	<i>BOILER_FK</i>									
2 Residential-type furnaces	<i>FURNAC_FK</i>									
3 Individual space heaters (other than heat pumps)	<i>SLFCON_FK</i>									
4 Other heating equipment	<i>OTHTEQ_FK</i>									
<b>NEXT</b>	IF Boiler selected → D39 [Boiler heat distribution] IF Other heating equipment selected → D42 [Fuel oil other main heat equip specify] OTHERWISE → D47 [Secondary heating routing]									

<b>D31</b>	<b>Propane main heating equipment</b>	<i>see below</i>														
<b>ASK</b>	IF D21 [Source for main heating] OR D22 [Other source for main heating] = Propane															
 SHOW CARD D4  Looking at the list of heating equipment types on Show Card D4, please tell me which one (or ones) are fueled by <u>propane</u> in this establishment.																
<ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul>																
<table style="width: 100%; border: none;"> <tr> <td style="width: 80%;">1 Packaged central units (such as roof mounted units, or RTUs)</td> <td style="width: 20%; text-align: right;"><i>PKGHT_PR</i></td> </tr> <tr> <td>2 Boilers that produce steam or hot water</td> <td style="text-align: right;"><i>BOILER_PR</i></td> </tr> <tr> <td>3 Heat pumps (other than components of a packaged unit)</td> <td style="text-align: right;"><i>HTPMPH_PR</i></td> </tr> <tr> <td>4 Residential-type furnaces</td> <td style="text-align: right;"><i>FURNAC_PR</i></td> </tr> <tr> <td>5 Individual space heaters (other than heat pumps)</td> <td style="text-align: right;"><i>SLFCON_PR</i></td> </tr> <tr> <td>6 Fireplace</td> <td style="text-align: right;"><i>FIREPLC_PR</i></td> </tr> <tr> <td>7 Other heating equipment</td> <td style="text-align: right;"><i>OTHTEQ_PR</i></td> </tr> </table>			1 Packaged central units (such as roof mounted units, or RTUs)	<i>PKGHT_PR</i>	2 Boilers that produce steam or hot water	<i>BOILER_PR</i>	3 Heat pumps (other than components of a packaged unit)	<i>HTPMPH_PR</i>	4 Residential-type furnaces	<i>FURNAC_PR</i>	5 Individual space heaters (other than heat pumps)	<i>SLFCON_PR</i>	6 Fireplace	<i>FIREPLC_PR</i>	7 Other heating equipment	<i>OTHTEQ_PR</i>
1 Packaged central units (such as roof mounted units, or RTUs)	<i>PKGHT_PR</i>															
2 Boilers that produce steam or hot water	<i>BOILER_PR</i>															
3 Heat pumps (other than components of a packaged unit)	<i>HTPMPH_PR</i>															
4 Residential-type furnaces	<i>FURNAC_PR</i>															
5 Individual space heaters (other than heat pumps)	<i>SLFCON_PR</i>															
6 Fireplace	<i>FIREPLC_PR</i>															
7 Other heating equipment	<i>OTHTEQ_PR</i>															
<b>NEXT</b>	IF Boiler selected → D39 [Boiler heat distribution] IF Other heating equipment selected → D43 [Propane other main heat equip specify] OTHERWISE → D47 [Secondary heating routing]															


<b>D32</b>	<b>District steam distribution</b>	<i>see below</i>										
<b>ASK</b>	IF D21 [Source for main heating] OR D22 [Other source for main heating] = District steam											
 SHOW CARD D6  Looking at the list of heating distribution types on Show Card D6, please tell me which one (or ones) are used with the <u>district steam</u> in this establishment.												
<ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul>												
<table style="width: 100%; border: none;"> <tr> <td style="width: 70%;">1 Central air handlers</td> <td style="width: 30%; text-align: right;"><i>AIRHAND_ST</i></td> </tr> <tr> <td>2 Fan coil units</td> <td style="text-align: right;"><i>FANCOIL_ST</i></td> </tr> <tr> <td>3 Duct reheat</td> <td style="text-align: right;"><i>REHEAT_ST</i></td> </tr> <tr> <td>4 Radiators</td> <td style="text-align: right;"><i>RADIATR_ST</i></td> </tr> <tr> <td>5 Other distribution equipment</td> <td style="text-align: right;"><i>OTDIST_ST</i></td> </tr> </table>			1 Central air handlers	<i>AIRHAND_ST</i>	2 Fan coil units	<i>FANCOIL_ST</i>	3 Duct reheat	<i>REHEAT_ST</i>	4 Radiators	<i>RADIATR_ST</i>	5 Other distribution equipment	<i>OTDIST_ST</i>
1 Central air handlers	<i>AIRHAND_ST</i>											
2 Fan coil units	<i>FANCOIL_ST</i>											
3 Duct reheat	<i>REHEAT_ST</i>											
4 Radiators	<i>RADIATR_ST</i>											
5 Other distribution equipment	<i>OTDIST_ST</i>											
<b>NEXT</b>	➔ D47 [Secondary heating routing]											

<b>D33</b>	<b>District hot water distribution</b>	<i>see below</i>										
<b>ASK</b>	IF D21 [Source for main heating] OR D22 [Other source for main heating] = District hot water											
 SHOW CARD D6  Looking at the list of heating distribution types on Show Card D6, please tell me which one (or ones) are used with the <u>district hot water</u> in this establishment.												
<ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul>												
<table style="width: 100%; border: none;"> <tr> <td style="width: 70%;">1 Central air handlers</td> <td style="width: 30%; text-align: right;"><i>AIRHAND_HW</i></td> </tr> <tr> <td>2 Fan coil units</td> <td style="text-align: right;"><i>FANCOIL_HW</i></td> </tr> <tr> <td>3 Duct reheat</td> <td style="text-align: right;"><i>REHEAT_HW</i></td> </tr> <tr> <td>4 Radiators</td> <td style="text-align: right;"><i>RADIATR_HW</i></td> </tr> <tr> <td>5 Other distribution equipment</td> <td style="text-align: right;"><i>OTDIST_HW</i></td> </tr> </table>			1 Central air handlers	<i>AIRHAND_HW</i>	2 Fan coil units	<i>FANCOIL_HW</i>	3 Duct reheat	<i>REHEAT_HW</i>	4 Radiators	<i>RADIATR_HW</i>	5 Other distribution equipment	<i>OTDIST_HW</i>
1 Central air handlers	<i>AIRHAND_HW</i>											
2 Fan coil units	<i>FANCOIL_HW</i>											
3 Duct reheat	<i>REHEAT_HW</i>											
4 Radiators	<i>RADIATR_HW</i>											
5 Other distribution equipment	<i>OTDIST_HW</i>											
<b>NEXT</b>	➔ D47 [Secondary heating routing]											


<b>D34</b>	<b>Wood main heating equipment</b> <span style="float: right;"><i>see below</i></span>								
<b>ASK</b>	IF D21 [Source for main heating] OR D22 [Other source for main heating] = Wood								
 SHOW CARD D7  Looking at the list of heating equipment types on Show Card D7, please tell me which one (or ones) are fueled by <u>wood</u> in this establishment. <ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply             <table style="width: 100%; border: none;"> <tr> <td style="width: 80%;">1 Residential-type furnaces</td> <td style="text-align: right;"><i>FURNAC_WO</i></td> </tr> <tr> <td>2 Individual space heaters (other than heat pumps)</td> <td style="text-align: right;"><i>SLFCON_WO</i></td> </tr> <tr> <td>3 Fireplace</td> <td style="text-align: right;"><i>FIREPLC_WO</i></td> </tr> <tr> <td>4 Other heating equipment</td> <td style="text-align: right;"><i>OTHTEQ_WO</i></td> </tr> </table> </li> </ul>		1 Residential-type furnaces	<i>FURNAC_WO</i>	2 Individual space heaters (other than heat pumps)	<i>SLFCON_WO</i>	3 Fireplace	<i>FIREPLC_WO</i>	4 Other heating equipment	<i>OTHTEQ_WO</i>
1 Residential-type furnaces	<i>FURNAC_WO</i>								
2 Individual space heaters (other than heat pumps)	<i>SLFCON_WO</i>								
3 Fireplace	<i>FIREPLC_WO</i>								
4 Other heating equipment	<i>OTHTEQ_WO</i>								
<b>NEXT</b>	IF Other heating equipment selected → D44 [Wood other main heat equip specify] OTHERWISE → D47 [Secondary heating routing]								

<b>D35</b>	<b>Coal main heating equipment</b> <span style="float: right;"><i>see below</i></span>						
<b>ASK</b>	IF D21 [Source for main heating] OR D22 [Other source for main heating] = Coal						
 SHOW CARD D8  Looking at the list of heating equipment types on Show Card D8, please tell me which one (or ones) are fueled by <u>coal</u> in this establishment. <ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply             <table style="width: 100%; border: none;"> <tr> <td style="width: 80%;">1 Boilers that produce steam or hot water</td> <td style="text-align: right;"><i>BOILER_CO</i></td> </tr> <tr> <td>2 Residential-type furnaces</td> <td style="text-align: right;"><i>FURNAC_WO</i></td> </tr> <tr> <td>3 Other heating equipment</td> <td style="text-align: right;"><i>OTHTEQ_CO</i></td> </tr> </table> </li> </ul>		1 Boilers that produce steam or hot water	<i>BOILER_CO</i>	2 Residential-type furnaces	<i>FURNAC_WO</i>	3 Other heating equipment	<i>OTHTEQ_CO</i>
1 Boilers that produce steam or hot water	<i>BOILER_CO</i>						
2 Residential-type furnaces	<i>FURNAC_WO</i>						
3 Other heating equipment	<i>OTHTEQ_CO</i>						
<b>NEXT</b>	IF Boiler selected → D39 [Boiler heat distribution] IF Other heating equipment selected → D45 [Coal other main heat equip specify] OTHERWISE → D47 [Secondary heating routing]						

<b>D36</b>	<b>Solar thermal heating equipment</b>
<b>ASK</b>	IF D21 [Source for main heating] OR D22 [Other source for main heating] = Solar thermal
Please describe the solar thermal heating system. <ul style="list-style-type: none"> <li>◆ RECORD in open box</li> </ul>	
<b>NEXT</b>	→ D47 [Secondary heating routing]

<b>D37</b>	<b>Other source main heating equipment</b>	<i>see below</i>										
<b>ASK</b>	IF D21 [Source for main heating] = {Other} OR D22 [Other source for main heating] = Some other energy source											
 SHOW CARD D9  Looking at the list of heating equipment types on Show Card D9, please tell me which one (or ones) are fueled by <u>the other energy source</u> in this establishment. <ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul> <table style="width: 100%; border: none;"> <tr> <td style="width: 80%;">1 Packaged central units (such as roof mounted units, or RTUs)</td> <td style="width: 20%; text-align: right;"><i>PKGHT_OT</i></td> </tr> <tr> <td>2 Boilers that produce steam or hot water</td> <td style="text-align: right;"><i>BOILER_OT</i></td> </tr> <tr> <td>3 Residential-type furnaces</td> <td style="text-align: right;"><i>FURNAC_OT</i></td> </tr> <tr> <td>4 Individual space heaters (other than heat pumps)</td> <td style="text-align: right;"><i>SLFCON_OT</i></td> </tr> <tr> <td>5 Other heating equipment</td> <td style="text-align: right;"><i>OTHTEQ_OT</i></td> </tr> </table>			1 Packaged central units (such as roof mounted units, or RTUs)	<i>PKGHT_OT</i>	2 Boilers that produce steam or hot water	<i>BOILER_OT</i>	3 Residential-type furnaces	<i>FURNAC_OT</i>	4 Individual space heaters (other than heat pumps)	<i>SLFCON_OT</i>	5 Other heating equipment	<i>OTHTEQ_OT</i>
1 Packaged central units (such as roof mounted units, or RTUs)	<i>PKGHT_OT</i>											
2 Boilers that produce steam or hot water	<i>BOILER_OT</i>											
3 Residential-type furnaces	<i>FURNAC_OT</i>											
4 Individual space heaters (other than heat pumps)	<i>SLFCON_OT</i>											
5 Other heating equipment	<i>OTHTEQ_OT</i>											
<b>NEXT</b>	IF Boiler selected → D39 [Boiler heat distribution] IF Other heating equipment selected → D46 [Other source other main heat specify] OTHERWISE → D47 [Secondary heating routing]											

<b>D38</b>	<b>Unknown source main equip specify</b>
<b>ASK</b>	IF D27 [Heating equipment for unknown source] = Other heating equipment
Please describe the other type of heating equipment. <ul style="list-style-type: none"> <li>◆ RECORD in open box</li> </ul>	
<b>NEXT</b>	IF D4 [Cooling] = Yes & (Electricity used & NOT District chilled water used) → D75 [Electricity only used for cooling] IF D4 [Cooling] = Yes & NOT Electricity used & NOT District chilled water used → D76 [Sources for cooling] IF D4 [Cooling] = Yes & District chilled water used → D77 [EL or CW for cooling] OTHERWISE → D96 [Who has temperature control]

<b>D39</b>	<b>Boiler heat distribution</b>	<i>see below</i>		
<b>ASK</b>	IF Boilers IN D28 [Elec main heating equipment] OR D29 [Nat gas main heating equipment] OR D30 [Fuel oil main heating equipment] OR D31 [Propane main heating equipment] OR D35 [Coal main heating equipment] OR D37 [Other source main heating equipment]			
 SHOW CARD D6  Looking at the list of heating distribution types on Show Card D6, please tell me which one (or ones) are used with the <u>boiler</u> in this establishment.				
<ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul>				
<table style="width: 100%; border: none;"> <tr> <td style="width: 60%; border: none;"> <ol style="list-style-type: none"> <li>1 Central air handlers</li> <li>2 Fan coil units</li> <li>3 Duct reheat</li> <li>4 Radiators</li> <li>5 Other distribution equipment</li> </ol> </td> <td style="width: 40%; border: none; vertical-align: top;"> <i>BLRAIR BLRFNCL BLRDUCT BLRRAD BLROTDIST</i> </td> </tr> </table>			<ol style="list-style-type: none"> <li>1 Central air handlers</li> <li>2 Fan coil units</li> <li>3 Duct reheat</li> <li>4 Radiators</li> <li>5 Other distribution equipment</li> </ol>	<i>BLRAIR BLRFNCL BLRDUCT BLRRAD BLROTDIST</i>
<ol style="list-style-type: none"> <li>1 Central air handlers</li> <li>2 Fan coil units</li> <li>3 Duct reheat</li> <li>4 Radiators</li> <li>5 Other distribution equipment</li> </ol>	<i>BLRAIR BLRFNCL BLRDUCT BLRRAD BLROTDIST</i>			
<b>NEXT</b>	IF Other heating equipment IN D28 [Elec main heating equipment] ➔ D40 [Elec other main heat equip specify] IF Other heating equipment IN D29 [Nat gas main heating equipment] ➔ D41 [Nat gas other main heat equip specify] IF Other heating equipment IN D30 [Fuel oil main heating equipment] ➔ D42 [Fuel oil other main heat equip specify] IF Other heating equipment IN D31 [Propane main heating equipment] ➔ D43 [Propane other main heat equip specify] IF Other heating equipment IN D34 [Wood main heating equipment] ➔ D44 [Wood other main heat equip specify] IF Other heating equipment IN D35 [Coal main heating equipment] ➔ D45 [Coal other main heat equip specify] IF Other heating equipment IN D37 [Other source main heating equipment] ➔ D46 [Other source other main heat specify] OTHERWISE ➔ D47 [Secondary heating routing]			

<b>D40</b>	<b>Elec other main heat equip specify</b>
<b>ASK</b>	IF D28 [Elec main heating equipment] = Other heating equipment
Please describe the other type of heating equipment that is powered by electricity.	
<ul style="list-style-type: none"> <li>◆ RECORD in open box</li> </ul>	
<b>NEXT</b>	➔ D47 [Secondary heating routing]

<b>D41</b>	<b>Nat gas other main heat equip specify</b>
<b>ASK</b>	IF D29 [Nat gas main heating equipment] = Other heating equipment
<p>Please describe the other type of heating equipment that is fueled by natural gas.</p> <p>◆ RECORD in open box</p>	
<b>NEXT</b>	➔ D47 [Secondary heating routing]

<b>D42</b>	<b>Fuel oil other main heat equip specify</b>
<b>ASK</b>	IF D30 [Fuel oil main heating equipment] = Other heating equipment
<b>FILL</b>	{FuelOilType} = Type or types specified in D15 [Fuel oil, diesel, or kerosene]
<p>Please describe the other type of heating equipment that is fueled by {FuelOilType}.</p> <p>◆ RECORD in open box</p>	
<b>NEXT</b>	➔ D47 [Secondary heating routing]

<b>D43</b>	<b>Propane other main heat equip specify</b>
<b>ASK</b>	IF D31 [Propane main heating equipment] = Other heating equipment
<p>Please describe the other type of heating equipment that is fueled by propane.</p> <p>◆ RECORD in open box</p>	
<b>NEXT</b>	➔ D47 [Secondary heating routing]


<b>D44</b>	<b>Wood other main heat equip specify</b>
<b>ASK</b>	IF D34 [Wood main heating equipment] = Other heating equipment
<p>Please describe the other type of heating equipment that is fueled by wood.</p> <p>◆ RECORD in open box</p>	
<b>NEXT</b>	➔ D47 [Secondary heating routing]


<b>D45</b>	<b>Coal other main heat equip specify</b>
<b>ASK</b>	IF D35 [Coal main heating equipment] = Other heating equipment
<p>Please describe the other type of heating equipment that is fueled by coal.</p> <p>◆ RECORD in open box</p>	
<b>NEXT</b>	➔ D47 [Secondary heating routing]

<b>D46</b>	<b>Other source other main heat specify</b>
<b>ASK</b>	IF D37 [Other source main heating equipment] = Other heating equipment
<p>Please describe the other type of heating equipment that is fueled by the other energy source.</p> <p>◆ RECORD in open box</p>	
<b>NEXT</b>	➔ D47 [Secondary heating routing]





D47	Secondary heating routing	
NEXT	STEP 1	IF Electricity IN D23 [Which other sources for heating] OR D25 [Other source for heating] → D48 [Elec secondary heating equipment]
	STEP 2	IF Natural gas IN D23 [Which other sources for heating] OR D25 [Other source for heating] → D51 [Nat gas secondary heating equipment]
	STEP 3	IF Fuel Oil/Diesel/Kerosene IN D23 [Which other sources for heating] OR D25 [Other source for heating] → D54 [Fuel oil secondary heating equipment]
	STEP 4	IF Propane IN D23 [Which other sources for heating] OR D25 [Other source for heating] → D57 [Propane secondary heating equipment]
	STEP 5	IF District steam IN D23 [Which other sources for heating] OR D25 [Other source for heating] → D60 [District steam distribution]
	STEP 6	IF District hot water IN D23 [Which other sources for heating] OR D25 [Other source for heating] → D61 [District hot water distribution]
	STEP 7	IF Wood IN D23 [Which other sources for heating] OR D25 [Other source for heating] → D62 [Wood secondary heating equipment]
	STEP 8	IF Coal IN D23 [Which other sources for heating] OR D25 [Other source for heating] → D64 [Coal secondary heating equipment]
	STEP 9	IF Solar thermal IN D23 [Which other sources for heating] OR D25 [Other source for heating] → D67 [Solar thermal secondary heating]
	STEP 10	IF {Other} IN D23 [Which other sources for heating] OR D25 [Other source for heating] = Some other energy source → D68 [Other source secondary heating]
	STEP 11	IF (Furnaces IN D28 [Elec main heating equipment] OR D48 [Elec secondary heating equipment]) & Furnaces for any other source main or secondary heating equipment → D71 [Furnace with >1 source] IF Boilers for Two or more main or secondary heating equipment → D72 [Boiler with >1 source] IF Heat pumps IN D29 [Nat gas main heating equipment] OR D31 [Propane main heating equipment] OR D51 [Nat gas secondary heating equipment] OR D57 [Propane secondary heating equipment] & NOT (Heat pumps IN D28 [Elec main heating equipment] OR D48 [Elec secondary heating equipment]) → D73 [Heat pump with no elec] IF Heat pumps for any other heating source → D74 [Heat pump heating type] IF D4 [Cooling] = Yes & (Electricity used & NOT District chilled water used) → D75 [Electricity only used for cooling] IF D4 [Cooling] = Yes & NOT Electricity used & NOT District chilled water used → D76 [Sources for cooling] IF D4 [Cooling] = Yes & District chilled water used → D77 [EL or CW for cooling] OTHERWISE → D96 [Who has temperature control]

<b>D48</b>	<b>Elec secondary heating equipment</b>	<i>see below</i>														
<b>ASK</b>	IF Electricity IN D23 [Which other sources for heating] OR D25 [Other source for heating]															
 SHOW CARD D3  You mentioned that electricity was also used for heating. Looking at the list of heating equipment types on Show Card D3, please tell me which one (or ones) are powered by <u>electricity</u> in this establishment.																
<ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul>																
<table style="width: 100%; border: none;"> <tr> <td style="width: 70%;">1 Packaged central units (such as roof mounted units, or RTUs)</td> <td style="width: 30%; text-align: right;"><i>PKGHT_EL</i></td> </tr> <tr> <td>2 Boilers that produce steam or hot water</td> <td style="text-align: right;"><i>BOILER_EL</i></td> </tr> <tr> <td>3 Heat pumps (other than components of a packaged unit)</td> <td style="text-align: right;"><i>HTPMPH_EL</i></td> </tr> <tr> <td>4 Residential-type furnaces</td> <td style="text-align: right;"><i>FURNAC_EL</i></td> </tr> <tr> <td>5 Individual space heaters (other than heat pumps)</td> <td style="text-align: right;"><i>SLFCON_EL</i></td> </tr> <tr> <td>6 Duct reheat coils</td> <td style="text-align: right;"><i>REHEAT_EL</i></td> </tr> <tr> <td>7 Other heating equipment</td> <td style="text-align: right;"><i>OTHTEQ_EL</i></td> </tr> </table>			1 Packaged central units (such as roof mounted units, or RTUs)	<i>PKGHT_EL</i>	2 Boilers that produce steam or hot water	<i>BOILER_EL</i>	3 Heat pumps (other than components of a packaged unit)	<i>HTPMPH_EL</i>	4 Residential-type furnaces	<i>FURNAC_EL</i>	5 Individual space heaters (other than heat pumps)	<i>SLFCON_EL</i>	6 Duct reheat coils	<i>REHEAT_EL</i>	7 Other heating equipment	<i>OTHTEQ_EL</i>
1 Packaged central units (such as roof mounted units, or RTUs)	<i>PKGHT_EL</i>															
2 Boilers that produce steam or hot water	<i>BOILER_EL</i>															
3 Heat pumps (other than components of a packaged unit)	<i>HTPMPH_EL</i>															
4 Residential-type furnaces	<i>FURNAC_EL</i>															
5 Individual space heaters (other than heat pumps)	<i>SLFCON_EL</i>															
6 Duct reheat coils	<i>REHEAT_EL</i>															
7 Other heating equipment	<i>OTHTEQ_EL</i>															
<b>NEXT</b>	IF Boiler selected → D49 [Elec boiler heat distribution] IF Other heating equipment selected → D50 [Elec other secondary heat equip] OTHERWISE → D47 [Secondary heating routing] STEP 2															


<b>D49</b>	<b>Elec boiler heat distribution</b>	<i>see below</i>										
<b>ASK</b>	IF Boilers IN D48 [Elec secondary heating equipment]											
 SHOW CARD D6  Looking at the list of heating distribution types on Show Card D6, please tell me which one (or ones) are used with the <u>electric boiler</u> in this establishment.												
<ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul>												
<table style="width: 100%; border: none;"> <tr> <td style="width: 70%;">1 Central air handlers</td> <td style="width: 30%; text-align: right;"><i>BLRAIR_EL</i></td> </tr> <tr> <td>2 Fan coil units</td> <td style="text-align: right;"><i>BLRFNCL_EL</i></td> </tr> <tr> <td>3 Duct reheat</td> <td style="text-align: right;"><i>BLRDUCT_EL</i></td> </tr> <tr> <td>4 Radiators</td> <td style="text-align: right;"><i>BLRRAD_EL</i></td> </tr> <tr> <td>5 Other distribution equipment</td> <td style="text-align: right;"><i>BLROTDIST_EL</i></td> </tr> </table>			1 Central air handlers	<i>BLRAIR_EL</i>	2 Fan coil units	<i>BLRFNCL_EL</i>	3 Duct reheat	<i>BLRDUCT_EL</i>	4 Radiators	<i>BLRRAD_EL</i>	5 Other distribution equipment	<i>BLROTDIST_EL</i>
1 Central air handlers	<i>BLRAIR_EL</i>											
2 Fan coil units	<i>BLRFNCL_EL</i>											
3 Duct reheat	<i>BLRDUCT_EL</i>											
4 Radiators	<i>BLRRAD_EL</i>											
5 Other distribution equipment	<i>BLROTDIST_EL</i>											
<b>NEXT</b>	IF Other heating equipment IN D48 [Elec secondary heating equipment] → D50 [Elec other secondary heat equip] OTHERWISE → D47 [Secondary heating routing] STEP 2											


<b>D50</b>	<b>Elec other secondary heat equip</b>
<b>ASK</b>	IF Other heating equipment IN D48 [Elec secondary heating equipment]
<p>Please describe the other type of heating equipment that is powered by electricity.</p> <p>◆ RECORD in open box</p>	
<b>NEXT</b>	➔ D47 [Secondary heating routing] STEP 2

<b>D51</b>	<b>Nat gas secondary heating equipment</b> <span style="float: right;"><i>see below</i></span>														
<b>ASK</b>	IF Natural gas IN D23 [Which other sources for heating] OR D25 [Other source for heating]														
<p> SHOW CARD D4</p> <p>You mentioned that natural gas was also used for heating. Looking at the list of heating equipment types on Show Card D4, please tell me which one (or ones) are fueled by <u>natural gas</u> in this establishment.</p> <p>◆ PROBE for any others</p> <p>◆ ENTER all that apply</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 80%;">1 Packaged central units (such as roof mounted units, or RTUs)</td> <td style="width: 20%; text-align: right;"><i>PKGHT_NG</i></td> </tr> <tr> <td>2 Boilers that produce steam or hot water</td> <td style="text-align: right;"><i>BOILER_NG</i></td> </tr> <tr> <td>3 Heat pumps (other than components of a packaged unit)</td> <td style="text-align: right;"><i>HTPMPH_NG</i></td> </tr> <tr> <td>4 Residential-type furnaces</td> <td style="text-align: right;"><i>FURNAC_NG</i></td> </tr> <tr> <td>5 Individual space heaters (other than heat pumps)</td> <td style="text-align: right;"><i>SLFCO_NG</i></td> </tr> <tr> <td>6 Fireplace</td> <td style="text-align: right;"><i>FIREPLC_NG</i></td> </tr> <tr> <td>7 Other heating equipment</td> <td style="text-align: right;"><i>OTHTEQ_NG</i></td> </tr> </table>		1 Packaged central units (such as roof mounted units, or RTUs)	<i>PKGHT_NG</i>	2 Boilers that produce steam or hot water	<i>BOILER_NG</i>	3 Heat pumps (other than components of a packaged unit)	<i>HTPMPH_NG</i>	4 Residential-type furnaces	<i>FURNAC_NG</i>	5 Individual space heaters (other than heat pumps)	<i>SLFCO_NG</i>	6 Fireplace	<i>FIREPLC_NG</i>	7 Other heating equipment	<i>OTHTEQ_NG</i>
1 Packaged central units (such as roof mounted units, or RTUs)	<i>PKGHT_NG</i>														
2 Boilers that produce steam or hot water	<i>BOILER_NG</i>														
3 Heat pumps (other than components of a packaged unit)	<i>HTPMPH_NG</i>														
4 Residential-type furnaces	<i>FURNAC_NG</i>														
5 Individual space heaters (other than heat pumps)	<i>SLFCO_NG</i>														
6 Fireplace	<i>FIREPLC_NG</i>														
7 Other heating equipment	<i>OTHTEQ_NG</i>														
<b>NEXT</b>	IF Boiler selected ➔ D52 [Nat gas boiler heat distribution] IF Other heating equipment selected ➔ D53 [Nat gas other secondary heat equip] OTHERWISE ➔ D47 [Secondary heating routing] STEP 3														


<b>D52</b>	<b>Nat gas boiler heat distribution</b>	<i>see below</i>										
<b>ASK</b>	IF Boilers IN D51 [Nat gas secondary heating equipment]											
	 SHOW CARD D6  Looking at the list of heating distribution types on Show Card D6, please tell me which one (or ones) are used with the <u>natural gas boiler</u> in this establishment. <ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply           <table style="width: 100%; border: none;"> <tr> <td style="width: 70%;">1 Central air handlers</td> <td style="width: 30%; text-align: right;"><i>BLRAIR_NG</i></td> </tr> <tr> <td>2 Fan coil units</td> <td style="text-align: right;"><i>BLRFNCL_NG</i></td> </tr> <tr> <td>3 Duct reheat</td> <td style="text-align: right;"><i>BLRDUCT_NG</i></td> </tr> <tr> <td>4 Radiators</td> <td style="text-align: right;"><i>BLRRAD_NG</i></td> </tr> <tr> <td>5 Other distribution equipment</td> <td style="text-align: right;"><i>BLROTDIST_NG</i></td> </tr> </table> </li> </ul>		1 Central air handlers	<i>BLRAIR_NG</i>	2 Fan coil units	<i>BLRFNCL_NG</i>	3 Duct reheat	<i>BLRDUCT_NG</i>	4 Radiators	<i>BLRRAD_NG</i>	5 Other distribution equipment	<i>BLROTDIST_NG</i>
1 Central air handlers	<i>BLRAIR_NG</i>											
2 Fan coil units	<i>BLRFNCL_NG</i>											
3 Duct reheat	<i>BLRDUCT_NG</i>											
4 Radiators	<i>BLRRAD_NG</i>											
5 Other distribution equipment	<i>BLROTDIST_NG</i>											
<b>NEXT</b>	IF Other heating equipment IN D51 [Nat gas secondary heating equipment] ➔ D53 [Nat gas other secondary heat equip] OTHERWISE ➔ D47 [Secondary heating routing] STEP 3											


<b>D53</b>	<b>Nat gas other secondary heat equip</b>	
<b>ASK</b>	IF Other heating equipment IN D51 [Nat gas secondary heating equipment]	
	Please describe the other type of heating equipment that is fueled by natural gas. <ul style="list-style-type: none"> <li>◆ RECORD in open box</li> </ul>	
<b>NEXT</b>	➔ D47 [Secondary heating routing] STEP 3	

<b>D54</b>	<b>Fuel oil secondary heating equipment</b> <span style="float: right;"><i>see below</i></span>								
<b>ASK</b>	IF Fuel Oil/Diesel/Kerosene IN D23 [Which other sources for heating] OR D25 [Other source for heating]								
<b>FILL</b>	{FuelOilType} = Type or types specified in D15 [Fuel oil, diesel, or kerosene]								
 SHOW CARD D5  You mentioned that {FuelOilType} was also used for heating. Looking at the list of heating equipment types on Show Card D5, please tell me which one (or ones) fueled by {FuelOilType} in this establishment. <ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul> <table style="width: 100%; border: none;"> <tr> <td style="width: 80%;">1 Boilers that produce steam or hot water</td> <td style="text-align: right;"><i>BOILER_FK</i></td> </tr> <tr> <td>2 Residential-type furnaces</td> <td style="text-align: right;"><i>FURNAC_FK</i></td> </tr> <tr> <td>3 Individual space heaters (other than heat pumps)</td> <td style="text-align: right;"><i>SLFCON_FK</i></td> </tr> <tr> <td>4 Other heating equipment</td> <td style="text-align: right;"><i>OTHTEQ_FK</i></td> </tr> </table>		1 Boilers that produce steam or hot water	<i>BOILER_FK</i>	2 Residential-type furnaces	<i>FURNAC_FK</i>	3 Individual space heaters (other than heat pumps)	<i>SLFCON_FK</i>	4 Other heating equipment	<i>OTHTEQ_FK</i>
1 Boilers that produce steam or hot water	<i>BOILER_FK</i>								
2 Residential-type furnaces	<i>FURNAC_FK</i>								
3 Individual space heaters (other than heat pumps)	<i>SLFCON_FK</i>								
4 Other heating equipment	<i>OTHTEQ_FK</i>								
<b>NEXT</b>	IF Boiler selected → D55 [Fuel oil boiler heat distribution] IF Other heating equipment selected → D56 [Fuel oil other secondary heat equip] OTHERWISE → D47 [Secondary heating routing] STEP 4								


<b>D55</b>	<b>Fuel oil boiler heat distribution</b> <span style="float: right;"><i>see below</i></span>										
<b>ASK</b>	IF Boilers IN D54 [Fuel oil secondary heating equipment]										
<b>FILL</b>	{FuelOilType} = Type or types specified in D15 [Fuel oil, diesel, or kerosene]										
 SHOW CARD D6  Looking at the list of heating distribution types on Show Card D6, please tell me which one (or ones) are used with the {FuelOilType} boiler in this establishment. <ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul> <table style="width: 100%; border: none;"> <tr> <td style="width: 80%;">1 Central air handlers</td> <td style="text-align: right;"><i>BLRAIR_FK</i></td> </tr> <tr> <td>2 Fan coil units</td> <td style="text-align: right;"><i>BLRFNCL_FK</i></td> </tr> <tr> <td>3 Duct reheat</td> <td style="text-align: right;"><i>BLRDUCT_FK</i></td> </tr> <tr> <td>4 Radiators</td> <td style="text-align: right;"><i>BLRRAD_FK</i></td> </tr> <tr> <td>5 Other distribution equipment</td> <td style="text-align: right;"><i>BLROTDIST_FK</i></td> </tr> </table>		1 Central air handlers	<i>BLRAIR_FK</i>	2 Fan coil units	<i>BLRFNCL_FK</i>	3 Duct reheat	<i>BLRDUCT_FK</i>	4 Radiators	<i>BLRRAD_FK</i>	5 Other distribution equipment	<i>BLROTDIST_FK</i>
1 Central air handlers	<i>BLRAIR_FK</i>										
2 Fan coil units	<i>BLRFNCL_FK</i>										
3 Duct reheat	<i>BLRDUCT_FK</i>										
4 Radiators	<i>BLRRAD_FK</i>										
5 Other distribution equipment	<i>BLROTDIST_FK</i>										
<b>NEXT</b>	IF Other heating equipment IN D54 [Fuel oil secondary heating equipment] → D56 [Fuel oil other secondary heat equip] OTHERWISE → D47 [Secondary heating routing] STEP 4										


<b>D56</b>	<b>Fuel oil other secondary heat equip</b>
<b>ASK</b>	IF Other heating equipment IN D54 [Fuel oil secondary heating equipment]
<b>FILL</b>	{FuelOilType} = Type or types specified in D15 [Fuel oil, diesel, or kerosene]
<p>Please describe the other type of heating equipment that is fueled by {FuelOilType}.</p> <p>◆ RECORD in open box</p>	
<b>NEXT</b>	➔ D47 [Secondary heating routing] STEP 4


<b>D57</b>	<b>Propane secondary heating equipment</b> <span style="float: right;"><i>see below</i></span>														
<b>ASK</b>	IF Propane IN D23 [Which other sources for heating] OR D25 [Other source for heating]														
<p> SHOW CARD D4</p> <p>You mentioned that propane was also used for heating. Looking at the list of heating equipment types on Show Card D4, please tell me which one (or ones) are fueled by <u>propane</u> in this establishment.</p> <p>◆ PROBE for any others</p> <p>◆ ENTER all that apply</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 80%;">1 Packaged central units (such as roof mounted units, or RTUs)</td> <td style="width: 20%; text-align: right;"><i>PKGHT_PR</i></td> </tr> <tr> <td>2 Boilers that produce steam or hot water</td> <td style="text-align: right;"><i>BOILER_PR</i></td> </tr> <tr> <td>3 Heat pumps (other than components of a packaged unit)</td> <td style="text-align: right;"><i>HTPMPH_PR</i></td> </tr> <tr> <td>4 Residential-type furnaces</td> <td style="text-align: right;"><i>FURNAC_PR</i></td> </tr> <tr> <td>5 Individual space heaters (other than heat pumps)</td> <td style="text-align: right;"><i>SLFCON_PR</i></td> </tr> <tr> <td>6 Fireplace</td> <td style="text-align: right;"><i>FIREPLC_PR</i></td> </tr> <tr> <td>7 Other heating equipment</td> <td style="text-align: right;"><i>OTHTEQ_PR</i></td> </tr> </table>		1 Packaged central units (such as roof mounted units, or RTUs)	<i>PKGHT_PR</i>	2 Boilers that produce steam or hot water	<i>BOILER_PR</i>	3 Heat pumps (other than components of a packaged unit)	<i>HTPMPH_PR</i>	4 Residential-type furnaces	<i>FURNAC_PR</i>	5 Individual space heaters (other than heat pumps)	<i>SLFCON_PR</i>	6 Fireplace	<i>FIREPLC_PR</i>	7 Other heating equipment	<i>OTHTEQ_PR</i>
1 Packaged central units (such as roof mounted units, or RTUs)	<i>PKGHT_PR</i>														
2 Boilers that produce steam or hot water	<i>BOILER_PR</i>														
3 Heat pumps (other than components of a packaged unit)	<i>HTPMPH_PR</i>														
4 Residential-type furnaces	<i>FURNAC_PR</i>														
5 Individual space heaters (other than heat pumps)	<i>SLFCON_PR</i>														
6 Fireplace	<i>FIREPLC_PR</i>														
7 Other heating equipment	<i>OTHTEQ_PR</i>														
<b>NEXT</b>	IF Boiler selected ➔ D58 [Propane boiler heat distribution] IF Other heating equipment selected ➔ D59 [Propane other secondary heat equip] OTHERWISE ➔ D47 [Secondary heating routing] STEP 5														

<b>D58</b>	<b>Propane boiler heat distribution</b>	<i>see below</i>
<b>ASK</b>	IF Boilers IN D57 [Propane secondary heating equipment]	
 SHOW CARD D6  Looking at the list of heating distribution types on Show Card D6, please tell me which one (or ones) are used with the <u>propane boiler</u> in this establishment.		
<ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply           <ol style="list-style-type: none"> <li>1 Central air handlers <span style="float: right;"><i>BLRAIR_FK</i></span></li> <li>2 Fan coil units <span style="float: right;"><i>BLRFNCL_FK</i></span></li> <li>3 Duct reheat <span style="float: right;"><i>BLRDUCT_FK</i></span></li> <li>4 Radiators <span style="float: right;"><i>BLRRAD_FK</i></span></li> <li>5 Other distribution equipment <span style="float: right;"><i>BLROTDIST_FK</i></span></li> </ol> </li> </ul>		
<b>NEXT</b>	IF Other heating equipment IN D57 [Propane secondary heating equipment] ➔ D59 [Propane other secondary heat equip] OTHERWISE ➔ D47 [Secondary heating routing] STEP 5	

<b>D59</b>	<b>Propane other secondary heat equip</b>	
<b>ASK</b>	IF Other heating equipment IN D57 [Propane secondary heating equipment]	
Please describe the other type of heating equipment that is fueled by propane.		
<ul style="list-style-type: none"> <li>◆ RECORD in open box</li> </ul>		
<b>NEXT</b>	➔ D47 [Secondary heating routing] STEP 5	


<b>D60</b>	<b>District steam distribution</b>	<i>see below</i>
<b>ASK</b>	IF District steam IN D23 [Which other sources for heating] OR D25 [Other source for heating]	
 SHOW CARD D6  Looking at the list of heating distribution types on Show Card D6, please tell me which one (or ones) are used with the <u>district steam</u> in this establishment.		
<ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply           <ol style="list-style-type: none"> <li>1 Central air handlers <span style="float: right;"><i>AIRHAND_ST</i></span></li> <li>2 Fan coil units <span style="float: right;"><i>FANCOIL_ST</i></span></li> <li>3 Duct reheat <span style="float: right;"><i>REHEAT_ST</i></span></li> <li>4 Radiators <span style="float: right;"><i>RADIATR_ST</i></span></li> <li>5 Other distribution equipment <span style="float: right;"><i>OTDIST_ST</i></span></li> </ol> </li> </ul>		
<b>NEXT</b>	➔ D47 [Secondary heating routing] STEP 6	


<b>D61</b>	<b>District hot water distribution</b>	<i>see below</i>										
<b>ASK</b>	IF District hot water IN D23 [Which other sources for heating] OR D25 [Other source for heating]											
 SHOW CARD D6  Looking at the list of heating distribution types on Show Card D6, please tell me which one (or ones) are used with the <u>district hot water</u> in this establishment.												
<ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply           <table style="width: 100%; border: none;"> <tr> <td style="width: 80%;">1 Central air handlers</td> <td style="text-align: right;"><i>AIRHAND_HW</i></td> </tr> <tr> <td>2 Fan coil units</td> <td style="text-align: right;"><i>FANCOIL_HW</i></td> </tr> <tr> <td>3 Duct reheat</td> <td style="text-align: right;"><i>REHEAT_HW</i></td> </tr> <tr> <td>4 Radiators</td> <td style="text-align: right;"><i>RADIATR_HW</i></td> </tr> <tr> <td>5 Other distribution equipment</td> <td style="text-align: right;"><i>OTDIST_HW</i></td> </tr> </table> </li> </ul>			1 Central air handlers	<i>AIRHAND_HW</i>	2 Fan coil units	<i>FANCOIL_HW</i>	3 Duct reheat	<i>REHEAT_HW</i>	4 Radiators	<i>RADIATR_HW</i>	5 Other distribution equipment	<i>OTDIST_HW</i>
1 Central air handlers	<i>AIRHAND_HW</i>											
2 Fan coil units	<i>FANCOIL_HW</i>											
3 Duct reheat	<i>REHEAT_HW</i>											
4 Radiators	<i>RADIATR_HW</i>											
5 Other distribution equipment	<i>OTDIST_HW</i>											
<b>NEXT</b>	➔ D47 [Secondary heating routing] STEP 7											

<b>D62</b>	<b>Wood secondary heating equipment</b>	<i>see below</i>								
<b>ASK</b>	IF Wood IN D23 [Which other sources for heating] OR D25 [Other source for heating]									
 SHOW CARD D7  You mentioned that wood was also used for heating. Looking at the list of heating equipment types on Show Card D7, please tell me which one (or ones) are fueled by <u>wood</u> in this establishment.										
<ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply           <table style="width: 100%; border: none;"> <tr> <td style="width: 80%;">1 Residential-type furnaces</td> <td style="text-align: right;"><i>FURNAC_WO</i></td> </tr> <tr> <td>2 Individual space heaters (other than heat pumps)</td> <td style="text-align: right;"><i>SLFCON_WO</i></td> </tr> <tr> <td>3 Fireplace</td> <td style="text-align: right;"><i>FIREPLC_WO</i></td> </tr> <tr> <td>4 Other heating equipment</td> <td style="text-align: right;"><i>OTHTEQ_WO</i></td> </tr> </table> </li> </ul>			1 Residential-type furnaces	<i>FURNAC_WO</i>	2 Individual space heaters (other than heat pumps)	<i>SLFCON_WO</i>	3 Fireplace	<i>FIREPLC_WO</i>	4 Other heating equipment	<i>OTHTEQ_WO</i>
1 Residential-type furnaces	<i>FURNAC_WO</i>									
2 Individual space heaters (other than heat pumps)	<i>SLFCON_WO</i>									
3 Fireplace	<i>FIREPLC_WO</i>									
4 Other heating equipment	<i>OTHTEQ_WO</i>									
<b>NEXT</b>	IF Other heating equipment selected ➔ D63 [Wood other secondary heat equip] OTHERWISE ➔ D47 [Secondary heating routing] STEP 8									

<b>D63</b>	<b>Wood other secondary heat equip</b>	
<b>ASK</b>	IF Other heating equipment IN D62 [Wood secondary heating equipment]	
Please describe the other type of heating equipment that is fueled by wood.		
<ul style="list-style-type: none"> <li>◆ RECORD in open box</li> </ul>		
<b>NEXT</b>	➔ D47 [Secondary heating routing] STEP 8	





<b>D64</b>	<b>Coal secondary heating equipment</b>	<i>see below</i>						
<b>ASK</b>	IF Coal IN D23 [Which other sources for heating] OR D25 [Other source for heating]							
 SHOW CARD D8  You mentioned that coal was also used for heating. Looking at the list of heating equipment types on Show Card D8, please tell me which one (or ones) are fueled by <u>coal</u> in this establishment.								
<ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul>								
<table style="width: 100%; border: none;"> <tr> <td style="width: 70%;">1 Boilers that produce steam or hot water</td> <td style="width: 30%; text-align: right;"><i>BOILER_CO</i></td> </tr> <tr> <td>2 Residential-type furnaces</td> <td style="text-align: right;"><i>FURNAC_CO</i></td> </tr> <tr> <td>3 Other heating equipment</td> <td style="text-align: right;"><i>OTHTEQ_CO</i></td> </tr> </table>			1 Boilers that produce steam or hot water	<i>BOILER_CO</i>	2 Residential-type furnaces	<i>FURNAC_CO</i>	3 Other heating equipment	<i>OTHTEQ_CO</i>
1 Boilers that produce steam or hot water	<i>BOILER_CO</i>							
2 Residential-type furnaces	<i>FURNAC_CO</i>							
3 Other heating equipment	<i>OTHTEQ_CO</i>							
<b>NEXT</b>	IF Boiler selected → D65 [Coal boiler heat distribution] IF Other heating equipment selected → D66 [Coal other secondary heat equip] OTHERWISE → D47 [Secondary heating routing] STEP 9							

<b>D65</b>	<b>Coal boiler heat distribution</b>	<i>see below</i>										
<b>ASK</b>	IF Boilers IN D64 [Coal secondary heating equipment]											
 SHOW CARD D6  Looking at the list of heating distribution types on Show Card D6, please tell me which one (or ones) are used with the <u>coal boiler</u> in this establishment.												
<ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul>												
<table style="width: 100%; border: none;"> <tr> <td style="width: 70%;">1 Central air handlers</td> <td style="width: 30%; text-align: right;"><i>BLRAIR_CO</i></td> </tr> <tr> <td>2 Fan coil units</td> <td style="text-align: right;"><i>BLRFNCL_CO</i></td> </tr> <tr> <td>3 Duct reheat</td> <td style="text-align: right;"><i>BLRDUCT_CO</i></td> </tr> <tr> <td>4 Radiators</td> <td style="text-align: right;"><i>BLRRAD_CO</i></td> </tr> <tr> <td>5 Other distribution equipment</td> <td style="text-align: right;"><i>BLROTDIST_CO</i></td> </tr> </table>			1 Central air handlers	<i>BLRAIR_CO</i>	2 Fan coil units	<i>BLRFNCL_CO</i>	3 Duct reheat	<i>BLRDUCT_CO</i>	4 Radiators	<i>BLRRAD_CO</i>	5 Other distribution equipment	<i>BLROTDIST_CO</i>
1 Central air handlers	<i>BLRAIR_CO</i>											
2 Fan coil units	<i>BLRFNCL_CO</i>											
3 Duct reheat	<i>BLRDUCT_CO</i>											
4 Radiators	<i>BLRRAD_CO</i>											
5 Other distribution equipment	<i>BLROTDIST_CO</i>											
<b>NEXT</b>	IF Other heating equipment IN D64 [Coal secondary heating equipment] → D66 [Coal other secondary heat equip] OTHERWISE → D47 [Secondary heating routing] STEP 9											

<b>D66</b>	<b>Coal other secondary heat equip</b>
<b>ASK</b>	IF Other heating equipment IN D64 [Coal secondary heating equipment]
Please describe the other type of heating equipment that is fueled by coal.	
<ul style="list-style-type: none"> <li>◆ RECORD in open box</li> </ul>	
<b>NEXT</b>	→ D47 [Secondary heating routing] STEP 9

<b>D67</b>	<b>Solar thermal secondary heating</b>
<b>ASK</b>	IF Solar thermal IN D23 [Which other sources for heating] OR D25 [Other source for heating]
<p>You mentioned that solar thermal was also used for heating. Please describe the solar thermal heating system.</p> <p>◆ RECORD in open box</p>	
<b>NEXT</b>	➔ D47 [Secondary heating routing] STEP 10

<b>D68</b>	<b>Other source secondary heating</b> <span style="float: right;"><i>see below</i></span>										
<b>ASK</b>	IF {Other} IN D23 [Which other sources for heating] OR D25 [Other source for heating] = Some other energy source										
<p> SHOW CARD D9</p> <p>You mentioned that some other energy source was also used for heating. Looking at the list of heating equipment types on Show Card D9, please tell me which one (or ones) are fueled by the other energy source in this establishment.</p> <p>◆ PROBE for any others</p> <p>◆ ENTER all that apply</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 70%;">1 Packaged central units (such as roof mounted units, or RTUs)</td> <td style="width: 30%; text-align: right;"><i>PKGHT_OT</i></td> </tr> <tr> <td>2 Boilers that produce steam or hot water</td> <td style="text-align: right;"><i>BOILER_OT</i></td> </tr> <tr> <td>3 Residential-type furnaces</td> <td style="text-align: right;"><i>FURNAC_OT</i></td> </tr> <tr> <td>4 Individual space heaters (other than heat pumps)</td> <td style="text-align: right;"><i>SLFCON_OT</i></td> </tr> <tr> <td>5 Other heating equipment</td> <td style="text-align: right;"><i>OTHTEQ_OT</i></td> </tr> </table>		1 Packaged central units (such as roof mounted units, or RTUs)	<i>PKGHT_OT</i>	2 Boilers that produce steam or hot water	<i>BOILER_OT</i>	3 Residential-type furnaces	<i>FURNAC_OT</i>	4 Individual space heaters (other than heat pumps)	<i>SLFCON_OT</i>	5 Other heating equipment	<i>OTHTEQ_OT</i>
1 Packaged central units (such as roof mounted units, or RTUs)	<i>PKGHT_OT</i>										
2 Boilers that produce steam or hot water	<i>BOILER_OT</i>										
3 Residential-type furnaces	<i>FURNAC_OT</i>										
4 Individual space heaters (other than heat pumps)	<i>SLFCON_OT</i>										
5 Other heating equipment	<i>OTHTEQ_OT</i>										
<b>NEXT</b>	IF Boiler selected ➔ D69 [Other source boiler heat distribution] IF Other heating equipment selected ➔ D70 [Other source other secondary heat equip] OTHERWISE ➔ D47 [Secondary heating routing] STEP 11										


<b>D69</b>	<b>Other source boiler heat distribution</b>	<i>see below</i>										
<b>ASK</b>	IF Boilers IN D68 [Other source secondary heating]											
	 SHOW CARD D6  Looking at the list of heating distribution types on Show Card D6, please tell me which one (or ones) are used with the <u>other energy source boiler</u> in this establishment. <ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply             <table style="width: 100%; border: none;"> <tr> <td style="width: 80%;">1 Central air handlers</td> <td style="width: 20%; text-align: right;"><i>BLRAIR_OT</i></td> </tr> <tr> <td>2 Fan coil units</td> <td style="text-align: right;"><i>BLRFNCL_OT</i></td> </tr> <tr> <td>3 Duct reheat</td> <td style="text-align: right;"><i>BLRDUCT_OT</i></td> </tr> <tr> <td>4 Radiators</td> <td style="text-align: right;"><i>BLRRAD_OT</i></td> </tr> <tr> <td>5 Other distribution equipment</td> <td style="text-align: right;"><i>BLROTDIST_OT</i></td> </tr> </table> </li> </ul>		1 Central air handlers	<i>BLRAIR_OT</i>	2 Fan coil units	<i>BLRFNCL_OT</i>	3 Duct reheat	<i>BLRDUCT_OT</i>	4 Radiators	<i>BLRRAD_OT</i>	5 Other distribution equipment	<i>BLROTDIST_OT</i>
1 Central air handlers	<i>BLRAIR_OT</i>											
2 Fan coil units	<i>BLRFNCL_OT</i>											
3 Duct reheat	<i>BLRDUCT_OT</i>											
4 Radiators	<i>BLRRAD_OT</i>											
5 Other distribution equipment	<i>BLROTDIST_OT</i>											
<b>NEXT</b>	IF Other heating equipment IN D68 [Other source secondary heating] ➔ D70 [Other source other secondary heat equip] OTHERWISE ➔ D47 [Secondary heating routing] STEP 11											

<b>D70</b>	<b>Other source other secondary heat</b>	
<b>ASK</b>	IF Other heating equipment IN D68 [Other source secondary heating]	
	Please describe the other type of heating equipment that is fueled by the other energy source. <ul style="list-style-type: none"> <li>◆ RECORD in open box</li> </ul>	
<b>NEXT</b>	➔ D47 [Secondary heating routing] STEP 11	

<b>D71</b>	<b>Furnace with &gt;1 source</b>	<i>FURN2SRC</i>
<b>ASK</b>	IF (Furnaces IN D28 [Elec main heating equipment] OR D48 [Elec secondary heating equipment]) & Furnaces for any other source main or secondary heating equipment	
<b>FILL</b>	<b>{SecondFuel}</b> = The non-electric energy source reported with a furnace	
<p>I've recorded that you use a furnace with electricity <u>and</u> {SecondFuel}. Is the electricity for components such as the fans, igniter, or thermostat, or do you have two or more furnaces that run on different energy sources?</p> <ol style="list-style-type: none"> <li>1 Electricity is for fans, igniter, thermostat, etc.</li> <li>2 Two or more furnaces</li> </ol>		
<b>NEXT</b>	IF Electricity is for fans, igniter, thermostat, etc. remove the reported electric furnace. THEN: IF Boilers for Two or more main or secondary heating equipment → D72 [Boiler with >1 source] IF Heat pumps IN D29 [Nat gas main heating equipment] OR D31 [Propane main heating equipment] OR D51 [Nat gas secondary heating equipment] OR D57 [Propane secondary heating equipment] & NOT (Heat pumps IN D28 [Elec main heating equipment] OR D48 [Elec secondary heating equipment]) → D73 [Heat pump with no elec] IF Heat pumps for any other main heating source → D74 [Heat pump heating type] IF D4 [Cooling] = Yes & (Electricity used & NOT District chilled water used) → D75 [Electricity only used for cooling] IF D4 [Cooling] = Yes & NOT Electricity used & NOT District chilled water used → D76 [Sources for cooling] IF D4 [Cooling] = Yes & District chilled water used → D77 [EL or CW for cooling] OTHERWISE → D96 [Who has temperature control]	

<b>D72</b>	<b>Boiler with &gt;1 source</b>	<i>BOIL2SRC</i>
<b>ASK</b>	IF Boilers for Two or more main or secondary heating equipment	
<p>I've recorded that you use a boiler with more than one energy source. Is the electricity used to run components such as the fans or pumps, is this one boiler that can switch fuels, or is it two or more boilers that run on different sources?</p> <ol style="list-style-type: none"> <li>1 Electricity is for fans, pumps, controls, thermostat, etc.</li> <li>2 The boiler can switch fuels</li> <li>3 Two or more boilers</li> </ol>		
<b>NEXT</b>	IF Electricity is for fans, pumps, controls, thermostat, etc. remove the reported electric boiler. THEN: IF Heat pumps IN D29 [Nat gas main heating equipment] OR D31 [Propane main heating equipment] OR D51 [Nat gas secondary heating equipment] OR D57 [Propane secondary heating equipment] & NOT (Heat pumps IN D28 [Elec main heating equipment] OR D48 [Elec secondary heating equipment]) → D73 [Heat pump with no elec] IF Heat pumps for any other main heating source → D74 [Heat pump heating type] IF D4 [Cooling] = Yes & (Electricity used & NOT District chilled water used) → D75 [Electricity only used for cooling] IF D4 [Cooling] = Yes & NOT Electricity used & NOT District chilled water used → D76 [Sources for cooling] IF D4 [Cooling] = Yes & District chilled water used → D77 [EL or CW for cooling] OTHERWISE → D96 [Who has temperature control]	

<b>D73</b>	<b>Heat pump with no elec</b>	<i>HPCHKEL</i>
<b>ASK</b>	IF Heat pumps IN D29 [Nat gas main heating equipment] OR D31 [Propane main heating equipment] OR D51 [Nat gas secondary heating equipment] OR D57 [Propane secondary heating equipment] & NOT (Heat pumps IN D28 [Elec main heating equipment] OR D48 [Elec secondary heating equipment])	
<b>FILL</b>	{GasType} = "natural gas" or "propane" based on what type of heat pump is reported	
	<p>I've recorded that you use a heat pump that is fueled only by {GasType}. This is fairly unusual. Is this correct or is it a dual-fuel/hybrid heat pump that also uses electricity?</p> <ol style="list-style-type: none"> <li>1 Heat pump uses <u>only</u> natural gas</li> <li>2 Heat pump also uses electricity</li> <li>3 IF VOLUNTEERED: Correct, heat pump only uses electricity</li> </ol>	
<b>NEXT</b>	➔ D74 [Heat pump heating type]	

<b>D74</b>	<b>Heat pump heating type</b>	<i>see below</i>								
<b>ASK</b>	IF Heat pumps for any main or secondary heating equipment									
	 SHOW CARD D10  You reported using heat pumps. Looking at the second list on Show Card D10, which types of heat pumps are these?  ◆ ENTER all that apply  <table style="width: 100%; border: none;"> <tr> <td style="width: 80%;">1 Air source heat pump</td> <td style="text-align: right;"><i>HPHAIR</i></td> </tr> <tr> <td>2 Ground source or ground water heat pump (geothermal)</td> <td style="text-align: right;"><i>HPHGRD</i></td> </tr> <tr> <td>3 Combination air source and geothermal</td> <td style="text-align: right;"><i>HPHDUAL</i></td> </tr> <tr> <td>4 Water loop heat pump</td> <td style="text-align: right;"><i>HPHWTR</i></td> </tr> </table>		1 Air source heat pump	<i>HPHAIR</i>	2 Ground source or ground water heat pump (geothermal)	<i>HPHGRD</i>	3 Combination air source and geothermal	<i>HPHDUAL</i>	4 Water loop heat pump	<i>HPHWTR</i>
1 Air source heat pump	<i>HPHAIR</i>									
2 Ground source or ground water heat pump (geothermal)	<i>HPHGRD</i>									
3 Combination air source and geothermal	<i>HPHDUAL</i>									
4 Water loop heat pump	<i>HPHWTR</i>									
<b>NEXT</b>	IF D4 [Cooling] = Yes & (Electricity used & NOT District chilled water used) ➔ D75 [Electricity only used for cooling] IF D4 [Cooling] = Yes & NOT Electricity used & NOT District chilled water used ➔ D76 [Sources for cooling] IF D4 [Cooling] = Yes & District chilled water used ➔ D77 [EL or CW for cooling] OTHERWISE ➔ D96 [Who has temperature control]									

<b>D75</b>	<b>Electricity only for cooling</b>	<i>see below</i>
<b>ASK</b>	IF D4 [Cooling] = Yes & (Electricity used & NOT District chilled water used)	
	Was electricity the only energy source used for air conditioning in this establishment in 2018?  <ol style="list-style-type: none"> <li>1 Yes, electricity was the only energy source for air conditioning <span style="float: right;"><i>ELCOOL</i></span></li> <li>2 No, some other energy source was used in addition to or instead of electricity for air conditioning</li> </ol>	
<b>NEXT</b>	IF Yes ➔ D80 [Cooling routing] IF No ➔ D76 [Sources for cooling] IF DK/RF ➔ D96 [Who has temperature control]	


<b>D76</b>	<b>Sources for cooling</b>	<i>see below</i>																					
<b>ASK</b>	IF D75 [Electricity only for cooling] = No OR (D4 [Cooling] = Yes & NOT Electricity used & NOT District chilled water used)																						
<p>Which energy source or sources were used for air conditioning?</p> <ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul> <table style="width: 100%; border: none;"> <tr> <td style="width: 10%;">11</td> <td style="width: 70%;">Electricity</td> <td style="width: 20%; text-align: right;"><i>ELCOOL</i></td> </tr> <tr> <td>12</td> <td>Natural gas</td> <td style="text-align: right;"><i>NGCOOL</i></td> </tr> <tr> <td>13</td> <td>Fuel oil/Diesel/Kerosene</td> <td style="text-align: right;"><i>FKCOOL</i></td> </tr> <tr> <td>14</td> <td>Propane</td> <td style="text-align: right;"><i>PRCOOL</i></td> </tr> <tr> <td>15</td> <td>District steam</td> <td style="text-align: right;"><i>STCOOL</i></td> </tr> <tr> <td>17</td> <td>District chilled water</td> <td style="text-align: right;"><i>CWCOOL</i></td> </tr> <tr> <td>24</td> <td>Some other energy source</td> <td style="text-align: right;"><i>OTCOOL</i></td> </tr> </table>			11	Electricity	<i>ELCOOL</i>	12	Natural gas	<i>NGCOOL</i>	13	Fuel oil/Diesel/Kerosene	<i>FKCOOL</i>	14	Propane	<i>PRCOOL</i>	15	District steam	<i>STCOOL</i>	17	District chilled water	<i>CWCOOL</i>	24	Some other energy source	<i>OTCOOL</i>
11	Electricity	<i>ELCOOL</i>																					
12	Natural gas	<i>NGCOOL</i>																					
13	Fuel oil/Diesel/Kerosene	<i>FKCOOL</i>																					
14	Propane	<i>PRCOOL</i>																					
15	District steam	<i>STCOOL</i>																					
17	District chilled water	<i>CWCOOL</i>																					
24	Some other energy source	<i>OTCOOL</i>																					
<b>NEXT</b>	IF Some other energy source selected → D79 [Other type of cooling source] OTHERWISE → D80 [Cooling routing]																						

<b>D77</b>	<b>EL or CW for cooling</b>	<i>see below</i>									
<b>ASK</b>	IF D4 [Cooling] = Yes & District chilled water used										
<b>FILL</b>	<b>{ACSourceList}</b> IF Electricity used & District chilled water used = “(...electricity or district chilled water?)” IF District chilled water used & NOT Electricity used = “(Was district chilled water used?)” <b>{Electricity}</b> = If electricity is used it appears in this list; if not, the line is blank										
<p>Which energy sources were used for air conditioning? {ACSourceList}</p> <ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> <li>◆ Only sources already selected are shown here</li> </ul> <table style="width: 100%; border: none;"> <tr> <td style="width: 10%;">1</td> <td style="width: 70%;">{Electricity}</td> <td style="width: 20%; text-align: right;"><i>ELCOOL</i></td> </tr> <tr> <td>2</td> <td>District chilled water</td> <td style="text-align: right;"><i>CWCOOL</i></td> </tr> <tr> <td>3</td> <td>Some other energy source</td> <td></td> </tr> </table>			1	{Electricity}	<i>ELCOOL</i>	2	District chilled water	<i>CWCOOL</i>	3	Some other energy source	
1	{Electricity}	<i>ELCOOL</i>									
2	District chilled water	<i>CWCOOL</i>									
3	Some other energy source										
<b>NEXT</b>	IF Some other energy source → D78 [Other source for cooling] OTHERWISE → D80 [Cooling routing]										

<b>D78</b>	<b>Other source for cooling</b>	<i>see below</i>																					
<b>ASK</b>	IF D77 [EL or CW for cooling] = Some other energy source																						
<p>What was the other energy source used for air conditioning?</p> <table> <tr> <td>11</td> <td>Electricity</td> <td><i>ELCOOL</i></td> </tr> <tr> <td>12</td> <td>Natural gas</td> <td><i>NGCOOL</i></td> </tr> <tr> <td>13</td> <td>Fuel oil/Diesel/Kerosene</td> <td><i>FKCOOL</i></td> </tr> <tr> <td>14</td> <td>Propane</td> <td><i>PRCOOL</i></td> </tr> <tr> <td>15</td> <td>District steam</td> <td><i>STCOOL</i></td> </tr> <tr> <td>17</td> <td>District chilled water</td> <td><i>CWCOOL</i></td> </tr> <tr> <td>24</td> <td>Some other energy source</td> <td><i>OTCOOL</i></td> </tr> </table>			11	Electricity	<i>ELCOOL</i>	12	Natural gas	<i>NGCOOL</i>	13	Fuel oil/Diesel/Kerosene	<i>FKCOOL</i>	14	Propane	<i>PRCOOL</i>	15	District steam	<i>STCOOL</i>	17	District chilled water	<i>CWCOOL</i>	24	Some other energy source	<i>OTCOOL</i>
11	Electricity	<i>ELCOOL</i>																					
12	Natural gas	<i>NGCOOL</i>																					
13	Fuel oil/Diesel/Kerosene	<i>FKCOOL</i>																					
14	Propane	<i>PRCOOL</i>																					
15	District steam	<i>STCOOL</i>																					
17	District chilled water	<i>CWCOOL</i>																					
24	Some other energy source	<i>OTCOOL</i>																					
<b>NEXT</b>	IF Some other energy source → D79 [Other type of cooling source] OTHERWISE → D80 [Cooling routing]																						


<b>D79</b>	<b>Other type of cooling source</b>
<b>ASK</b>	IF Some other energy source IN D76 [Sources for cooling] OR D78 [Other source for cooling]
<p>What was the other energy source used for air conditioning?</p> <p>◆ ENTER the cooling source used</p>	
<b>NEXT</b>	→ D80 [Cooling routing]


<b>D80</b>	<b>Cooling routing</b>
<b>NEXT</b>	<p>IF D75 [Electricity only for cooling] = Yes OR (Electricity IN D76 [Sources for cooling] OR D77 [EL or CW for cooling] OR D78 [Other source for cooling]) → D81 [Elec cooling equipment]</p> <p>IF Natural gas IN D76 [Sources for cooling] OR D78 [Other source for cooling] → D84 [Nat gas cooling equipment]</p> <p>IF Fuel oil/Diesel/Kerosene IN D76 [Sources for cooling] OR D78 [Other source for cooling] → D86 [Fuel oil cooling equipment]</p> <p>IF Propane IN D76 [Sources for cooling] OR D78 [Other source for cooling] → D88 [Propane cooling equipment]</p> <p>IF District steam IN D76 [Sources for cooling] OR D78 [Other source for cooling] → D90 [District steam cooling equipment]</p> <p>IF Some other energy source IN D76 [Sources for cooling] OR D78 [Other source for cooling] → D92 [Other source other cool equip specify]</p> <p>IF District chilled water IN D76 [Sources for cooling] OR D77 [EL or CW for cooling] OR D78 [Other source for cooling] → D95 [Chilled water distribution]</p> <p>OTHERWISE → D96 [Who has temperature control]</p>

<b>D81</b>	<b>Elec cooling equipment</b>	<i>see below</i>																					
<b>ASK</b>	IF D75 [Electricity only for cooling] = Yes OR (Electricity IN D76 [Sources for cooling] OR D77 [EL or CW for cooling] OR D78 [Other source for cooling])																						
 SHOW CARD D12  Looking at the list of <u>electric</u> cooling equipment types on Show Card D12, please tell me which types are used in this establishment.																							
<ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul>																							
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;">1</td> <td style="width: 70%;">Packaged air conditioning units (such as roof mounted units, or RTUs)</td> <td style="width: 25%; text-align: right;"><i>PKGCL</i></td> </tr> <tr> <td>2</td> <td>Central chillers that chill water for air conditioning</td> <td style="text-align: right;"><i>CHILLR</i></td> </tr> <tr> <td>3</td> <td>Heat pumps for cooling</td> <td style="text-align: right;"><i>HTPMPC</i></td> </tr> <tr> <td>4</td> <td>Residential-type central air conditioners that cool air directly and circulate it without using chilled water</td> <td style="text-align: right;"><i>RCAC</i></td> </tr> <tr> <td>5</td> <td>Individual room or portable air conditioners</td> <td style="text-align: right;"><i>ACWNWL</i></td> </tr> <tr> <td>6</td> <td>"Swamp" coolers or evaporative coolers</td> <td style="text-align: right;"><i>EVAPCL</i></td> </tr> <tr> <td>7</td> <td>Other cooling equipment</td> <td style="text-align: right;"><i>OTCLEQ</i></td> </tr> </table>			1	Packaged air conditioning units (such as roof mounted units, or RTUs)	<i>PKGCL</i>	2	Central chillers that chill water for air conditioning	<i>CHILLR</i>	3	Heat pumps for cooling	<i>HTPMPC</i>	4	Residential-type central air conditioners that cool air directly and circulate it without using chilled water	<i>RCAC</i>	5	Individual room or portable air conditioners	<i>ACWNWL</i>	6	"Swamp" coolers or evaporative coolers	<i>EVAPCL</i>	7	Other cooling equipment	<i>OTCLEQ</i>
1	Packaged air conditioning units (such as roof mounted units, or RTUs)	<i>PKGCL</i>																					
2	Central chillers that chill water for air conditioning	<i>CHILLR</i>																					
3	Heat pumps for cooling	<i>HTPMPC</i>																					
4	Residential-type central air conditioners that cool air directly and circulate it without using chilled water	<i>RCAC</i>																					
5	Individual room or portable air conditioners	<i>ACWNWL</i>																					
6	"Swamp" coolers or evaporative coolers	<i>EVAPCL</i>																					
7	Other cooling equipment	<i>OTCLEQ</i>																					
<b>NEXT</b>	IF Other cooling equipment selected → D82 [Elec other cool equip specify] IF Heat pumps selected & NOT Heat pumps for any main or secondary heating equipment → D83 [Heat pump cooling type] IF Natural gas IN D76 [Sources for cooling] OR D78 [Other source for cooling] → D84 [Nat gas cooling equipment] IF Fuel oil/Diesel/Kerosene IN D76 [Sources for cooling] OR D78 [Other source for cooling] → D86 [Fuel oil cooling equipment] IF Propane IN D76 [Sources for cooling] OR D78 [Other source for cooling] → D88 [Propane cooling equipment] IF District steam IN D76 [Sources for cooling] OR D78 [Other source for cooling] → D90 [District steam cooling equipment] IF Some other energy source IN D76 [Sources for cooling] OR D78 [Other source for cooling] → D92 [Other source other cool equip specify] IF Chillers selected → D93 [Chiller distribution] IF District chilled water IN D76 [Sources for cooling] OR D77 [EL or CW for cooling] OR D78 [Other source for cooling] → D95 [Chilled water distribution] OTHERWISE → D96 [Who has temperature control]																						




<b>D82</b>	<b>Elec other cool equip specify</b>
<b>ASK</b>	IF Other cooling equipment IN D81 [Elec cooling equipment]
<p>Please describe the other type of <u>electric</u> cooling equipment.</p> <p>◆ RECORD in open box</p>	
<b>NEXT</b>	<p>IF Heat pumps IN D81 [Elec cooling equipment] &amp;  NOT Heat pumps for any main or secondary heating equipment → D83 [Heat pump cooling type]</p> <p>IF Natural gas IN D76 [Sources for cooling] OR D78 [Other source for cooling]  → D84 [Nat gas cooling equipment]</p> <p>IF Fuel oil/Diesel/Kerosene IN D76 [Sources for cooling] OR D78 [Other source for cooling]  → D86 [Fuel oil cooling equipment]</p> <p>IF Propane IN D76 [Sources for cooling] OR D78 [Other source for cooling]  → D88 [Propane cooling equipment]</p> <p>IF District steam IN D76 [Sources for cooling] OR D78 [Other source for cooling]  → D90 [District steam cooling equipment]</p> <p>IF Some other energy source IN D76 [Sources for cooling] OR D78 [Other source for cooling]  → D92 [Other source other cool equip specify]</p> <p>IF Chillers IN D81 [Elec cooling equipment] → D93 [Chiller distribution]</p> <p>IF District chilled water IN D76 [Sources for cooling] OR D77 [EL or CW for cooling] OR  D78 [Other source for cooling] → D95 [Chilled water distribution]</p> <p>OTHERWISE → D96 [Who has temperature control]</p>


<b>D83</b>	<b>Heat pump cooling type</b>	<i>see below</i>								
<b>ASK</b>	IF Heat pumps IN D81 [Elec cooling equipment] & NOT Heat pumps for any main or secondary heating equipment									
<p> SHOW CARD D10</p> <p>Looking at the list on Show Card D10, please tell me which types of heat pumps are used in this establishment.</p> <p>◆ ENTER all that apply</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 80%;">1 Air source heat pump</td> <td style="width: 20%; text-align: right;"><i>HPCAIR</i></td> </tr> <tr> <td>2 Ground source or ground water heat pump (geothermal)</td> <td style="text-align: right;"><i>HPCGRD</i></td> </tr> <tr> <td>3 Combination air source and geothermal</td> <td style="text-align: right;"><i>HPCDUAL</i></td> </tr> <tr> <td>4 Water loop heat pump</td> <td style="text-align: right;"><i>HPCWTR</i></td> </tr> </table>			1 Air source heat pump	<i>HPCAIR</i>	2 Ground source or ground water heat pump (geothermal)	<i>HPCGRD</i>	3 Combination air source and geothermal	<i>HPCDUAL</i>	4 Water loop heat pump	<i>HPCWTR</i>
1 Air source heat pump	<i>HPCAIR</i>									
2 Ground source or ground water heat pump (geothermal)	<i>HPCGRD</i>									
3 Combination air source and geothermal	<i>HPCDUAL</i>									
4 Water loop heat pump	<i>HPCWTR</i>									
<b>NEXT</b>	<p>IF Natural gas IN D76 [Sources for cooling] OR D78 [Other source for cooling]  → D84 [Nat gas cooling equipment]</p> <p>IF Fuel oil/Diesel/Kerosene IN D76 [Sources for cooling] OR D78 [Other source for cooling]  → D86 [Fuel oil cooling equipment]</p> <p>IF Propane IN D76 [Sources for cooling] OR D78 [Other source for cooling]  → D88 [Propane cooling equipment]</p> <p>IF District steam IN D76 [Sources for cooling] OR D78 [Other source for cooling]  → D90 [District steam cooling equipment]</p> <p>IF Some other energy source IN D76 [Sources for cooling] OR D78 [Other source for cooling]  → D92 [Other source other cool equip specify]</p> <p>IF Chillers IN D81 [Elec cooling equipment] → D93 [Chiller distribution]</p> <p>IF District chilled water IN D76 [Sources for cooling] OR D77 [EL or CW for cooling] OR  D78 [Other source for cooling] → D95 [Chilled water distribution]</p> <p>OTHERWISE → D96 [Who has temperature control]</p>									

<b>D84</b>	<b>Nat gas cooling equipment</b>	<i>see below</i>				
<b>ASK</b>	IF Natural gas IN D76 [Sources for cooling] OR D78 [Other source for cooling]					
 SHOW CARD D13 <p>Looking at the list of cooling equipment types on Show Card D13, please tell me which types are fueled by <u>natural gas</u> in this establishment.</p> <ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul> <table style="width: 100%; border: none;"> <tr> <td style="width: 70%;">1 Central chillers that chill water for air conditioning</td> <td style="text-align: right;"><i>CHILLR</i></td> </tr> <tr> <td>2 Other cooling equipment</td> <td style="text-align: right;"><i>OTCLEQ</i></td> </tr> </table>			1 Central chillers that chill water for air conditioning	<i>CHILLR</i>	2 Other cooling equipment	<i>OTCLEQ</i>
1 Central chillers that chill water for air conditioning	<i>CHILLR</i>					
2 Other cooling equipment	<i>OTCLEQ</i>					
<b>NEXT</b>	IF Other cooling equipment selected → D85 [Nat gas other cool equip specify] IF Fuel oil/Diesel/Kerosene IN D76 [Sources for cooling] OR D78 [Other source for cooling] → D86 [Fuel oil cooling equipment] IF Propane IN D76 [Sources for cooling] OR D78 [Other source for cooling] → D88 [Propane cooling equipment] IF District steam IN D76 [Sources for cooling] OR D78 [Other source for cooling] → D90 [District steam cooling equipment] IF Some other energy source IN D76 [Sources for cooling] OR D78 [Other source for cooling] → D92 [Other source other cool equip specify] IF Chillers IN D81 [Elec cooling equipment] OR D84 [Nat gas cooling equipment] → D93 [Chiller distribution] IF District chilled water IN D76 [Sources for cooling] OR D77 [EL or CW for cooling] OR D78 [Other source for cooling] → D95 [Chilled water distribution] OTHERWISE → D96 [Who has temperature control]					


<b>D85</b>	<b>Nat gas other cool equip specify</b>	
<b>ASK</b>	IF Other cooling equipment IN D84 [Nat gas cooling equipment]	
Please describe the other type of cooling equipment that is fueled by <u>natural gas</u> . <ul style="list-style-type: none"> <li>◆ RECORD in open box</li> </ul>		
<b>NEXT</b>	IF Fuel oil/Diesel/Kerosene IN D76 [Sources for cooling] OR D78 [Other source for cooling] → D86 [Fuel oil cooling equipment] IF Propane IN D76 [Sources for cooling] OR D78 [Other source for cooling] → D88 [Propane cooling equipment] IF District steam IN D76 [Sources for cooling] OR D78 [Other source for cooling] → D90 [District steam cooling equipment] IF Some other energy source IN D76 [Sources for cooling] OR D78 [Other source for cooling] → D92 [Other source other cool equip specify] IF Chillers IN D81 [Elec cooling equipment] OR D84 [Nat gas cooling equipment] → D93 [Chiller distribution] IF District chilled water IN D76 [Sources for cooling] OR D77 [EL or CW for cooling] OR D78 [Other source for cooling] → D95 [Chilled water distribution] OTHERWISE → D96 [Who has temperature control]	

<b>D86</b>	<b>Fuel oil cooling equipment</b>	<i>see below</i>				
<b>ASK</b>	IF Fuel oil/Diesel/Kerosene IN D76 [Sources for cooling] OR D78 [Other source for cooling]					
<b>FILL</b>	{FuelOilType} = Type or types specified in D15 [Fuel oil, diesel, or kerosene]					
 SHOW CARD D13  Looking at the list of cooling equipment types on Show Card D13, please tell me which types are fueled by {FuelOilType} in this establishment. <ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul> <table style="width: 100%; border: none;"> <tr> <td style="width: 80%;">1 Central chillers that chill water for air conditioning</td> <td style="text-align: right;">CHILLR</td> </tr> <tr> <td>2 Other cooling equipment</td> <td style="text-align: right;">OTCLEQ</td> </tr> </table>			1 Central chillers that chill water for air conditioning	CHILLR	2 Other cooling equipment	OTCLEQ
1 Central chillers that chill water for air conditioning	CHILLR					
2 Other cooling equipment	OTCLEQ					
<b>NEXT</b>	IF Other cooling equipment selected → D87 [Fuel oil other cool equip specify] IF Propane IN D76 [Sources for cooling] OR D78 [Other source for cooling] → D88 [Propane cooling equipment] IF District steam IN D76 [Sources for cooling] OR D78 [Other source for cooling] → D90 [District steam cooling equipment] IF Some other energy source IN D76 [Sources for cooling] OR D78 [Other source for cooling] → D92 [Other source other cool equip specify] IF Chillers IN D81 [Elec cooling equipment] OR D84 [Nat gas cooling equipment] OR D86 [Fuel oil cooling equipment] → D93 [Chiller distribution] IF District chilled water IN D76 [Sources for cooling] OR D77 [EL or CW for cooling] OR D78 [Other source for cooling] → D95 [Chilled water distribution] OTHERWISE → D96 [Who has temperature control]					

<b>D87</b>	<b>Fuel oil other cool equip specify</b>	
<b>ASK</b>	IF Other cooling equipment IN D86 [Fuel oil cooling equipment]	
<b>FILL</b>	{FuelOilType} = Type or types specified in D15 [Fuel oil, diesel, or kerosene]	
Please describe the other type of cooling equipment that is fueled by {FuelOilType}. <ul style="list-style-type: none"> <li>◆ RECORD in open box</li> </ul>		
<b>NEXT</b>	IF Propane IN D76 [Sources for cooling] OR D78 [Other source for cooling] → D88 [Propane cooling equipment] IF District steam IN D76 [Sources for cooling] OR D78 [Other source for cooling] → D90 [District steam cooling equipment] IF Some other energy source IN D76 [Sources for cooling] OR D78 [Other source for cooling] → D92 [Other source other cool equip specify] IF Chillers IN D81 [Elec cooling equipment] OR D84 [Nat gas cooling equipment] OR D86 [Fuel oil cooling equipment] → D93 [Chiller distribution] IF District chilled water IN D76 [Sources for cooling] OR D77 [EL or CW for cooling] OR D78 [Other source for cooling] → D95 [Chilled water distribution] OTHERWISE → D96 [Who has temperature control]	


<b>D88</b>	<b>Propane cooling equipment</b>	<i>see below</i>				
<b>ASK</b>	IF Propane IN D76 [Sources for cooling] OR D78 [Other source for cooling]					
 SHOW CARD D13  Looking at the list of cooling equipment types on Show Card D13, please tell me which types are fueled by <u>propane</u> in this establishment. <ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul> <table style="width: 100%; border: none;"> <tr> <td style="width: 80%;">1 Central chillers that chill water for air conditioning</td> <td style="text-align: right;"><i>CHILLR</i></td> </tr> <tr> <td>2 Other cooling equipment</td> <td style="text-align: right;"><i>OTCLEQ</i></td> </tr> </table>			1 Central chillers that chill water for air conditioning	<i>CHILLR</i>	2 Other cooling equipment	<i>OTCLEQ</i>
1 Central chillers that chill water for air conditioning	<i>CHILLR</i>					
2 Other cooling equipment	<i>OTCLEQ</i>					
<b>NEXT</b>	IF Other cooling equipment selected → D89 [Propane other cool equip specify] IF District steam IN D76 [Sources for cooling] OR D78 [Other source for cooling] → D90 [District steam cooling equipment] IF Some other energy source IN D76 [Sources for cooling] OR D78 [Other source for cooling] → D92 [Other source other cool equip specify] IF Chillers IN D81 [Elec cooling equipment] OR D84 [Nat gas cooling equipment] OR D86 [Fuel oil cooling equipment] OR D88 [Propane cooling equipment] → D93 [Chiller distribution] IF District chilled water IN D76 [Sources for cooling] OR D77 [EL or CW for cooling] OR D78 [Other source for cooling] → D95 [Chilled water distribution] OTHERWISE → D96 [Who has temperature control]					


<b>D89</b>	<b>Propane other cool equip specify</b>	
<b>ASK</b>	IF Other cooling equipment IN D88 [Propane cooling equipment]	
Please describe the other type of cooling equipment that is fueled by <u>propane</u> . <ul style="list-style-type: none"> <li>◆ RECORD in open box</li> </ul>		
<b>NEXT</b>	IF District steam IN D76 [Sources for cooling] OR D78 [Other source for cooling] → D90 [District steam cooling equipment] IF Some other energy source IN D76 [Sources for cooling] OR D78 [Other source for cooling] → D92 [Other source other cool equip specify] IF Chillers IN D81 [Elec cooling equipment] OR D84 [Nat gas cooling equipment] OR D86 [Fuel oil cooling equipment] OR D88 [Propane cooling equipment] → D93 [Chiller distribution] IF District chilled water IN D76 [Sources for cooling] OR D77 [EL or CW for cooling] OR D78 [Other source for cooling] → D95 [Chilled water distribution] OTHERWISE → D96 [Who has temperature control]	


<b>D90</b>	<b>District steam cooling equipment</b>	<i>see below</i>				
<b>ASK</b>	IF District steam IN D76 [Sources for cooling] OR D78 [Other source for cooling]					
 SHOW CARD D13 <p>Looking at the list of cooling equipment types on Show Card D13, please tell me which types are fueled by <u>district steam</u> in this establishment.</p> <ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul> <table style="width: 100%; border: none;"> <tr> <td style="width: 70%;">1 Central chillers that chill water for air conditioning</td> <td style="text-align: right;"><i>CHILLR</i></td> </tr> <tr> <td>2 Other cooling equipment</td> <td style="text-align: right;"><i>OTCLEQ</i></td> </tr> </table>			1 Central chillers that chill water for air conditioning	<i>CHILLR</i>	2 Other cooling equipment	<i>OTCLEQ</i>
1 Central chillers that chill water for air conditioning	<i>CHILLR</i>					
2 Other cooling equipment	<i>OTCLEQ</i>					
<b>NEXT</b>	IF Other cooling equipment selected → D91 [Steam other equip cool specify] IF Some other energy source IN D76 [Sources for cooling] OR D78 [Other source for cooling] → D92 [Other source other cool equip specify] IF Chillers IN D81 [Elec cooling equipment] OR D84 [Nat gas cooling equipment] OR D86 [Fuel oil cooling equipment] OR D88 [Propane cooling equipment] OR D90 [District steam cooling equipment] → D93 [Chiller distribution] IF District chilled water IN D76 [Sources for cooling] OR D77 [EL or CW for cooling] OR D78 [Other source for cooling] → D95 [Chilled water distribution] OTHERWISE → D96 [Who has temperature control]					

<b>D91</b>	<b>Steam other equip cool specify</b>	
<b>ASK</b>	IF Other cooling equipment IN D90 [District steam cooling equipment]	
Please describe the other type of cooling equipment that is fueled by <u>district steam</u> . <ul style="list-style-type: none"> <li>◆ RECORD in open box</li> </ul>		
<b>NEXT</b>	IF Some other energy source IN D76 [Sources for cooling] OR D78 [Other source for cooling] → D92 [Other source other cool equip specify] IF Chillers IN D81 [Elec cooling equipment] OR D84 [Nat gas cooling equipment] OR D86 [Fuel oil cooling equipment] OR D88 [Propane cooling equipment] OR D90 [District steam cooling equipment] → D93 [Chiller distribution] IF District chilled water IN D76 [Sources for cooling] OR D77 [EL or CW for cooling] OR D78 [Other source for cooling] → D95 [Chilled water distribution] OTHERWISE → D96 [Who has temperature control]	

<b>D92</b>	<b>Other source other cool equip specify</b>
<b>ASK</b>	IF Some other energy source IN D76 [Sources for cooling] OR D78 [Other source for cooling]
<p>Please describe the cooling equipment that is fueled by the <u>other energy source</u>.</p> <p>◆ RECORD in open box</p>	
<b>NEXT</b>	IF Chillers IN D81 [Elec cooling equipment] OR D84 [Nat gas cooling equipment] OR D86 [Fuel oil cooling equipment] OR D88 [Propane cooling equipment] OR D90 [District steam cooling equipment] → D93 [Chiller distribution] IF District chilled water IN D76 [Sources for cooling] OR D77 [EL or CW for cooling] OR D78 [Other source for cooling] → D95 [Chilled water distribution] OTHERWISE → D96 [Who has temperature control]

<b>D93</b>	<b>Chiller distribution</b> <span style="float: right;"><i>see below</i></span>								
<b>ASK</b>	IF Chillers IN D81 [Elec cooling equipment] OR D84 [Nat gas cooling equipment] OR D86 [Fuel oil cooling equipment] OR D88 [Propane cooling equipment] OR D90 [District steam cooling equipment]								
<b>FILL</b>	<b>{Chillers}</b> IF Chillers reported for only one energy source = "chiller" IF Chillers reported for more than one energy source = "chillers"								
<p> SHOW CARD D14</p> <p>Looking at the list of cooling distribution types on Show Card D14, please tell me which one (or ones) are used with the {Chillers} in the establishment.</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 70%;">1 Central air handlers</td> <td style="text-align: right;"><i>CHLAIR</i></td> </tr> <tr> <td>2 Fan coil units</td> <td style="text-align: right;"><i>CHLFNCL</i></td> </tr> <tr> <td>3 Chilled beam</td> <td style="text-align: right;"><i>CHLBEAM</i></td> </tr> <tr> <td>4 Other cooling distribution</td> <td style="text-align: right;"><i>CHLOTDIST</i></td> </tr> </table>		1 Central air handlers	<i>CHLAIR</i>	2 Fan coil units	<i>CHLFNCL</i>	3 Chilled beam	<i>CHLBEAM</i>	4 Other cooling distribution	<i>CHLOTDIST</i>
1 Central air handlers	<i>CHLAIR</i>								
2 Fan coil units	<i>CHLFNCL</i>								
3 Chilled beam	<i>CHLBEAM</i>								
4 Other cooling distribution	<i>CHLOTDIST</i>								
<b>NEXT</b>	→ D94 [Type of chiller]								

<b>D94</b>	<b>Type of chiller</b>	<i>see below</i>						
<b>ASK</b>	IF Chillers IN D81 [Elec cooling equipment] OR D84 [Nat gas cooling equipment] OR D86 [Fuel oil cooling equipment] OR D88 [Propane cooling equipment] OR D90 [District steam cooling equipment]							
<b>FILL</b>	<b>{Chillers}</b> IF Chillers reported for only one energy source = "chiller is" IF Chillers reported for more than one energy source = "chillers are" <b>{Absorption}</b> IF Chillers reported for only one energy source = "an absorption chiller" IF Chillers reported for more than one energy source = "absorption chillers"							
 SHOW CARD D15  Please look at Show Card D15 and tell me whether the {Chillers} air-cooled, water cooled, or {Absorption}?  ◆ ENTER all that apply  <table style="width: 100%; border: none;"> <tr> <td style="width: 80%;">1 Air-cooled</td> <td style="text-align: right;"><i>CHLAIRCL</i></td> </tr> <tr> <td>2 Water cooled</td> <td style="text-align: right;"><i>CHLWTRCL</i></td> </tr> <tr> <td>3 Absorption</td> <td style="text-align: right;"><i>CHLABSRP</i></td> </tr> </table>			1 Air-cooled	<i>CHLAIRCL</i>	2 Water cooled	<i>CHLWTRCL</i>	3 Absorption	<i>CHLABSRP</i>
1 Air-cooled	<i>CHLAIRCL</i>							
2 Water cooled	<i>CHLWTRCL</i>							
3 Absorption	<i>CHLABSRP</i>							
<b>NEXT</b>	IF District chilled water IN D76 [Sources for cooling] OR D77 [EL or CW for cooling] OR D78 [Other source for cooling] → D95 [Chilled water distribution] OTHERWISE → D96 [Who has temperature control]							

<b>D95</b>	<b>Chilled water distribution</b>	<i>see below</i>								
<b>ASK</b>	IF District chilled water IN D76 [Sources for cooling] OR D77 [EL or CW for cooling] OR D78 [Other source for cooling]									
 SHOW CARD D14  Looking at the list of cooling distribution types on Show Card D14, please tell me which one (or ones) are used with the <u>district chilled water</u> in the establishment.  ◆ PROBE for any others ◆ ENTER all that apply  <table style="width: 100%; border: none;"> <tr> <td style="width: 80%;">1 Central air handlers</td> <td style="text-align: right;"><i>CWAIR</i></td> </tr> <tr> <td>2 Fan coil units</td> <td style="text-align: right;"><i>CWFNCL</i></td> </tr> <tr> <td>3 Chilled beam</td> <td style="text-align: right;"><i>CWBEAM</i></td> </tr> <tr> <td>4 Other cooling distribution</td> <td style="text-align: right;"><i>CWOTDIST</i></td> </tr> </table>			1 Central air handlers	<i>CWAIR</i>	2 Fan coil units	<i>CWFNCL</i>	3 Chilled beam	<i>CWBEAM</i>	4 Other cooling distribution	<i>CWOTDIST</i>
1 Central air handlers	<i>CWAIR</i>									
2 Fan coil units	<i>CWFNCL</i>									
3 Chilled beam	<i>CWBEAM</i>									
4 Other cooling distribution	<i>CWOTDIST</i>									
<b>NEXT</b>	→ D96 [Who has temperature control]									

<b>D96</b>	<b>Who has temperature control</b>	<i>WHOTC</i>
<b>ASK</b>	IF D1 [Heating] = Yes OR D4 [Cooling] = Yes	
<p>Does this business have direct control over the temperature in the space?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → D97 [Building automation system] IF No OR DK/RF THEN: IF Any heating equipment other than Individual space heater OR Fireplace reported → D104 [Airflow control] OTHERWISE → D106 [Regular HVAC maintenance]	

<b>D97</b>	<b>Building automation system</b>	<i>EMCS</i>
<b>ASK</b>	IF D96 [Who has temperature control] = Yes	
<p>Does this establishment have a “Building Automation System” which may also be referred to as BAS, smart building controls, an energy management and control system, or EMCS?</p> <p>◆ DEF: [These systems monitor changes in ambient temperature and operating conditions and automatically modify the heating and cooling levels in different interior zones. This is accomplished by means of remote sensing and control instruments, and interpretive and control software.]</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → D98 [BAS system controls] IF No OR DK/RF → D99 [Smart thermostats]	



<b>D98</b>	<b>BAS system controls</b>	<i>see below</i>
<b>ASK</b>	IF D97 [Building automation system] = Yes	
<b>FILL</b>	<b>{HeatingCooling}</b> IF D1 [Heating] = Yes AND D4 [Cooling] = Yes = "heating, cooling," IF D1 [Heating] = Yes only = "heating" IF D4 [Cooling] = Yes only = "cooling" <b>{Heating}</b> IF D1 [Heating] = Yes = "heating", OTHERWISE blank <b>{Cooling}</b> IF D4 [Cooling] = Yes = "cooling", OTHERWISE blank	
Does the Building Automation System control the {HeatingCooling} and/or lighting?  ◆ ENTER all that apply  1 {Heating} <span style="float: right;"><i>EMCSHT</i></span> 2 {Cooling} <span style="float: right;"><i>EMCSCL</i></span> 3 Lighting <span style="float: right;"><i>EMCSLT</i></span>		
<b>NEXT</b>	IF Any heating equipment other than Individual space heater OR Fireplace reported OR Any cooling equipment other than Individual room air conditioner reported → D104 [Airflow control] OTHERWISE → D106 [Regular HVAC maintenance]	


<b>D99</b>	<b>Smart thermostats</b>	<i>SMRTTHRM</i>
<b>ASK</b>	IF D97 [Building automation system] = No OR DK/RF	
Does this establishment use any "smart" or internet-connected thermostats?  1 Yes 2 No		
<b>NEXT</b>	IF No OR DK/RF: IF D1 [Heating] = Yes → D100 [Reduce heating] IF D4 [Cooling] = Yes → D102 [Reduce cooling] IF Yes THEN: IF Any heating equipment other than Individual space heater OR Fireplace reported OR Any cooling equipment other than Individual room air conditioner reported → D104 [Airflow control] OTHERWISE → D106 [Regular HVAC maintenance]	

<b>D100</b>	<b>Reduce heating</b>	<i>RDHTNF</i>
<b>ASK</b>	IF D99 [Smart thermostats] = No OR DK/RF & D1 [Heating] = Yes	
<b>FILL</b>	<b>{TimesNotInFullUse}</b> IF C6 [Open 24 hours a day] = Yes OR C10 [Total hours open per week] = 168 OR C11 [Weekly hours category] = 168 = "Are there any periods during a normal 24-hour day when there is" OTHERWISE = "When this establishment is not in full use, is there"	
{TimesNotInFullUse} a change in the temperature setting for heating?  1 Yes 2 No		
<b>NEXT</b>	IF Yes → D101 [How reduce heating] IF No OR DK/RF THEN: IF D4 [Cooling] = Yes → D102 [Reduce cooling] IF Any heating equipment other than Individual space heater OR Fireplace reported → D104 [Airflow control] OTHERWISE → D106 [Regular HVAC maintenance]	

<b>D101</b>	<b>How reduce heating</b>	<i>HWRDHT</i>
<b>ASK</b>	IF D100 [Reduce heating] = Yes	
How is the temperature for heating usually changed – using a programmable thermostat, manually changing the thermostat, or manually shutting down the equipment?  ◆ DEF: [A programmable thermostat, or "time-clock thermostat" is programmed to automatically change thermostat settings for times when the establishment is unoccupied.]  1 Programmable thermostat 2 Manually change thermostat 3 Manually shut down equipment		
<b>NEXT</b>	IF D4 [Cooling] = Yes → D102 [Reduce cooling] IF Any heating equipment other than Individual space heater OR Fireplace reported → D104 [Airflow control] OTHERWISE → D106 [Regular HVAC maintenance]	

<b>D102</b>	<b>Reduce cooling</b>	<i>RDCLNF</i>
<b>ASK</b>	IF D99 [Smart thermostats] = No OR DK/RF & D4 [Cooling] = Yes	
<b>FILL</b>	<b>{TimesNotInFullUse}</b> IF C6 [Open 24 hours a day] = Yes OR C10 [Total hours open per week] = 168 OR C11 [Weekly hours category] = 168 = "Are there any periods during a normal 24-hour day when there is" OTHERWISE = "When this establishment is not in full use, is there"	
{TimesNotInFullUse} a change in the temperature setting for <u>cooling</u> ?  1 Yes 2 No		
<b>NEXT</b>	IF Yes → D103 [How reduce cooling] IF No OR DK/RF THEN: IF Any heating equipment other than Individual space heater OR Fireplace reported OR Any cooling equipment other than Individual room air conditioner reported → D104 [Airflow control] OTHERWISE → D106 [Regular HVAC maintenance]	

<b>D103</b>	<b>How reduce cooling</b>	<i>HWRDCL</i>
<b>ASK</b>	IF D102 [Reduce cooling] = Yes	
How is the temperature for cooling usually changed – using a programmable thermostat, manually changing the thermostat, or manually shutting down the equipment?  ◆ DEF: [A programmable thermostat, or "time-clock thermostat" is programmed to automatically change thermostat settings for times when the establishment is unoccupied.]  1 Programmable thermostat 2 Manually change thermostat 3 Manually shut down equipment		
<b>NEXT</b>	IF Any heating equipment other than Individual space heater OR Fireplace reported OR Any cooling equipment other than Individual room air conditioner reported → D104 [Airflow control] OTHERWISE → D106 [Regular HVAC maintenance]	

<b>D104</b>	<b>Airflow control</b>	<i>ECN</i>								
<b>ASK</b>	IF Any heating equipment other than Individual space heater OR Fireplace reported OR Any cooling equipment other than Individual room air conditioner reported									
 SHOW CARD D17  Please look at Show Card D17. Are any of these types of systems used to control the airflow in this establishment?  ◆ ENTER all that apply  <table style="width: 100%; border: none;"> <tr> <td style="width: 70%;">1 Variable air volume (VAV) system</td> <td style="width: 30%;">VAV</td> </tr> <tr> <td>2 Dedicated outside air system (DOAS)</td> <td>DOAS</td> </tr> <tr> <td>3 Demand controlled ventilation (DCV)</td> <td>FKWATR</td> </tr> <tr> <td>4 None of these types</td> <td>NOVENT</td> </tr> </table>			1 Variable air volume (VAV) system	VAV	2 Dedicated outside air system (DOAS)	DOAS	3 Demand controlled ventilation (DCV)	FKWATR	4 None of these types	NOVENT
1 Variable air volume (VAV) system	VAV									
2 Dedicated outside air system (DOAS)	DOAS									
3 Demand controlled ventilation (DCV)	FKWATR									
4 None of these types	NOVENT									
<b>NEXT</b>	IF Any cooling equipment other than Individual room air conditioner reported → D105 [Economizer cycle] OTHERWISE → D106 [Regular HVAC maintenance]									

<b>D105</b>	<b>Economizer cycle</b>	<i>ECN</i>						
<b>ASK</b>	IF Any cooling equipment other than Individual room air conditioner reported							
Does this establishment have any equipment that uses outside air for cooling, often called an "economizer cycle"?  <table style="width: 100%; border: none;"> <tr> <td style="width: 10%;">1</td> <td style="width: 80%;">Yes</td> <td style="width: 10%;"></td> </tr> <tr> <td>2</td> <td>No</td> <td></td> </tr> </table>			1	Yes		2	No	
1	Yes							
2	No							
<b>NEXT</b>	→ D106 [Regular HVAC maintenance]							

<b>D106</b>	<b>Regular HVAC maintenance</b>	<i>MAINT</i>						
<b>ASK</b>	IF D1 [Heating] = Yes OR D4 [Cooling] = Yes							
<b>FILL</b>	<b>{HeatCool}</b> IF Heating only = "heating" IF Cooling only = "cooling" IF Heating & Cooling = "heating and cooling"							
Is there any regularly scheduled maintenance and repair for the {HeatCool} system?  <table style="width: 100%; border: none;"> <tr> <td style="width: 10%;">1</td> <td style="width: 80%;">Yes</td> <td style="width: 10%;"></td> </tr> <tr> <td>2</td> <td>No</td> <td></td> </tr> </table>			1	Yes		2	No	
1	Yes							
2	No							
<b>NEXT</b>	IF D7 [Water heating] = Yes → D107 [Sources for water heating] IF D10 [Cooking] = Yes → D111 [Sources for cooking] IF D12 [Manufacturing] = Yes → D113 [Sources for manufacturing] IF D17 [Type of solar] = Solar panels → D117 [Generation technologies other than solar] OTHERWISE → D115 [Electricity generation capability]							

<b>D107</b>	<b>Sources for water heating</b>	<i>see below</i>																																							
<b>ASK</b>	IF D7 [Water heating] = Yes																																								
<b>FILL</b>	<p><b>{WatrSourcesList}</b> = List of all energy sources used  <b>{Electricity}</b> – <b>{Other3}</b> = If a source is used, it appears in this list; if not, the line is blank  <b>{FuelOilType}</b> = Type or types specified in D15 [Fuel oil, diesel, or kerosene]  <b>{Other1}</b> – <b>{Other3}</b> = Sources specified in D18 [Other energy source 1] – D20 [Other energy source 3]</p>																																								
<p>Which energy sources were used for water heating? ({WatrSourcesList})</p> <ul style="list-style-type: none"> <li>◆ Only sources already selected are shown here</li> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul> <table style="width: 100%; border: none;"> <tr> <td style="width: 10%;">11</td> <td style="width: 70%;">{Electricity}</td> <td style="width: 20%; text-align: right;">ELWATR</td> </tr> <tr> <td>12</td> <td>{Natural gas}</td> <td style="text-align: right;">NGWATR</td> </tr> <tr> <td>13</td> <td>{FuelOilType}</td> <td style="text-align: right;">FKWATR</td> </tr> <tr> <td>14</td> <td>{Propane}</td> <td style="text-align: right;">PRWATR</td> </tr> <tr> <td>15</td> <td>{District steam}</td> <td style="text-align: right;">STWATR</td> </tr> <tr> <td>16</td> <td>{District hot water}</td> <td style="text-align: right;">HWWATR</td> </tr> <tr> <td>18</td> <td>{Wood}</td> <td style="text-align: right;">WOWATR</td> </tr> <tr> <td>19</td> <td>{Coal}</td> <td style="text-align: right;">COWATR</td> </tr> <tr> <td>20</td> <td>{Solar thermal}</td> <td style="text-align: right;">SOWATR</td> </tr> <tr> <td>21</td> <td>{Other1}</td> <td style="text-align: right;">OTWATR</td> </tr> <tr> <td>22</td> <td>{Other2}</td> <td style="text-align: right;">OTWATR</td> </tr> <tr> <td>23</td> <td>{Other3}</td> <td style="text-align: right;">OTWATR</td> </tr> <tr> <td>24</td> <td>Some other energy source</td> <td></td> </tr> </table>			11	{Electricity}	ELWATR	12	{Natural gas}	NGWATR	13	{FuelOilType}	FKWATR	14	{Propane}	PRWATR	15	{District steam}	STWATR	16	{District hot water}	HWWATR	18	{Wood}	WOWATR	19	{Coal}	COWATR	20	{Solar thermal}	SOWATR	21	{Other1}	OTWATR	22	{Other2}	OTWATR	23	{Other3}	OTWATR	24	Some other energy source	
11	{Electricity}	ELWATR																																							
12	{Natural gas}	NGWATR																																							
13	{FuelOilType}	FKWATR																																							
14	{Propane}	PRWATR																																							
15	{District steam}	STWATR																																							
16	{District hot water}	HWWATR																																							
18	{Wood}	WOWATR																																							
19	{Coal}	COWATR																																							
20	{Solar thermal}	SOWATR																																							
21	{Other1}	OTWATR																																							
22	{Other2}	OTWATR																																							
23	{Other3}	OTWATR																																							
24	Some other energy source																																								
<b>NEXT</b>	IF Some other energy source selected → D108 [Other water heating source] OTHERWISE → D109 [Water heating equipment]																																								

<b>D108</b>	<b>Other water heating source</b>	<i>see below</i>																														
<b>ASK</b>	IF Some other energy source IN D107 [Sources for water heating]																															
<p>What was the other energy source used for water heating?</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 10%;">11</td> <td style="width: 70%;">Electricity</td> <td style="width: 20%; text-align: right;">ELWATR</td> </tr> <tr> <td>12</td> <td>Natural gas</td> <td style="text-align: right;">NGWATR</td> </tr> <tr> <td>13</td> <td>Fuel oil/Diesel/Kerosene</td> <td style="text-align: right;">FKWATR</td> </tr> <tr> <td>14</td> <td>Propane</td> <td style="text-align: right;">PRWATR</td> </tr> <tr> <td>15</td> <td>District steam</td> <td style="text-align: right;">STWATR</td> </tr> <tr> <td>16</td> <td>District hot water</td> <td style="text-align: right;">HWWATR</td> </tr> <tr> <td>18</td> <td>Wood</td> <td style="text-align: right;">WOWATR</td> </tr> <tr> <td>19</td> <td>Coal</td> <td style="text-align: right;">COWATR</td> </tr> <tr> <td>20</td> <td>Solar thermal</td> <td style="text-align: right;">SOWATR</td> </tr> <tr> <td>24</td> <td>Some other energy source</td> <td style="text-align: right;">OTWATR</td> </tr> </table>			11	Electricity	ELWATR	12	Natural gas	NGWATR	13	Fuel oil/Diesel/Kerosene	FKWATR	14	Propane	PRWATR	15	District steam	STWATR	16	District hot water	HWWATR	18	Wood	WOWATR	19	Coal	COWATR	20	Solar thermal	SOWATR	24	Some other energy source	OTWATR
11	Electricity	ELWATR																														
12	Natural gas	NGWATR																														
13	Fuel oil/Diesel/Kerosene	FKWATR																														
14	Propane	PRWATR																														
15	District steam	STWATR																														
16	District hot water	HWWATR																														
18	Wood	WOWATR																														
19	Coal	COWATR																														
20	Solar thermal	SOWATR																														
24	Some other energy source	OTWATR																														
<b>NEXT</b>	→ D109 [Water heating equipment]																															

<b>D109</b>	<b>Water heating equipment</b>	<i>WTHTEQ</i>
<b>ASK</b>	IF D7 [Water heating] = Yes	
<p>Does this establishment have centralized water heaters, "point-of-use" water heaters, or both of these types (of water heaters)? Point-of-use water heaters may also be referred to as "tankless" water heaters.</p> <p>1 One or more centralized water heaters  2 One or more "point-of-use" water heaters  3 Both types</p>		
<b>NEXT</b>	IF Establishment Activity = Food service OR Dry cleaner/Laundromat → D110 [Booster water heaters] IF D10 [Cooking] = Yes → D111 [Sources for cooking] IF D12 [Manufacturing] = Yes → D113 [Sources for manufacturing] IF D17 [Type of solar] = Solar panels → D117 [Generation technologies other than solar] OTHERWISE → D115 [Electricity generation capability]	

<b>D110</b>	<b>Booster water heaters</b>	<i>BOOSTWT</i>
<b>ASK</b>	IF D7 [Water heating] = Yes & Establishment Activity = Food service OR Dry cleaner/Laundromat	
<p>Does this establishment have any "booster" water heaters, which are used to increase the water temperature up to 195 degrees, often for the purpose of sanitizing?</p> <p>1 Yes  2 No</p>		
<b>NEXT</b>	IF D10 [Cooking] = Yes → D111 [Sources for cooking] IF D12 [Manufacturing] = Yes → D113 [Sources for manufacturing] IF D17 [Type of solar] = Solar panels → D117 [Generation technologies other than solar] OTHERWISE → D115 [Electricity generation capability]	

<b>D111</b>	<b>Sources for cooking</b>	<i>see below</i>																																				
<b>ASK</b>	IF D10 [Cooking] = Yes																																					
<b>FILL</b>	<p><b>{CookSourcesList}</b> = List of all energy sources used  <b>{Electricity} – {Other3}</b> = If a source is used, it appears in this list; if not, the line is blank  <b>{FuelOilType}</b> = Type or types specified in D15 [Fuel oil, diesel, or kerosene]  <b>{Other1} – {Other3}</b> = Sources specified in D18 [Other energy source 1] – D20 [Other energy source 3]</p>																																					
<p>Which energy sources were used for cooking? [ {CookSourcesList} ]</p> <ul style="list-style-type: none"> <li>◆ Only sources already selected are shown here</li> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">11</td> <td style="width: 70%;">{Electricity}</td> <td style="width: 20%; text-align: right;"><i>ELCOOK</i></td> </tr> <tr> <td>12</td> <td>{Natural gas}</td> <td style="text-align: right;"><i>NGCOOK</i></td> </tr> <tr> <td>13</td> <td>{FuelOilType}</td> <td style="text-align: right;"><i>FKCOOK</i></td> </tr> <tr> <td>14</td> <td>{Propane}</td> <td style="text-align: right;"><i>PRCOOK</i></td> </tr> <tr> <td>15</td> <td>{District steam}</td> <td style="text-align: right;"><i>STCOOK</i></td> </tr> <tr> <td>16</td> <td>{District hot water}</td> <td style="text-align: right;"><i>HWCOOK</i></td> </tr> <tr> <td>18</td> <td>{Wood}</td> <td style="text-align: right;"><i>WOCOOK</i></td> </tr> <tr> <td>19</td> <td>{Coal}</td> <td style="text-align: right;"><i>COCOOK</i></td> </tr> <tr> <td>21</td> <td>{Other1}</td> <td style="text-align: right;"><i>OTCOOK</i></td> </tr> <tr> <td>22</td> <td>{Other2}</td> <td style="text-align: right;"><i>OTCOOK</i></td> </tr> <tr> <td>23</td> <td>{Other3}</td> <td style="text-align: right;"><i>OTCOOK</i></td> </tr> <tr> <td>24</td> <td>Some other energy source</td> <td></td> </tr> </table>			11	{Electricity}	<i>ELCOOK</i>	12	{Natural gas}	<i>NGCOOK</i>	13	{FuelOilType}	<i>FKCOOK</i>	14	{Propane}	<i>PRCOOK</i>	15	{District steam}	<i>STCOOK</i>	16	{District hot water}	<i>HWCOOK</i>	18	{Wood}	<i>WOCOOK</i>	19	{Coal}	<i>COCOOK</i>	21	{Other1}	<i>OTCOOK</i>	22	{Other2}	<i>OTCOOK</i>	23	{Other3}	<i>OTCOOK</i>	24	Some other energy source	
11	{Electricity}	<i>ELCOOK</i>																																				
12	{Natural gas}	<i>NGCOOK</i>																																				
13	{FuelOilType}	<i>FKCOOK</i>																																				
14	{Propane}	<i>PRCOOK</i>																																				
15	{District steam}	<i>STCOOK</i>																																				
16	{District hot water}	<i>HWCOOK</i>																																				
18	{Wood}	<i>WOCOOK</i>																																				
19	{Coal}	<i>COCOOK</i>																																				
21	{Other1}	<i>OTCOOK</i>																																				
22	{Other2}	<i>OTCOOK</i>																																				
23	{Other3}	<i>OTCOOK</i>																																				
24	Some other energy source																																					
<b>NEXT</b>	IF Some other energy source selected → D112 [Other cooking source] IF D12 [Manufacturing] = Yes → D113 [Sources for manufacturing] IF D17 [Type of solar] = Solar panels → D117 [Generation technologies other than solar] OTHERWISE → D115 [Electricity generation capability]																																					


<b>D112</b>	<b>Other cooking source</b>	<i>see below</i>																											
<b>ASK</b>	IF Some other energy source IN D111 [Sources for cooking]																												
<p>What was the other energy source used for cooking?</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">11</td> <td style="width: 70%;">Electricity</td> <td style="width: 20%; text-align: right;"><i>ELCOOK</i></td> </tr> <tr> <td>12</td> <td>Natural gas</td> <td style="text-align: right;"><i>NGCOOK</i></td> </tr> <tr> <td>13</td> <td>Fuel oil/Diesel/Kerosene</td> <td style="text-align: right;"><i>FKCOOK</i></td> </tr> <tr> <td>14</td> <td>Propane</td> <td style="text-align: right;"><i>PRCOOK</i></td> </tr> <tr> <td>15</td> <td>District steam</td> <td style="text-align: right;"><i>STCOOK</i></td> </tr> <tr> <td>16</td> <td>District hot water</td> <td style="text-align: right;"><i>HWCOOK</i></td> </tr> <tr> <td>18</td> <td>Wood</td> <td style="text-align: right;"><i>WOCOOK</i></td> </tr> <tr> <td>19</td> <td>Coal</td> <td style="text-align: right;"><i>COCOOK</i></td> </tr> <tr> <td>24</td> <td>Some other energy source</td> <td style="text-align: right;"><i>OTCOOK</i></td> </tr> </table>			11	Electricity	<i>ELCOOK</i>	12	Natural gas	<i>NGCOOK</i>	13	Fuel oil/Diesel/Kerosene	<i>FKCOOK</i>	14	Propane	<i>PRCOOK</i>	15	District steam	<i>STCOOK</i>	16	District hot water	<i>HWCOOK</i>	18	Wood	<i>WOCOOK</i>	19	Coal	<i>COCOOK</i>	24	Some other energy source	<i>OTCOOK</i>
11	Electricity	<i>ELCOOK</i>																											
12	Natural gas	<i>NGCOOK</i>																											
13	Fuel oil/Diesel/Kerosene	<i>FKCOOK</i>																											
14	Propane	<i>PRCOOK</i>																											
15	District steam	<i>STCOOK</i>																											
16	District hot water	<i>HWCOOK</i>																											
18	Wood	<i>WOCOOK</i>																											
19	Coal	<i>COCOOK</i>																											
24	Some other energy source	<i>OTCOOK</i>																											
<b>NEXT</b>	IF D12 [Manufacturing] = Yes → D113 [Sources for manufacturing] IF D17 [Type of solar] = Solar panels → D117 [Generation technologies other than solar] OTHERWISE → D115 [Electricity generation capability]																												


<b>D113</b>	<b>Sources for manufacturing</b>	<i>see below</i>																																				
<b>ASK</b>	IF D12 [Manufacturing] = Yes																																					
<b>FILL</b>	<p><b>{ManuSourcesList}</b> = List of all energy sources used  <b>{Electricity} – {Other3}</b> = If a source is used, it appears in this list; if not, the line is blank  <b>{FuelOilType}</b> = Type or types specified in D15 [Fuel oil, diesel, or kerosene]  <b>{Other1} – {Other3}</b> = Sources specified in D18 [Other energy source 1] – D20 [Other energy source 3]</p>																																					
<p>Which energy sources were used for manufacturing? [ {ManuSourcesList} ]</p> <ul style="list-style-type: none"> <li>◆ Only sources already selected are shown here</li> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul> <table style="width: 100%; border: none;"> <tr> <td style="width: 10%;">11</td> <td style="width: 70%;">{Electricity}</td> <td style="width: 20%; text-align: right;"><i>ELMANU</i></td> </tr> <tr> <td>12</td> <td>{Natural gas}</td> <td style="text-align: right;"><i>NGMANU</i></td> </tr> <tr> <td>13</td> <td>{FuelOilType}</td> <td style="text-align: right;"><i>FKMANU</i></td> </tr> <tr> <td>14</td> <td>{Propane}</td> <td style="text-align: right;"><i>PRMANU</i></td> </tr> <tr> <td>15</td> <td>{District steam}</td> <td style="text-align: right;"><i>STMANU</i></td> </tr> <tr> <td>16</td> <td>{District hot water}</td> <td style="text-align: right;"><i>HWMANU</i></td> </tr> <tr> <td>18</td> <td>{Wood}</td> <td style="text-align: right;"><i>WOMANU</i></td> </tr> <tr> <td>19</td> <td>{Coal}</td> <td style="text-align: right;"><i>COMANU</i></td> </tr> <tr> <td>21</td> <td>{Other1}</td> <td style="text-align: right;"><i>OTMANU</i></td> </tr> <tr> <td>22</td> <td>{Other2}</td> <td style="text-align: right;"><i>OTMANU</i></td> </tr> <tr> <td>23</td> <td>{Other3}</td> <td style="text-align: right;"><i>OTMANU</i></td> </tr> <tr> <td>24</td> <td>Some other energy source</td> <td></td> </tr> </table>			11	{Electricity}	<i>ELMANU</i>	12	{Natural gas}	<i>NGMANU</i>	13	{FuelOilType}	<i>FKMANU</i>	14	{Propane}	<i>PRMANU</i>	15	{District steam}	<i>STMANU</i>	16	{District hot water}	<i>HWMANU</i>	18	{Wood}	<i>WOMANU</i>	19	{Coal}	<i>COMANU</i>	21	{Other1}	<i>OTMANU</i>	22	{Other2}	<i>OTMANU</i>	23	{Other3}	<i>OTMANU</i>	24	Some other energy source	
11	{Electricity}	<i>ELMANU</i>																																				
12	{Natural gas}	<i>NGMANU</i>																																				
13	{FuelOilType}	<i>FKMANU</i>																																				
14	{Propane}	<i>PRMANU</i>																																				
15	{District steam}	<i>STMANU</i>																																				
16	{District hot water}	<i>HWMANU</i>																																				
18	{Wood}	<i>WOMANU</i>																																				
19	{Coal}	<i>COMANU</i>																																				
21	{Other1}	<i>OTMANU</i>																																				
22	{Other2}	<i>OTMANU</i>																																				
23	{Other3}	<i>OTMANU</i>																																				
24	Some other energy source																																					
<b>NEXT</b>	IF Some other energy source selected → D114 [Other manufacturing source] IF D17 [Type of solar] = Solar panels → D117 [Generation technologies other than solar] OTHERWISE → D115 [Electricity generation capability]																																					

<b>D114</b>	<b>Other manufacturing source</b>	<i>see below</i>																											
<b>ASK</b>	IF Some other energy source IN D113 [Sources for manufacturing]																												
<p>What was the other energy source used for manufacturing?</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 10%;">11</td> <td style="width: 70%;">Electricity</td> <td style="width: 20%; text-align: right;"><i>ELMANU</i></td> </tr> <tr> <td>12</td> <td>Natural gas</td> <td style="text-align: right;"><i>NGMANU</i></td> </tr> <tr> <td>13</td> <td>Fuel oil/Diesel/Kerosene</td> <td style="text-align: right;"><i>FKMANU</i></td> </tr> <tr> <td>14</td> <td>Propane</td> <td style="text-align: right;"><i>PRMANU</i></td> </tr> <tr> <td>15</td> <td>District steam</td> <td style="text-align: right;"><i>STMANU</i></td> </tr> <tr> <td>16</td> <td>District hot water</td> <td style="text-align: right;"><i>HWMANU</i></td> </tr> <tr> <td>18</td> <td>Wood</td> <td style="text-align: right;"><i>WOMANU</i></td> </tr> <tr> <td>19</td> <td>Coal</td> <td style="text-align: right;"><i>COMANU</i></td> </tr> <tr> <td>24</td> <td>Some other energy source</td> <td style="text-align: right;"><i>OTMANU</i></td> </tr> </table>			11	Electricity	<i>ELMANU</i>	12	Natural gas	<i>NGMANU</i>	13	Fuel oil/Diesel/Kerosene	<i>FKMANU</i>	14	Propane	<i>PRMANU</i>	15	District steam	<i>STMANU</i>	16	District hot water	<i>HWMANU</i>	18	Wood	<i>WOMANU</i>	19	Coal	<i>COMANU</i>	24	Some other energy source	<i>OTMANU</i>
11	Electricity	<i>ELMANU</i>																											
12	Natural gas	<i>NGMANU</i>																											
13	Fuel oil/Diesel/Kerosene	<i>FKMANU</i>																											
14	Propane	<i>PRMANU</i>																											
15	District steam	<i>STMANU</i>																											
16	District hot water	<i>HWMANU</i>																											
18	Wood	<i>WOMANU</i>																											
19	Coal	<i>COMANU</i>																											
24	Some other energy source	<i>OTMANU</i>																											
<b>NEXT</b>	IF D17 [Type of solar] = Solar panels → D117 [Generation technologies other than solar] OTHERWISE → D115 [Electricity generation capability]																												




<b>D115</b>	<b>Electricity generation capability</b>	<i>CAPGEN</i>
<b>ASK</b>	IF NOT D17 [Type of solar] = Solar panels	
<p>Does this establishment have the ability to generate electricity on-site, such as from solar panels or a generator? Please include generation equipment even if it is used for emergency backup purposes.</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → D116 [Generation technologies] OTHERWISE: IF Establishment Activity = Dry cleaner/Laundromat & Natural gas used → D122 [Natural gas dryers] OTHERWISE → D123 [Any other sources]	

<b>D116</b>	<b>Generation technologies</b>	<i>see below</i>														
<b>ASK</b>	IF D115 [Electricity generation capability] = Yes															
<p> SHOW CARD D18</p> <p>Looking at Show Card D18, were any of the technologies on the list used on-site for generating electricity?</p> <ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul> <table style="width: 100%; border: none;"> <tr> <td style="width: 70%;">1 Solar panels used to generate electricity</td> <td style="width: 30%; text-align: right;"><i>PVC</i></td> </tr> <tr> <td>2 Reciprocating engine generator</td> <td style="text-align: right;"><i>ENGINE</i></td> </tr> <tr> <td>3 Fuel cells</td> <td style="text-align: right;"><i>FUELCL</i></td> </tr> <tr> <td>4 Large turbines</td> <td style="text-align: right;"><i>LRGTRB</i></td> </tr> <tr> <td>5 Microturbines</td> <td style="text-align: right;"><i>MCROTB</i></td> </tr> <tr> <td>6 Wind turbines</td> <td style="text-align: right;"><i>WINDTRB</i></td> </tr> <tr> <td>7 Other technology to generate electricity on-site</td> <td style="text-align: right;"><i>OTGENTECH</i></td> </tr> </table>			1 Solar panels used to generate electricity	<i>PVC</i>	2 Reciprocating engine generator	<i>ENGINE</i>	3 Fuel cells	<i>FUELCL</i>	4 Large turbines	<i>LRGTRB</i>	5 Microturbines	<i>MCROTB</i>	6 Wind turbines	<i>WINDTRB</i>	7 Other technology to generate electricity on-site	<i>OTGENTECH</i>
1 Solar panels used to generate electricity	<i>PVC</i>															
2 Reciprocating engine generator	<i>ENGINE</i>															
3 Fuel cells	<i>FUELCL</i>															
4 Large turbines	<i>LRGTRB</i>															
5 Microturbines	<i>MCROTB</i>															
6 Wind turbines	<i>WINDTRB</i>															
7 Other technology to generate electricity on-site	<i>OTGENTECH</i>															
<b>NEXT</b>	IF Other technology to generate electricity on-site → D118 [Other gener tech specify] IF DK/RF OR (ONLY Solar panels OR Wind turbines) THEN: IF Establishment Activity = Dry cleaner/Laundromat & Natural gas used → D122 [Natural gas dryers] OTHERWISE → D123 [Any other sources] OTHERWISE → D119 [Sources for electricity generation]															

<b>D117</b>	<b>Generation technologies other than solar</b>	<i>see below</i>		
<b>ASK</b>	IF D17 [Type of solar] = Solar panels			
 SHOW CARD D19  Earlier you mentioned that solar panels were used to generate electricity for this establishment. Looking at Show Card D19, were any of the other technologies on the list used on-site for generating electricity?				
<ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul>				
<table style="width: 100%; border: none;"> <tr> <td style="width: 80%; border: none;"> <ol style="list-style-type: none"> <li>1 No other electricity generation technologies used</li> <li>2 Reciprocating engine generator</li> <li>3 Fuel cells</li> <li>4 Large turbines</li> <li>5 Microturbines</li> <li>6 Wind turbines</li> <li>7 Other technology to generate electricity on-site</li> </ol> </td> <td style="width: 20%; border: none; vertical-align: top;"> <i>ENGINE FUELCL LRGTRB MCROTB WINDTRB OTGENTECH</i> </td> </tr> </table>			<ol style="list-style-type: none"> <li>1 No other electricity generation technologies used</li> <li>2 Reciprocating engine generator</li> <li>3 Fuel cells</li> <li>4 Large turbines</li> <li>5 Microturbines</li> <li>6 Wind turbines</li> <li>7 Other technology to generate electricity on-site</li> </ol>	<i>ENGINE FUELCL LRGTRB MCROTB WINDTRB OTGENTECH</i>
<ol style="list-style-type: none"> <li>1 No other electricity generation technologies used</li> <li>2 Reciprocating engine generator</li> <li>3 Fuel cells</li> <li>4 Large turbines</li> <li>5 Microturbines</li> <li>6 Wind turbines</li> <li>7 Other technology to generate electricity on-site</li> </ol>	<i>ENGINE FUELCL LRGTRB MCROTB WINDTRB OTGENTECH</i>			
<b>NEXT</b>	IF Other technology to generate electricity on-site → D118 [Other gener tech specify] IF DK/RF OR (ONLY No other technologies OR Wind turbines) THEN: IF Establishment Activity = Dry cleaner/Laundromat & Natural gas used → D122 [Natural gas dryers] OTHERWISE → D123 [Any other sources] OTHERWISE → D119 [Sources for electricity generation]			

<b>D118</b>	<b>Other gener tech specify</b>	
<b>ASK</b>	IF Other technology to generate electricity on-site IN D116 [Generation technologies] OR D117 [Generation technologies other than solar]	
Please describe the other way that this establishment generates electricity on-site.		
<ul style="list-style-type: none"> <li>◆ RECORD in open box</li> </ul>		
<b>NEXT</b>	→ D119 [Sources for electricity generation]	

<b>D119</b>	<b>Sources for electricity generation</b>	<i>see below</i>																											
<b>ASK</b>	IF Any technology other than Solar panels or Wind turbines in D116 [Generation technologies] OR Any response other than No other technologies or Wind turbines in D117 [Generation technologies other than solar]																												
<b>FILL</b>	<b>{GenrTechList}</b> = List of generation technologies used excluding Solar and Wind <b>{Other1} – {Other3}</b> = Sources specified in D18 [Other energy source 1] – D20 [Other energy source 3]																												
 SHOW CARD D20  Looking at Show Card D20, please tell me which energy sources were used for the {GenrTechList}. <ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul> <table style="width: 100%; border: none;"> <tr> <td style="width: 15%;">12</td> <td style="width: 65%;">Natural gas</td> <td style="width: 20%; text-align: right;"><i>NGGENR</i></td> </tr> <tr> <td>13</td> <td>Fuel oil/Diesel/Kerosene</td> <td style="text-align: right;"><i>FKGENR</i></td> </tr> <tr> <td>14</td> <td>Propane</td> <td style="text-align: right;"><i>PRGENR</i></td> </tr> <tr> <td>18</td> <td>Wood</td> <td style="text-align: right;"><i>WOGENR</i></td> </tr> <tr> <td>19</td> <td>Coal</td> <td style="text-align: right;"><i>COGENR</i></td> </tr> <tr> <td>21</td> <td>{Other1}</td> <td style="text-align: right;"><i>OTGENR</i></td> </tr> <tr> <td>22</td> <td>{Other2}</td> <td style="text-align: right;"><i>OTGENR</i></td> </tr> <tr> <td>23</td> <td>{Other3}</td> <td style="text-align: right;"><i>OTGENR</i></td> </tr> <tr> <td>24</td> <td>Some other energy source</td> <td style="text-align: right;"><i>OTGENR</i></td> </tr> </table>			12	Natural gas	<i>NGGENR</i>	13	Fuel oil/Diesel/Kerosene	<i>FKGENR</i>	14	Propane	<i>PRGENR</i>	18	Wood	<i>WOGENR</i>	19	Coal	<i>COGENR</i>	21	{Other1}	<i>OTGENR</i>	22	{Other2}	<i>OTGENR</i>	23	{Other3}	<i>OTGENR</i>	24	Some other energy source	<i>OTGENR</i>
12	Natural gas	<i>NGGENR</i>																											
13	Fuel oil/Diesel/Kerosene	<i>FKGENR</i>																											
14	Propane	<i>PRGENR</i>																											
18	Wood	<i>WOGENR</i>																											
19	Coal	<i>COGENR</i>																											
21	{Other1}	<i>OTGENR</i>																											
22	{Other2}	<i>OTGENR</i>																											
23	{Other3}	<i>OTGENR</i>																											
24	Some other energy source	<i>OTGENR</i>																											
<b>NEXT</b>	➔ D120 [Use of generated electricity]																												

<b>D120</b>	<b>Use of generated electricity</b>	<i>GENUSE</i>
<b>ASK</b>	IF Any technology other than Solar panels or Wind turbines in D116 [Generation technologies] OR Any response other than No other technologies or Wind turbines in D117 [Generation technologies other than solar]	
During 2018, was the electricity generated in this establishment used: primarily for emergency back-up or testing, only during periods of high electricity demand, or whenever electricity was used? <ul style="list-style-type: none"> <li>1 Primarily for emergency back-up or testing</li> <li>2 During periods of high electricity demand</li> <li>3 Whenever electricity was used</li> </ul>		
<b>NEXT</b>	IF Primarily for emergency back-up or testing OR During periods of high electricity demand ➔ D121 [Energy for generation] IF Establishment Activity = Dry cleaner/Laundromat & Natural gas used ➔ D122 [Natural gas dryers] OTHERWISE ➔ D123 [Any other sources]	

<b>D121</b>	<b>Energy for generation</b>	<i>GENR</i>
<b>ASK</b>	IF D120 [Use of generated electricity] = Primarily for emergency back-up or testing OR During periods of high electricity demand	
<p>Was any energy actually <u>used</u> for generating electricity in this establishment during 2018, even if just a small amount was used for emergency backup or for testing generators?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Establishment Activity = Dry cleaner/Laundromat & Natural gas used → D122 [Natural gas dryers] OTHERWISE → D123 [Any other sources]	

<b>D122</b>	<b>Natural gas dryers</b>	<i>NGDRY</i>
<b>ASK</b>	IF Establishment Activity = Dry cleaner/Laundromat & Natural gas used	
<p>Are there any clothes dryers that use natural gas in this establishment?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	→ D123 [Any other sources]	

<b>D123</b>	<b>Any other sources</b>	
<b>ASK</b>	IF D14 [Energy sources used] was answered	
<b>FILL</b>	{SourcesList} = List of all energy sources used	
<p>As a final check, were there any energy sources used in this establishment other than {SourcesList}?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	<p>IF Yes → D124 [Other sources]  IF No OR DK/RF:  Check that every energy source given in D14 [Energy sources used] (other than electricity) was assigned an end use. THEN:  IF Yes:  IF Heating OR Cooling → D127 [Energy management plan]  OTHERWISE → E1 [Section E Routing]  IF No → D126 [Missed {energy source} use]</p>	

<b>D124</b>	<b>Other sources</b>	<i>see below</i>																																	
<b>ASK</b>	IF D123 [Any other sources] =Yes																																		
<b>FILL</b>	<b>{Electricity} – {Coal}</b> = If a source has NOT been mentioned, it appears in this list; if it has, the line is blank																																		
<p>What other sources were used?</p> <ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul> <table style="width: 100%; border: none;"> <tr> <td style="width: 10%;">11</td> <td style="width: 70%;">{Electricity}</td> <td style="width: 20%; text-align: right;"><i>ELUSED</i></td> </tr> <tr> <td>12</td> <td>{Natural gas}</td> <td style="text-align: right;"><i>NGUSED</i></td> </tr> <tr> <td>13</td> <td>{Fuel/Diesel/Kerosene}</td> <td style="text-align: right;"><i>FKUSED</i></td> </tr> <tr> <td>14</td> <td>{Propane}</td> <td style="text-align: right;"><i>PRUSED</i></td> </tr> <tr> <td>15</td> <td>{District steam}</td> <td style="text-align: right;"><i>STUSED</i></td> </tr> <tr> <td>16</td> <td>{District hot water}</td> <td style="text-align: right;"><i>HWUSED</i></td> </tr> <tr> <td>17</td> <td>{District chilled water}</td> <td style="text-align: right;"><i>CWUSED</i></td> </tr> <tr> <td>18</td> <td>{Wood}</td> <td style="text-align: right;"><i>WOUSED</i></td> </tr> <tr> <td>19</td> <td>{Coal}</td> <td style="text-align: right;"><i>COUSED</i></td> </tr> <tr> <td>20</td> <td>{Solar thermal}</td> <td style="text-align: right;"><i>SOUSED</i></td> </tr> <tr> <td>24</td> <td>Other</td> <td style="text-align: right;"><i>OTUSED</i></td> </tr> </table>			11	{Electricity}	<i>ELUSED</i>	12	{Natural gas}	<i>NGUSED</i>	13	{Fuel/Diesel/Kerosene}	<i>FKUSED</i>	14	{Propane}	<i>PRUSED</i>	15	{District steam}	<i>STUSED</i>	16	{District hot water}	<i>HWUSED</i>	17	{District chilled water}	<i>CWUSED</i>	18	{Wood}	<i>WOUSED</i>	19	{Coal}	<i>COUSED</i>	20	{Solar thermal}	<i>SOUSED</i>	24	Other	<i>OTUSED</i>
11	{Electricity}	<i>ELUSED</i>																																	
12	{Natural gas}	<i>NGUSED</i>																																	
13	{Fuel/Diesel/Kerosene}	<i>FKUSED</i>																																	
14	{Propane}	<i>PRUSED</i>																																	
15	{District steam}	<i>STUSED</i>																																	
16	{District hot water}	<i>HWUSED</i>																																	
17	{District chilled water}	<i>CWUSED</i>																																	
18	{Wood}	<i>WOUSED</i>																																	
19	{Coal}	<i>COUSED</i>																																	
20	{Solar thermal}	<i>SOUSED</i>																																	
24	Other	<i>OTUSED</i>																																	
<b>NEXT</b>	<p>IF District chilled water selected, check that every energy source given in D14 [Energy sources used] (other than electricity) was assigned an end use. THEN:</p> <p>IF Yes:</p> <p style="padding-left: 20px;">IF Heating OR Cooling → D127 [Energy management plan]</p> <p style="padding-left: 20px;">OTHERWISE → E1 [Section E Routing]</p> <p>IF No → D126 [Missed {energy source} use]</p> <p>OTHERWISE → D125 [{Energy source} use]</p>																																		

<b>D125</b>	<b>{Energy source} use</b> <i>see below where {XX} is the energy source abbreviation</i>																
<b>ASK</b>	For each source except District chilled water selected in D124 [Other sources]																
<b>FILL</b>	<p><b>{EnergySource}</b>  IF Electricity IN D124 [Other sources] = "electricity"  IF Natural gas IN D124 [Other sources] = "natural gas"  IF Fuel oil/Diesel/Kerosene IN D124 [Other sources] = "fuel oil/diesel/kerosene"  IF Propane IN D124 [Other sources] = "propane"  IF District steam IN D124 [Other sources] = "district steam"  IF District hot water IN D124 [Other sources] = "district hot water"  IF Wood IN D124 [Other sources] = "wood"  IF Coal IN D124 [Other sources] = "coal"  IF Solar thermal IN D124 [Other sources] = "solar thermal"  IF Other IN D124 [Other sources] = "other fuel"</p> <p><b>{Cooling}</b>  Does not appear as a choice for District hot water, Wood, Coal, OR Solar thermal</p> <p><b>{Electricity generation}</b>  Does not appear as a choice for Electricity, District steam, OR District hot water</p>																
<p>What was the {EnergySource} used for?</p> <table> <tr> <td>1 Heating</td> <td>{XX}HT1/HT2</td> </tr> <tr> <td>2 {Cooling}</td> <td>{XX}COOL</td> </tr> <tr> <td>3 Water heating</td> <td>{XX}WATR</td> </tr> <tr> <td>4 Cooking</td> <td>{XX}COOK</td> </tr> <tr> <td>5 Manufacturing</td> <td>{XX}MANU</td> </tr> <tr> <td>6 {Electricity generation}</td> <td>{XX}GENR</td> </tr> <tr> <td>7 Some other use</td> <td>{XX}OTH</td> </tr> <tr> <td>8 Incorrectly recorded--source not used</td> <td></td> </tr> </table>		1 Heating	{XX}HT1/HT2	2 {Cooling}	{XX}COOL	3 Water heating	{XX}WATR	4 Cooking	{XX}COOK	5 Manufacturing	{XX}MANU	6 {Electricity generation}	{XX}GENR	7 Some other use	{XX}OTH	8 Incorrectly recorded--source not used	
1 Heating	{XX}HT1/HT2																
2 {Cooling}	{XX}COOL																
3 Water heating	{XX}WATR																
4 Cooking	{XX}COOK																
5 Manufacturing	{XX}MANU																
6 {Electricity generation}	{XX}GENR																
7 Some other use	{XX}OTH																
8 Incorrectly recorded--source not used																	
<b>NEXT</b>	Check that every energy source given in D14 [Energy sources used] (other than electricity or district chilled water) was assigned an end use. THEN: IF Yes: IF Heating OR Cooling → D127 [Energy management plan] OTHERWISE → E1 [Section E Routing] IF No → D126 [Missed {energy source} use]																

<b>D126</b>	<b>Missed {energy source} use</b> <i>see below where {XX} is the energy source abbreviation</i>																
<b>ASK</b>	For every energy source given in D14 [Energy sources used] that was not assigned an end use (other than electricity)																
<b>FILL</b>	<p><b>{EnergySource}</b>  IF No end use for Natural gas = "natural gas"  IF No end use for Fuel oil = Type or types specified in D15 [Fuel oil, diesel, or kerosene]  IF No end use for Propane = "propane"  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 thermal = "solar thermal"  IF No end use for Other = "another energy source" (second fill = "other energy source")  <b>{Heating}, {Water heating}, {Cooking}, {Manufacturing}</b>  Do not appear as a choice for District chilled water  <b>{Cooling}</b>  Does not appear as a choice for District hot water, Wood, Coal, OR Solar thermal  <b>{Electricity generation}</b>  Does not appear as a choice for District chilled water, District steam, OR District hot water</p>																
<p>I have recorded that {EnergySource} was used in this establishment but not how it was used. What was the {EnergySource} used for?</p> <table> <tr> <td>1 {Heating}</td> <td>{XX}HT1/HT2</td> </tr> <tr> <td>2 {Cooling}</td> <td>{XX}COOL</td> </tr> <tr> <td>3 {Water heating}</td> <td>{XX}WATR</td> </tr> <tr> <td>4 {Cooking}</td> <td>{XX}COOK</td> </tr> <tr> <td>5 {Manufacturing}</td> <td>{XX}MANU</td> </tr> <tr> <td>6 {Electricity generation}</td> <td>{XX}GENR</td> </tr> <tr> <td>7 Some other use</td> <td>{XX}OTH</td> </tr> <tr> <td>8 Incorrectly recorded--source not used</td> <td></td> </tr> </table>		1 {Heating}	{XX}HT1/HT2	2 {Cooling}	{XX}COOL	3 {Water heating}	{XX}WATR	4 {Cooking}	{XX}COOK	5 {Manufacturing}	{XX}MANU	6 {Electricity generation}	{XX}GENR	7 Some other use	{XX}OTH	8 Incorrectly recorded--source not used	
1 {Heating}	{XX}HT1/HT2																
2 {Cooling}	{XX}COOL																
3 {Water heating}	{XX}WATR																
4 {Cooking}	{XX}COOK																
5 {Manufacturing}	{XX}MANU																
6 {Electricity generation}	{XX}GENR																
7 Some other use	{XX}OTH																
8 Incorrectly recorded--source not used																	
<b>NEXT</b>	IF Heating OR Cooling → D127 [Energy management plan] OTHERWISE → E1 [Section E Routing]																

**NOTE ON USES OF ENERGY:**

In addition to the end uses given in D1 [Heating], D4 [Cooling], D7 [Water heating], D10 [Cooking], and D12 [Manufacturing], it is now possible that an end use was added in D125 [{Energy source} use] OR D126 [Missed {energy source} use]. For the rest of this questionnaire, end uses will just simply be stated, for example: "IF Cooking" would mean: IF D10 [Cooking] =Yes OR Cooking was added as an end use in D125 [{Energy source} use] OR in D126 [Missed {energy source} use].

"Any energy used" will be used to refer to:


IF D1 [Heating] = Yes OR D4 [Cooling] = Yes OR D7 [Water heating] = Yes OR D10 [Cooking] = Yes OR D12 [Manufacturing] = Yes OR D13 [Any energy used] = Yes, some energy was used OR DK/RF

<b>D127</b>	<b>Energy management plan</b>	<i>ENRGYPLN</i>
<b>ASK</b>	IF Heating OR Cooling	
<p>Does this establishment have a formal energy management plan in which energy targets are set and consistently monitored?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	→ E1 [Section E Routing]	



**SECTION E. MISCELLANEOUS EQUIPMENT**

<b>E1</b>	<b>Section E Routing</b>
<b>NEXT</b>	IF Cooking & Establishment Activity ≠ Food service → E2 [Type of food area] IF Water heating → E5 [Large amounts of hot water] IF Establishment Activity = Medical/Dental → E6 [Medical equipment] IF Establishment Activity = Retail shop OR Office/Financial OR Other → E11 [Laboratory equipment] IF Electricity NOT used & D121 [Energy for generation] ≠ Yes → E13 [Verify no electricity] OTHERWISE → E14 [Refrigeration]

<b>E2</b>	<b>Type of food area</b>	<i>FDRM</i>																
<b>ASK</b>	IF Cooking & Establishment Activity ≠ Food service																	
<p> SHOW CARD E1</p> <p>The next questions are about uses of space and equipment in this establishment.</p> <p>Please look at Show Card E1. Which of these types of food preparation or serving areas are found in this establishment?</p> <ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul> <table style="width: 100%; border: none;"> <tr> <td style="width: 70%;">1 Snack bar or concession stand</td> <td style="width: 30%; text-align: right;"><i>SNACK</i></td> </tr> <tr> <td>2 Employee lounge, breakroom, vending area, or pantry</td> <td style="text-align: right;"><i>BREAKRM</i></td> </tr> <tr> <td>3 Fast food or small restaurant</td> <td style="text-align: right;"><i>FASTFD</i></td> </tr> <tr> <td>4 Cafeteria or large restaurant</td> <td style="text-align: right;"><i>CAF</i></td> </tr> <tr> <td>5 Large kitchen, commercial kitchen, or other large food preparation area</td> <td style="text-align: right;"><i>FDPREP</i></td> </tr> <tr> <td>6 Small kitchen area</td> <td style="text-align: right;"><i>KITCHN</i></td> </tr> <tr> <td>7 Other type of food preparation or serving area</td> <td style="text-align: right;"><i>OTFDRM</i></td> </tr> <tr> <td>8 None of these food preparation areas</td> <td style="text-align: right;"><i>NOFDRM</i></td> </tr> </table>			1 Snack bar or concession stand	<i>SNACK</i>	2 Employee lounge, breakroom, vending area, or pantry	<i>BREAKRM</i>	3 Fast food or small restaurant	<i>FASTFD</i>	4 Cafeteria or large restaurant	<i>CAF</i>	5 Large kitchen, commercial kitchen, or other large food preparation area	<i>FDPREP</i>	6 Small kitchen area	<i>KITCHN</i>	7 Other type of food preparation or serving area	<i>OTFDRM</i>	8 None of these food preparation areas	<i>NOFDRM</i>
1 Snack bar or concession stand	<i>SNACK</i>																	
2 Employee lounge, breakroom, vending area, or pantry	<i>BREAKRM</i>																	
3 Fast food or small restaurant	<i>FASTFD</i>																	
4 Cafeteria or large restaurant	<i>CAF</i>																	
5 Large kitchen, commercial kitchen, or other large food preparation area	<i>FDPREP</i>																	
6 Small kitchen area	<i>KITCHN</i>																	
7 Other type of food preparation or serving area	<i>OTFDRM</i>																	
8 None of these food preparation areas	<i>NOFDRM</i>																	
<b>NEXT</b>	IF ONLY Employee lounge, breakroom, vending area, or pantry selected → E3 [Cooking in break room] IF Some other type selected → E4 [Other food area] OTHERWISE: IF Water heating → E5 [Large amounts of hot water] IF Establishment Activity = Medical/Dental → E6 [Medical equipment] IF Establishment Activity = Retail shop OR Office/Financial OR Other → E11 [Laboratory equipment] IF Electricity NOT used & D121 [Energy for generation] ≠ Yes → E13 [Verify no electricity] OTHERWISE → E14 [Refrigeration]																	

<b>E3</b>	<b>Cooking in break room</b>	<i>COOKBRK</i>
<b>ASK</b>	IF ONLY Employee lounge/breakroom/pantry IN E2 [Type of food area]	
<p>Does this employee lounge or break room contain a full-size oven or stove for cooking?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Water heating → E5 [Large amounts of hot water] IF Establishment Activity = Medical/Dental → E6 [Medical equipment] IF Establishment Activity = Retail shop OR Office/Financial OR Other → E11 [Laboratory equipment] IF Electricity NOT used & D121 [Energy for generation] ≠ Yes → E13 [Verify no electricity] OTHERWISE → E14 [Refrigeration]	

<b>E4</b>	<b>Other food area</b>
<b>ASK</b>	IF Some other type IN E2 [Type of food area]
<p>Please describe this other type of food preparation or serving area.</p> <p>◆ RECORD in open box</p>	
<b>NEXT</b>	IF Water heating → E5 [Large amounts of hot water] IF Establishment Activity = Medical/Dental → E6 [Medical equipment] IF Establishment Activity = Retail shop OR Office/Financial OR Other → E11 [Laboratory equipment] IF Electricity NOT used & D121 [Energy for generation] ≠ Yes → E13 [Verify no electricity] OTHERWISE → E14 [Refrigeration]

<b>E5</b>	<b>Large amounts of hot water</b>	<i>HWTRM</i>
<b>ASK</b>	IF Water heating	
<b>FILL</b>	<b>{Introduction}</b> IF E2 [Type of food area] was NOT asked = "Now I have some questions about energy-related space uses and equipment that may be used in this establishment." OTHERWISE = BLANK	
<p>{Introduction}</p> <p>Is any space in this establishment used for any activities requiring large amounts of hot water, such as a commercial dishwasher, laundry room, heated pool, steam room, whirlpool, or showers?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Establishment Activity = Medical/Dental → E6 [Medical equipment] IF Establishment Activity = Retail shop OR Office/Financial OR Other → E11 [Laboratory equipment] IF Electricity NOT used & D121 [Energy for generation] ≠ Yes → E13 [Verify no electricity] OTHERWISE → E14 [Refrigeration]	

<b>E6</b>	<b>Medical equipment</b>	<i>MEDEQP</i>
<b>ASK</b>	IF Any energy used & Establishment Activity=Medical/Dental	
<p>Does this establishment have any equipment for medical diagnosis or treatment, such as X-ray, CT scan, MRI, linear accelerator, dialysis, or ultrasound machines?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → E7 [Number of X-ray machines] OTHERWISE → E11 [Laboratory equipment]	

<b>E7</b>	<b>Number of X-ray machines</b>	<i>XRAYN</i>
<b>ASK</b>	IF E6 [Medical equipment] = Yes	
How many X-ray machines are used in this establishment?		
<b>RANGE</b>	0 to 999	
<b>NEXT</b>	→ E8 [Number of CT scan machines]	

<b>E8</b>	<b>Number of CT scan machines</b>	<i>CTSCANN</i>
<b>ASK</b>	IF E6 [Medical equipment] = Yes	
How many CT scan machines are used in this establishment?		
<b>RANGE</b>	0 to 999	
<b>NEXT</b>	→ E9 [Number of MRI machines]	

<b>E9</b>	<b>Number of MRI machines</b>	<i>MRIN</i>
<b>ASK</b>	IF E6 [Medical equipment] = Yes	
How many MRI machines are used in this establishment?		
<b>RANGE</b>	0 to 999	
<b>NEXT</b>	→ E10 [Number of linear accelerators]	


<b>E10</b>	<b>Number of linear accelerators</b>	<i>LINACCN</i>
<b>ASK</b>	IF E6 [Medical equipment] = Yes	
<p>How many linear accelerators are used in this establishment?</p> <p>◆ DEF: [A linear accelerator is used for external beam adiation treatments for patients with cancer.]</p>		
<b>RANGE</b>	0 to 999	
<b>NEXT</b>	➔ E11 [Laboratory equipment]	

<b>E11</b>	<b>Laboratory equipment</b>	<i>LABEQP</i>
<b>ASK</b>	IF Any energy used & Establishment Activity = Retail shop; Office/Financial; Medical/Dental; OR Other	
<p>Does this establishment have any specialized laboratory equipment that requires extra energy consumption?</p> <p>◆ EXP: [Some examples are fume hoods, gas chromatographs, centrifuges, spectrometers, and analysis equipment.]</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Establishment Activity = Retail shop OR Other ➔ E12 [Machine equipment] IF Electricity NOT used & D121 [Energy for generation] ≠ Yes ➔ E13 [Verify no electricity] OTHERWISE ➔ E14 [Refrigeration]	

<b>E12</b>	<b>Machine equipment</b>	<i>MCHEQP</i>
<b>ASK</b>	IF Any energy used & Establishment Activity = Retail shop OR Other	
<p>Does this establishment have any machine or shop equipment such as woodworking tools, metalworking tools, arc welders, or any other types of power tools?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Electricity NOT used & D121 [Energy for generation] ≠ Yes ➔ E13 [Verify no electricity] OTHERWISE ➔ E14 [Refrigeration]	

<b>E13</b>	<b>Verify no electricity</b>	<i>NOELEC</i>
<b>ASK</b>	IF Any energy used & Electricity NOT used & D121 [Energy for generation] ≠ Yes	
<p>I do not have electricity recorded as being used in this establishment. Is it true that there is not any electricity used in this establishment?</p> <p>1 True, electricity is <u>not</u> used 2 False, electricity is used</p>		
<b>NEXT</b>	IF True, electricity is not used OR DK/RF → E57 [Window glass type] IF False, electricity is used → E14 [Refrigeration]	

<b>E14</b>	<b>Refrigeration</b>	<i>RFGEQP</i>
<b>ASK</b>	IF Electricity used OR D121 [Energy for generation] = Yes OR E13 [Verify no electricity] = False, electricity is used	
<p>Is there any refrigeration or freezer equipment used in this establishment, including vending machines?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → E15 [Refrigeration types] IF No OR DK/RF: IF Establishment Activity = Vacant & C1 [Occupied/vacant all 2018] = Yes → E48 [Vacant estab lit] OTHERWISE → E27 [Computing equipment]	

<b>E15</b>	<b>Refrigeration types</b>	<i>see below</i>																
<b>ASK</b>	IF E14 [Refrigeration] = Yes																	
 SHOW CARD E2 Looking at Show Card E2, please tell me which types of refrigeration or freezer equipment are found in this establishment. <ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul> <table style="width: 100%; border: none;"> <tr> <td style="width: 80%;">1 Full-size residential-type refrigerators/freezers</td> <td style="text-align: right;"><i>RFGRES</i></td> </tr> <tr> <td>2 Half-size or compact refrigerators</td> <td style="text-align: right;"><i>RFGCOMP</i></td> </tr> <tr> <td>3 Walk-in refrigeration/freezer units</td> <td style="text-align: right;"><i>RFGWI</i></td> </tr> <tr> <td>4 Open refrigerated/freezer cases or cabinets</td> <td style="text-align: right;"><i>RFGOP</i></td> </tr> <tr> <td>5 Closed refrigerated/freezer cases or cabinets</td> <td style="text-align: right;"><i>RFGCL</i></td> </tr> <tr> <td>6 Refrigerated vending machines</td> <td style="text-align: right;"><i>RFGVEN</i></td> </tr> <tr> <td>7 Commercial ice makers</td> <td style="text-align: right;"><i>RFGICE</i></td> </tr> <tr> <td>8 Large cold storage areas</td> <td style="text-align: right;"><i>RFGSTO</i></td> </tr> </table>			1 Full-size residential-type refrigerators/freezers	<i>RFGRES</i>	2 Half-size or compact refrigerators	<i>RFGCOMP</i>	3 Walk-in refrigeration/freezer units	<i>RFGWI</i>	4 Open refrigerated/freezer cases or cabinets	<i>RFGOP</i>	5 Closed refrigerated/freezer cases or cabinets	<i>RFGCL</i>	6 Refrigerated vending machines	<i>RFGVEN</i>	7 Commercial ice makers	<i>RFGICE</i>	8 Large cold storage areas	<i>RFGSTO</i>
1 Full-size residential-type refrigerators/freezers	<i>RFGRES</i>																	
2 Half-size or compact refrigerators	<i>RFGCOMP</i>																	
3 Walk-in refrigeration/freezer units	<i>RFGWI</i>																	
4 Open refrigerated/freezer cases or cabinets	<i>RFGOP</i>																	
5 Closed refrigerated/freezer cases or cabinets	<i>RFGCL</i>																	
6 Refrigerated vending machines	<i>RFGVEN</i>																	
7 Commercial ice makers	<i>RFGICE</i>																	
8 Large cold storage areas	<i>RFGSTO</i>																	
<b>NEXT</b>	IF Residential-type selected → E16 [Number residential refrigerators] IF Compact size selected → E17 [Number compact size refrigerators] IF Walk-in units selected → E18 [Number walk-in units] IF Open cases or cabinets selected → E19 [Number open cases] IF Closed cases or cabinets selected → E20 [Number closed cases] IF Refrigerated vending machines selected → E21 [Number vending] IF Commercial ice makers selected → E22 [Number ice makers] IF Large cold storage areas selected → E23 [Percent cold storage] IF DK/RF: IF Establishment Activity = Food sales → E24 [Waste heat recovery] IF Establishment Activity = Vacant & C1 [Occupied/vacant all 2018] = Yes → E48 [Vacant estab lit] OTHERWISE → E27 [Computing equipment]																	

<b>E16</b>	<b>Number residential refrigerators</b>	<i>RFGRSN</i>
<b>ASK</b>	IF Residential-type IN E15 [Refrigeration types]	
How many residential-type refrigerators or freezers are there? <ul style="list-style-type: none"> <li>◆ PROBE for estimate if DK</li> </ul>		
<b>RANGE</b>	1 to 9,999	
<b>NEXT</b>	IF Compact size IN E15 [Refrigeration type] → E17 [Number compact size refrigerators] IF Walk-in units IN E15 [Refrigeration type] → E18 [Number walk-in units] IF Open cases or cabinets IN E15 [Refrigeration type] → E19 [Number open cases] IF Closed cases or cabinets IN E15 [Refrigeration type] → E20 [Number closed cases] IF Refrigerated vending machines IN E15 [Refrigeration type] → E21 [Number vending] IF Commercial ice makers IN E15 [Refrigeration type] → E22 [Number ice makers] IF Large cold storage areas IN E15 [Refrigeration type] → E23 [Percent cold storage] IF Establishment Activity = Food sales OR Food service → E24 [Waste heat recovery] IF Establishment Activity = Vacant & C1 [Occupied/vacant all 2018] = Yes → E48 [Vacant estab lit] OTHERWISE → E27 [Computing equipment]	

<b>E17</b>	<b>Number compact size refrigerators</b>	<i>RFGCOMPN</i>
<b>ASK</b>	IF Compact size IN E15 [Refrigeration types]	
<p>How many half-size or compact refrigerators are there?</p> <p>◆ PROBE for estimate if DK</p>		
<b>RANGE</b>	1 to 9,999	
<b>NEXT</b>	IF Walk-in units IN E15 [Refrigeration type] → E18 [Number walk-in units] IF Open cases or cabinets IN E15 [Refrigeration type] → E19 [Number open cases] IF Closed cases or cabinets IN E15 [Refrigeration type] → E20 [Number closed cases] IF Refrigerated vending machines IN E15 [Refrigeration type] → E21 [Number vending] IF Commercial ice makers IN E15 [Refrigeration type] → E22 [Number ice makers] IF Large cold storage areas IN E15 [Refrigeration type] → E23 [Percent cold storage] IF Establishment Activity = Food sales OR Food service → E24 [Waste heat recovery] IF Establishment Activity = Vacant & C1 [Occupied/vacant all 2018] = Yes → E48 [Vacant estab lit] OTHERWISE → E27 [Computing equipment]	

<b>E18</b>	<b>Number walk-in units</b>	<i>RFGWIN</i>
<b>ASK</b>	IF Walk-in units IN E15 [Refrigeration types]	
<p>How many walk-in refrigeration or freezer units are there?</p> <p>◆ PROBE for estimate if DK</p>		
<b>RANGE</b>	1 to 999	
<b>NEXT</b>	IF Open cases or cabinets IN E15 [Refrigeration type] → E19 [Number open cases] IF Closed cases or cabinets IN E15 [Refrigeration type] → E20 [Number closed cases] IF Refrigerated vending machines IN E15 [Refrigeration type] → E21 [Number vending] IF Commercial ice makers IN E15 [Refrigeration type] → E22 [Number ice makers] IF Large cold storage areas IN E15 [Refrigeration type] → E23 [Percent cold storage] IF Establishment Activity = Food sales OR Food service → E24 [Waste heat recovery] IF Establishment Activity = Vacant & C1 [Occupied/vacant all 2018] = Yes → E48 [Vacant estab lit] OTHERWISE → E27 [Computing equipment]	

<b>E19</b>	<b>Number open cases</b>	<i>RFGOPN</i>
<b>ASK</b>	IF Open cases or cabinets IN E15 [Refrigeration types]	
<p>How many open refrigerated or freezer cases or cabinets are there?</p> <p>◆ PROBE for estimate if DK</p>		
<b>RANGE</b>	1 to 999	
<b>NEXT</b>	IF Closed cases or cabinets IN E15 [Refrigeration type] → E20 [Number closed cases] IF Refrigerated vending machines IN E15 [Refrigeration type] → E21 [Number vending] IF Commercial ice makers IN E15 [Refrigeration type] → E22 [Number ice makers] IF Large cold storage areas IN E15 [Refrigeration type] → E23 [Percent cold storage] IF Establishment Activity = Food sales OR Food service → E24 [Waste heat recovery] IF Establishment Activity = Vacant & C1 [Occupied/vacant all 2018] = Yes → E48 [Vacant estab lit] OTHERWISE → E27 [Computing equipment]	

<b>E20</b>	<b>Number closed cases</b>	<i>RFGCLN</i>
<b>ASK</b>	IF Closed cases or cabinets IN E15 [Refrigeration types]	
<p>How many closed refrigerated or freezer cases or cabinets are there?</p> <p>◆ PROBE for estimate if DK</p>		
<b>RANGE</b>	1 to 999	
<b>NEXT</b>	IF Refrigerated vending machines IN E15 [Refrigeration type] → E21 [Number vending] IF Commercial ice makers IN E15 [Refrigeration type] → E22 [Number ice makers] IF Large cold storage areas IN E15 [Refrigeration type] → E23 [Percent cold storage] IF Establishment Activity = Food sales OR Food service → E24 [Waste heat recovery] IF Establishment Activity = Vacant & C1 [Occupied/vacant all 2018] = Yes → E48 [Vacant estab lit] OTHERWISE → E27 [Computing equipment]	

<b>E21</b>	<b>Number vending</b>	<i>RFGVNN</i>
<b>ASK</b>	IF Refrigerated vending machines IN E15 [Refrigeration types]	
<p>How many refrigerated vending machines are there?</p> <p>◆ PROBE for estimate if DK</p>		
<b>RANGE</b>	1 to 999	
<b>NEXT</b>	IF Commercial ice makers IN E15 [Refrigeration type] → E22 [Number ice makers] IF Large cold storage areas IN E15 [Refrigeration type] → E23 [Percent cold storage] IF Establishment Activity = Food sales OR Food service → E24 [Waste heat recovery] IF Establishment Activity = Vacant & C1 [Occupied/vacant all 2018] = Yes → E48 [Vacant estab lit] OTHERWISE → E27 [Computing equipment]	




<b>E22</b>	<b>Number ice makers</b>	<i>RFGICN</i>
<b>ASK</b>	IF Commercial ice makers IN E15 [Refrigeration types]	
<p>How many commercial ice makers are there?</p> <p>◆ PROBE for estimate if DK</p>		
<b>RANGE</b>	1 to 999	
<b>NEXT</b>	IF Large cold storage areas IN E15 [Refrigeration type] → E23 [Percent cold storage] IF Establishment Activity = Food sales OR Food service → E24 [Waste heat recovery] IF Establishment Activity = Vacant & C1 [Occupied/vacant all 2018] = Yes → E48 [Vacant estab lit] OTHERWISE → E27 [Computing equipment]	

<b>E23</b>	<b>Percent cold storage</b>	<i>RFGSTP</i>
<b>ASK</b>	IF Large cold storage areas IN E15 [Refrigeration types]	
<p>About what percent of the total floorspace in the establishment is used for cold storage?</p> <p>◆ PROBE for estimate if DK</p>		
<b>RANGE</b>	1 to 100	
<b>NEXT</b>	IF Establishment Activity = Food sales OR Food service → E24 [Waste heat recovery] IF Establishment Activity = Vacant & C1 [Occupied/vacant all 2018] = Yes → E48 [Vacant estab lit] OTHERWISE → E27 [Computing equipment]	


<b>E24</b>	<b>Waste heat recovery</b>	<i>WHRECOV</i>
<b>ASK</b>	IF E14 [Refrigeration] = Yes & (Establishment Activity = Food sales OR Food service)	
<p>Refrigeration equipment gives off excess heat that can be used to supplement other equipment. Is there such a waste heat recovery system associated with the refrigeration equipment?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → E25 [Waste heat use] IF No OR DK/RF THEN: IF Establishment Activity = Vacant & C1 [Occupied/vacant all 2018] = Yes → E48 [Vacant estab lit] OTHERWISE → E27 [Computing equipment]	

<b>E25</b>	<b>Waste heat use</b>									
<b>ASK</b>	IF E24 [Waste heat recovery] = Yes									
<p>What is the waste heat used for: space heating, water heating, or some other use?</p> <p>◆ ENTER all that apply</p> <table> <tr> <td>1</td> <td>Space heating</td> <td><i>WHHT2</i></td> </tr> <tr> <td>2</td> <td>Water heating</td> <td><i>WHWT</i></td> </tr> <tr> <td>3</td> <td>Some other use</td> <td><i>WHOT</i></td> </tr> </table>		1	Space heating	<i>WHHT2</i>	2	Water heating	<i>WHWT</i>	3	Some other use	<i>WHOT</i>
1	Space heating	<i>WHHT2</i>								
2	Water heating	<i>WHWT</i>								
3	Some other use	<i>WHOT</i>								
<b>NEXT</b>	IF Some other use → E26 [Other waste heat use] IF Establishment Activity = Vacant & C1 [Occupied/vacant all 2018] = Yes → E48 [Vacant estab lit] OTHERWISE → E27 [Computing equipment]									


<b>E26</b>	<b>Other waste heat use</b>
<b>ASK</b>	IF E25 [Waste heat use] = Some other use
<p>What is the other use for the waste heat?</p> <p>◆ RECORD in open box</p>	
<b>NEXT</b>	IF Establishment Activity = Vacant & C1 [Occupied/vacant all 2018] = Yes → E48 [Vacant estab lit] OTHERWISE → E27 [Computing equipment]

<b>E27</b>	<b>Computing equipment</b>	<i>see below</i>										
<b>ASK</b>	IF Electricity used OR D121 [Energy for generation] = Yes OR E13 [Verify no electricity] = False, electricity is used & NOT (Establishment Activity = Vacant & C1 [Occupied/vacant all 2018] = Yes)											
<b>FILL</b>	<b>{RetailFill}</b> IF Establishment Activity = Retail store = "Include demonstration or floor models if they are turned on." OTHERWISE = BLANK											
 <b>SHOW CARD E3</b>  Please look at Show Card E3. Which of these types of computing equipment are used in this establishment? {RetailFill} <ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul> <table style="width: 100%; border: none;"> <tr> <td style="width: 80%;">1 Desktop computers</td> <td style="width: 20%; text-align: right;"><i>PCTERM</i></td> </tr> <tr> <td>2 Laptop computers</td> <td style="text-align: right;"><i>LPTP</i></td> </tr> <tr> <td>3 Tablets</td> <td style="text-align: right;"><i>TABLET</i></td> </tr> <tr> <td>4 Servers</td> <td style="text-align: right;"><i>SERVER</i></td> </tr> <tr> <td>5 None of these types</td> <td></td> </tr> </table>			1 Desktop computers	<i>PCTERM</i>	2 Laptop computers	<i>LPTP</i>	3 Tablets	<i>TABLET</i>	4 Servers	<i>SERVER</i>	5 None of these types	
1 Desktop computers	<i>PCTERM</i>											
2 Laptop computers	<i>LPTP</i>											
3 Tablets	<i>TABLET</i>											
4 Servers	<i>SERVER</i>											
5 None of these types												
<b>NEXT</b>	IF Desktop computers selected → E28 [Number of computers] IF Laptop computers selected → E30 [Number of laptops] IF Tablets selected → E34 [Tablets charged in establishment] IF Servers selected → E36 [Server units] OTHERWISE → E42 [Other equipment types]											

<b>E28</b>	<b>Number of computers</b>	<i>PCTERMN</i>
<b>ASK</b>	IF Desktop computers IN E27 [Computing equipment]	
<b>FILL</b>	<b>{RetailFill}</b> IF Establishment Activity = Retail store = "(Include demonstration or floor models if they are turned on.)" OTHERWISE = BLANK	
How many desktop computers are used in this establishment? {RetailFill}		
<b>RANGE</b>	0 to 9,999,999	
<b>NEXT</b>	IF DK/RF → E29 [Computers category] IF Laptop computers IN E27 [Computing equipment] → E30 [Number of laptops] OTHERWISE → E32 [Multiple monitors]	

<b>E29</b>	<b>Computers category</b>	<i>PCTRMC</i>
<b>ASK</b>	IF E28 [Number of computers] = DK/RF	
 SHOW CARD E4  Looking at Show Card E4, which category best describes the number of desktop computers used in this establishment?		
<ol style="list-style-type: none"> <li>1 1 to 4</li> <li>2 5 to 9</li> <li>3 10 to 19</li> <li>4 20 to 49</li> <li>5 50 to 99</li> <li>6 100 to 249</li> <li>7 250 to 499</li> <li>8 500 to 999</li> <li>9 1,000 to 2,499</li> <li>10 2,500 to 4,999</li> <li>11 5,000 or more</li> </ol>		
<b>NEXT</b>	IF Laptop computers IN E27 [Computing equipment] → E30 [Number of laptops] OTHERWISE → E32 [Multiple monitors]	

<b>E30</b>	<b>Number of laptops</b>	<i>LAPTPN</i>
<b>ASK</b>	IF Laptop computers IN E27 [Computing equipment]	
<b>FILL</b>	<b>{RetailFill}</b> IF Establishment Activity = Retail store = "(Include demonstration or floor models if they are turned on.)" OTHERWISE = BLANK	
How many laptop computers are used in this establishment? {RetailFill}		
<b>RANGE</b>	0 to 9,999,999	
<b>NEXT</b>	IF DK/RF → E31 [Laptops category] OTHERWISE → E32 [Multiple monitors]	

<b>E31</b>	<b>Laptops category</b>	<i>LAPTPC</i>
<b>ASK</b>	IF E30 [Number of laptops] = DK/RF	
 SHOW CARD E4  Looking at Show Card E4, which category best describes the number of laptop computers used in this establishment?  1 1 to 4 2 5 to 9 3 10 to 19 4 20 to 49 5 50 to 99 6 100 to 249 7 250 to 499 8 500 to 999 9 1,000 to 2,499 10 2,500 to 4,999 11 5,000 or more		
<b>NEXT</b>	→ E32 [Multiple monitors]	

<b>E32</b>	<b>Multiple monitors</b>	<i>MLTMON</i>
<b>ASK</b>	IF Desktop computers OR Laptop computers IN E27 [Computing equipment]	
<b>FILL</b>	<b>{Computers}</b> IF (E28 [Number of computers] = 1 & NOT Laptop computers IN E27 [Computing equipment]) OR (E30 [Number of laptops] = 1 & NOT Desktop computers IN E27 [Computing equipment]) = "Does the computer" OTHERWISE = "Do any of the computers"	
{Computers} use more than one monitor?  1 Yes 2 No		
<b>NEXT</b>	IF Yes & NOT ((E28 [Number of computers] = 1 & NOT Laptop computers IN E27 [Computing equipment]) OR (E30 [Number of laptops] = 1 & NOT Desktop computers IN E27 [Computing equipment])) → E33 [Multiple monitor category] IF Tablets IN E27 [Computing equipment] → E34 [Tablets charged in establishment] IF Servers IN E27 [Computing equipment] → E36 [Server units] OTHERWISE → E39 [Computer areas]	


<b>E33</b>	<b>Multiple monitor category</b>	<i>MLTMNC</i>
<b>ASK</b>	IF E32 [Multiple monitors] = Yes & NOT ((E28 [Number of computers] = 1 & NOT Laptop computers IN E27 [Computing equipment]) OR (E30 [Number of laptops] = 1 & NOT Desktop computers IN E27 [Computing equipment]))	
<p>Would you say that multiple monitors are used with all of the computers, most of them, some of them, or just a few?</p> <p>1 All 2 Most 3 Some 4 A few</p>		
<b>NEXT</b>	IF Tablets IN E27 [Computing equipment] → E34 [Tablets charged in establishment] IF Servers IN E27 [Computing equipment] → E36 [Server units] OTHERWISE → E39 [Computer areas]	


<b>E34</b>	<b>Tablets charged in establishment</b>	<i>TABCHRG</i>
<b>ASK</b>	IF Tablets IN E27 [Computing equipment]	
<p>Are any of the tablets charged in this establishment?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → E35 [Number of tablets] IF Servers IN E27 [Computing equipment] → E36 [Server units] OTHERWISE → E39 [Computer areas]	

<b>E35</b>	<b>Number of tablets</b>	<i>TABLETN</i>
<b>ASK</b>	IF E34 [Tablets charged in establishment] = Yes	
<p>About how many tablets are charged in this establishment?</p> <p>◆ PROBE for estimate if DK</p>		
<b>RANGE</b>	1 to 9,999,999	
<b>NEXT</b>	IF Servers IN E27 [Computing equipment] → E36 [Server units] OTHERWISE → E39 [Computer areas]	


<b>E36</b>	<b>Server units</b>	<i>SRVUNIT</i>
<b>ASK</b>	IF Servers IN E27 [Computing equipment]	
<p>The next question is about how many servers are used in this establishment. Would you prefer to provide the number of servers or the number of server <u>racks</u>?</p> <p>1 Servers 2 Server racks</p>		
<b>NEXT</b>	IF DK/RF → E38 [Servers category] OTHERWISE → E37 [Number of servers or racks]	

<b>E37</b>	<b>Number of servers or racks</b>	<i>SERVERN</i>
<b>ASK</b>	IF E36 [Server units] given	
<b>FILL</b>	{ServerUnits} = "E36 [Server units]"	
How many {ServerUnits} are there in this establishment?		
<b>RANGE</b>	1 to 9,999,999	
<b>NEXT</b>	IF DK/RF → E38 [Servers category] OTHERWISE → E39 [Computer areas]	


<b>E38</b>	<b>Servers category</b>	<i>SERVERC</i>
<b>ASK</b>	IF E36 [Server units] = DK/RF OR E37 [Number of servers or racks] = DK/RF	
<b>FILL</b>	{ServerUnits} IF E36 [Server units] given = "E36 [Server units]" OTHERWISE = "servers"	
 SHOW CARD E5  Looking at Show Card E5, which category best describes the number of {ServerUnits} in this establishment?  1 1 to 4 2 5 to 24 3 25 to 499 4 500 or more		
<b>NEXT</b>	→ E39 [Computer areas]	

<b>E39</b>	<b>Computer areas</b>	<i>see below</i>												
<b>ASK</b>	IF Desktop computers OR Laptop computers OR Servers IN E27 [Computing equipment]													
 SHOW CARD E6 Please look at Show Card E6 and tell me if any of these types of computer areas are found in this establishment. <ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul> <table style="width: 100%; border: none;"> <tr> <td style="width: 60%;">1 Server closet</td> <td style="width: 40%; text-align: right;">SRVRCLST</td> </tr> <tr> <td>2 Data center</td> <td style="text-align: right;">DATAACNTR</td> </tr> <tr> <td>3 Computer-based training room</td> <td style="text-align: right;">TRNGRM</td> </tr> <tr> <td>4 Student or public computer center</td> <td style="text-align: right;">STDNRM</td> </tr> <tr> <td>5 Trading floor</td> <td style="text-align: right;">TRDFLR</td> </tr> <tr> <td>6 None of these types</td> <td></td> </tr> </table>			1 Server closet	SRVRCLST	2 Data center	DATAACNTR	3 Computer-based training room	TRNGRM	4 Student or public computer center	STDNRM	5 Trading floor	TRDFLR	6 None of these types	
1 Server closet	SRVRCLST													
2 Data center	DATAACNTR													
3 Computer-based training room	TRNGRM													
4 Student or public computer center	STDNRM													
5 Trading floor	TRDFLR													
6 None of these types														
<b>NEXT</b>	IF Data center selected → E40 [Data center square footage] OTHERWISE → E42 [Other equipment types]													

<b>E40</b>	<b>Data center square footage</b>	<i>DCNTRSF</i>
<b>ASK</b>	IF Data center IN E39 [Computer areas]	
What is the square footage of the data center you just mentioned?		
<b>RANGE</b>	10 to 999,999,999	
<b>NEXT</b>	→ E41 [Data center characteristics]	

<b>E41</b>	<b>Data center characteristics</b>	<i>see below</i>												
<b>ASK</b>	IF Data center IN E39 [Computer areas]													
 SHOW CARD E7 Still thinking about the data center space in this establishment, please look at Show Card E7. Which of these characteristics describe the data center? <ul style="list-style-type: none"> <li>◆ ENTER all that apply</li> </ul> <table style="width: 100%; border: none;"> <tr> <td style="width: 60%;">1 Raised floor</td> <td style="width: 40%; text-align: right;">DCRSDFLR</td> </tr> <tr> <td>2 Separate cooling system</td> <td style="text-align: right;">DCSEPCL</td> </tr> <tr> <td>3 Humidity control</td> <td style="text-align: right;">DCHMCNTL</td> </tr> <tr> <td>4 Uninterruptible power supply (UPS)</td> <td style="text-align: right;">DCUPS</td> </tr> <tr> <td>5 Controlled access</td> <td style="text-align: right;">DCCNTLAC</td> </tr> <tr> <td>6 None of these</td> <td></td> </tr> </table>			1 Raised floor	DCRSDFLR	2 Separate cooling system	DCSEPCL	3 Humidity control	DCHMCNTL	4 Uninterruptible power supply (UPS)	DCUPS	5 Controlled access	DCCNTLAC	6 None of these	
1 Raised floor	DCRSDFLR													
2 Separate cooling system	DCSEPCL													
3 Humidity control	DCHMCNTL													
4 Uninterruptible power supply (UPS)	DCUPS													
5 Controlled access	DCCNTLAC													
6 None of these														
<b>NEXT</b>	→ E42 [Other equipment types]													



<b>E42</b>	<b>Other equipment types</b>	<i>see below</i>												
<b>ASK</b>	IF Electricity used OR D121 [Energy for generation] = Yes OR E13 [Verify no electricity] = False, electricity is used & NOT (Establishment Activity = Vacant & C1 [Occupied/vacant all 2018] = Yes)													
 SHOW CARD E8  Please look at Show Card E8 and tell me which of these other equipment types are used in this establishment. <ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul> <table style="width: 100%; border: none;"> <tr> <td style="width: 80%;">1 Large floor-standing office devices (any combination of printer/copier/ scanner/FAX machine</td> <td style="width: 20%; text-align: right;"><i>LGOFFDEV</i></td> </tr> <tr> <td>2 Smaller desktop office devices (any combination of printer/copier/ scanner/FAX machine</td> <td style="text-align: right;"><i>SMOFFDEV</i></td> </tr> <tr> <td>3 Interactive whiteboards</td> <td style="text-align: right;"><i>WBOARDS</i></td> </tr> <tr> <td>4 Televisions or video displays</td> <td style="text-align: right;"><i>TVVIDEO</i></td> </tr> <tr> <td>5 Point-of-sales devices or cash registers</td> <td style="text-align: right;"><i>RGSTR</i></td> </tr> <tr> <td>6 None of these types</td> <td></td> </tr> </table>			1 Large floor-standing office devices (any combination of printer/copier/ scanner/FAX machine	<i>LGOFFDEV</i>	2 Smaller desktop office devices (any combination of printer/copier/ scanner/FAX machine	<i>SMOFFDEV</i>	3 Interactive whiteboards	<i>WBOARDS</i>	4 Televisions or video displays	<i>TVVIDEO</i>	5 Point-of-sales devices or cash registers	<i>RGSTR</i>	6 None of these types	
1 Large floor-standing office devices (any combination of printer/copier/ scanner/FAX machine	<i>LGOFFDEV</i>													
2 Smaller desktop office devices (any combination of printer/copier/ scanner/FAX machine	<i>SMOFFDEV</i>													
3 Interactive whiteboards	<i>WBOARDS</i>													
4 Televisions or video displays	<i>TVVIDEO</i>													
5 Point-of-sales devices or cash registers	<i>RGSTR</i>													
6 None of these types														
<b>NEXT</b>	IF Large floor-standing office devices selected → E43 [Number of large office devices] IF Smaller desktop office devices selected → E44 [Number of small office devices] IF Interactive whiteboards selected → E45 [Number of interactive whiteboards] IF Televisions or video displays selected → E46 [Number of TV or video displays] IF Point-of-sales devices or cash registers selected → E47 [Number of cash registers] OTHERWISE → E49 [Percent lit when open]													

<b>E43</b>	<b>Number of large office devices</b>	<i>LGOFFDEVN</i>
<b>ASK</b>	IF Large floor-standing office devices IN E42 [Other equipment types]	
About how many large floor-standing office devices are used in this establishment? (Include devices that contain any combination of printers, copiers, scanners, or FAX machines.) <ul style="list-style-type: none"> <li>◆ PROBE for estimate if DK</li> </ul>		
<b>RANGE</b>	1 to 9,999,999	
<b>NEXT</b>	IF Smaller desktop office devices IN E42 [Other equipment types] → E44 [Number of small office devices] IF Interactive whiteboards IN E42 [Other equipment types] → E45 [Number of interactive whiteboards] IF Televisions or video displays IN E42 [Other equipment types] → E46 [Number of TV or video displays] IF Point-of-sales devices or cash registers IN E42 [Other equipment types] → E47 [Number of cash registers] OTHERWISE → E49 [Percent lit when open]	

<b>E44</b>	<b>Number of small office devices</b>	<i>SMOFFDEV</i>
<b>ASK</b>	IF Smaller desktop office devices IN E42 [Other equipment types]	
<p>About how many small desktop office devices are used in this establishment? (Include devices that contain any combination of printers, copiers, scanners, or FAX machines.)</p> <p>◆ PROBE for estimate if DK</p>		
<b>RANGE</b>	1 to 9,999,999	
<b>NEXT</b>	IF Interactive whiteboards IN E42 [Other equipment types] → E45 [Number of interactive whiteboards] IF Televisions or video displays IN E42 [Other equipment types] → E46 [Number of TV or video displays] IF Point-of-sales devices or cash registers IN E42 [Other equipment types] → E47 [Number of cash registers] OTHERWISE → E49 [Percent lit when open]	


<b>E45</b>	<b>Number of interactive whiteboards</b>	<i>WBOARDSN</i>
<b>ASK</b>	IF Interactive whiteboards IN E42 [Other equipment types]	
<p>About how many interactive whiteboards are used in this establishment?</p> <p>◆ PROBE for estimate if DK</p>		
<b>RANGE</b>	1 to 999	
<b>NEXT</b>	IF Televisions or video displays IN E42 [Other equipment types] → E46 [Number of TV or video displays] IF Point-of-sales devices or cash registers IN E42 [Other equipment types] → E47 [Number of cash registers] OTHERWISE → E49 [Percent lit when open]	

<b>E46</b>	<b>Number of TV or video displays</b>	<i>TVVIDEON</i>
<b>ASK</b>	IF Televisions or video displays IN E42 [Other equipment types]	
<b>FILL</b>	<b>{RetailFill}</b> IF Establishment Activity = Retail store = "(Include demonstration or floor models if they are turned on.)" OTHERWISE = BLANK	
<p>About how many televisions or video displays are used in this establishment? {RetailFill}</p> <p>◆ PROBE for estimate if DK</p>		
<b>RANGE</b>	1 to 9,999	
<b>NEXT</b>	IF Point-of-sales devices or cash registers IN E42 [Other equipment types] → E47 [Number of cash registers] OTHERWISE → E49 [Percent lit when open]	


<b>E47</b>	<b>Number of cash registers</b>	<i>RGSTRN</i>
<b>ASK</b>	IF Point-of-sales devices or cash registers IN E42 [Other equipment types]	
<p>About how many point-of-sales devices or cash registers are used in this establishment?</p> <p>◆ PROBE for estimate if DK</p>		
<b>RANGE</b>	1 to 9,999	
<b>NEXT</b>	→ E49 [Percent lit when open]	


<b>E48</b>	<b>Vacant estab lit</b>	<i>VCTLIT</i>
<b>ASK</b>	IF (Electricity used OR D121 [Energy for generation] = Yes OR E13 [Verify no electricity] = False, electricity is used) & Establishment Activity = Vacant & C1 [Occupied/vacant all 2018] = Yes	
<p>Is this establishment lit at all during a normal 24-hour day?</p> <p>◆ EXP: [Do not consider outside lighting in this response.]</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → E51 [Percent lit off hours] OTHERWISE → E57 [Window glass type]	

<b>E49</b>	<b>Percent lit when open</b>	<i>LTOHRP</i>
<b>ASK</b>	IF (Electricity used OR D121 [Energy for generation] = Yes OR E13 [Verify no electricity] = False, electricity is used) & Establishment Activity ≠ Vacant	
<b>FILL</b>	<b>{SqFt}</b> IF A2 [Square footage] known = "A2 [Square footage] square feet" IF A2 [Square footage] = DK/RF = "square footage"	
<p>The next questions are about the lighting inside the establishment.</p> <p>What percent of the {SqFt} in this establishment is lit when the establishment is normally open?</p> <ul style="list-style-type: none"> <li>◆ DEF: ["Normally open" means the hours when the usual activities occur.]</li> <li>◆ If lit square footage is known but not the percent, RECORD square footage in comments, then code DK</li> </ul>		
<b>RANGE</b>	0 to 100	
<b>NEXT</b>	IF DK/RF → E50 [Lit when open category] IF 1-100 & (C6 [Open 24 hours a day] = Yes OR C10 [Total hours open per week] = 168 OR C11 [Weekly hours category] = 168 → E53 [Lighting types] IF Zero & (C6 [Open 24 hours a day] = Yes OR C10 [Total hours open per week] = 168 OR C11 [Weekly hours category] = 168 → E57 [Window glass type] OTHERWISE → E51 [Percent lit off hours]	


<b>E50</b>	<b>Lit when open category</b>	<i>LOHRPC</i>
<b>ASK</b>	IF E49 [Percent lit when open] = DK/RF	
 SHOW CARD E9  Looking at Show Card E9, what is your best estimate of the percent of the square feet in this establishment that is lit when the establishment is normally open?		
<ol style="list-style-type: none"> <li>1 1 to 25 percent</li> <li>2 26 to 50 percent</li> <li>3 51 to 75 percent</li> <li>4 76 to 100 percent</li> <li>5 Not lit at all when it is normally open</li> </ol>		
<b>NEXT</b>	IF Any response except Not lit & (C6 [Open 24 hours a day] = Yes OR C10 [Total hours open per week] = 168 OR C11 [Weekly hours category] = 168 → E53 [Lighting types] IF Not lit & (C6 [Open 24 hours a day] = Yes OR C10 [Total hours open per week] = 168 OR C11 [Weekly hours category] = 168 → E57 [Window glass type] OTHERWISE → E51 [Percent lit off hours]	


<b>E51</b>	<b>Percent lit off hours</b>	<i>LTNHRP</i>
<b>ASK</b>	IF (Electricity used OR D121 [Energy for generation] = Yes OR E13 [Verify no electricity] = False, electricity is used) & (NOT (C6 [Open 24 hours a day] = Yes OR C10 [Total hours open per week] = 168 OR C11 [Weekly hours category])) OR E48 [Vacant estab lit] = Yes	
<b>FILL</b>	<b>{SqFt}</b> IF A2 [Square footage] known = "A2 [Square footage] square feet" IF A2 [Square footage] = DK/RF = "square footage" <b>{OffHours}</b> IF Establishment Activity ≠ Vacant = "during off hours, that is, the hours when the establishment is not normally open" IF Establishment Activity = Vacant = BLANK	
<p>What percent of the {SqFt} is lit {OffHours}? Exclude the space lit by emergency lighting.</p> <p>◆ If lit square footage is known but not the percent, RECORD square footage in comments, then code DK</p>		
<b>RANGE</b>	0 to 100	
<b>NEXT</b>	IF DK/RF → E52 [Lit off hours category] IF 1-100 → E53 [Lighting types] IF Zero: IF E49 [Percent lit when open] > 0 OR E50 [Lit when open category] ≠ Not lit → E53 [Lighting types] OTHERWISE → E57 [Window glass type]	


<b>E52</b>	<b>Lit off hours category</b>	<i>LNHRPC</i>
<b>ASK</b>	IF E51 [Percent lit off hours] = DK/RF	
 SHOW CARD E9  Looking at Show Card E9, what is your best estimate of the percent lit during off hours?  1 1 to 25 percent 2 26 to 50 percent 3 51 to 75 percent 4 76 to 100 percent 5 Not lit at all during off hours		
<b>NEXT</b>	IF Any response except Not lit → E53 [Lighting types] IF Not lit at all: IF E49 [Percent lit when open] > 0 OR E50 [Lit when open category] ≠ Not lit → E53 [Lighting types] OTHERWISE → E57 [Window glass type]	

<b>E53</b>	<b>Lighting types</b>	<i>see below</i>																					
<b>ASK</b>	IF E49 [Percent lit when open] > 0 OR E50 [Lit when open category] ≠ Not lit OR E51 [Percent lit off hours] > 0 OR E52 [Lit off hours category] ≠ Not lit																						
 SHOW CARD E10  Looking at Show Card E10, what types of lighting were used to light any of the space in this establishment? <ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply             <table style="margin-left: 40px; border: none;"> <tr> <td style="padding-right: 20px;">1</td> <td>Fluorescent lighting other than compact fluorescent bulbs</td> <td style="text-align: right;"><i>FLUOR</i></td> </tr> <tr> <td>2</td> <td>Compact fluorescent bulbs</td> <td style="text-align: right;"><i>CFLR</i></td> </tr> <tr> <td>3</td> <td>Incandescent light bulbs, other than halogen bulbs</td> <td style="text-align: right;"><i>BULB</i></td> </tr> <tr> <td>4</td> <td>Halogen bulbs</td> <td style="text-align: right;"><i>HALO</i></td> </tr> <tr> <td>5</td> <td>High intensity discharge (HID) lights such as high pressure sodium, metal halide or mercury vapor</td> <td style="text-align: right;"><i>HID</i></td> </tr> <tr> <td>6</td> <td>Light-emitting diode (LED) lights</td> <td style="text-align: right;"><i>LED</i></td> </tr> <tr> <td>7</td> <td>Other type of lighting</td> <td style="text-align: right;"><i>OTLT</i></td> </tr> </table> </li> </ul>			1	Fluorescent lighting other than compact fluorescent bulbs	<i>FLUOR</i>	2	Compact fluorescent bulbs	<i>CFLR</i>	3	Incandescent light bulbs, other than halogen bulbs	<i>BULB</i>	4	Halogen bulbs	<i>HALO</i>	5	High intensity discharge (HID) lights such as high pressure sodium, metal halide or mercury vapor	<i>HID</i>	6	Light-emitting diode (LED) lights	<i>LED</i>	7	Other type of lighting	<i>OTLT</i>
1	Fluorescent lighting other than compact fluorescent bulbs	<i>FLUOR</i>																					
2	Compact fluorescent bulbs	<i>CFLR</i>																					
3	Incandescent light bulbs, other than halogen bulbs	<i>BULB</i>																					
4	Halogen bulbs	<i>HALO</i>																					
5	High intensity discharge (HID) lights such as high pressure sodium, metal halide or mercury vapor	<i>HID</i>																					
6	Light-emitting diode (LED) lights	<i>LED</i>																					
7	Other type of lighting	<i>OTLT</i>																					
<b>NEXT</b>	IF Other type of lighting selected → E54 [Other bulb type] IF More than one type selected → E55 [Percent lit by bulb type] OTHERWISE → E56 [Lighting controls]																						


<b>E54</b>	<b>Other bulb type</b>	<i>OTLTX</i>
<b>ASK</b>	IF Other type of lighting IN E53 [Lighting types]	
What type of bulb is the other type of lighting? <ul style="list-style-type: none"> <li>◆ RECORD in space below</li> </ul>		
<b>NEXT</b>	IF More than one type selected IN E53 [Lighting types] → E55 [Percent lit by bulb type] OTHERWISE → E56 [Lighting controls]	

<b>E55</b>	<b>Percent lit by bulb type</b> <i>FLUORP, CFLRP, BULBP, HALOP, HIDP, LEDP, OTLTP</i>
<b>ASK</b>	For each lighting type given in E53 [Lighting types]
<b>FILL</b>	<p><b>{Introduction}</b>  IF First lighting type = “The next questions are about the percent of floorspace lit by the types of lighting you just mentioned. Please keep in mind: “  OTHERWISE = BLANK</p> <p><b>{Explanation}</b>  IF First lighting type and E49 [Percent lit when open] <math>\neq</math> 100 = “We are talking only about the <u>lighted portion</u> of the floorspace, so these percents must add up to at least 100, but since more than one type of bulb can light the same area, it is also possible for them to add up to <u>more</u> than 100.”  IF First lighting type and E49 [Percent lit when open] = 100 = “These percents must add up to at least 100, but since more than one type of bulb can light the same area, it is also possible for them to add up to <u>more</u> than 100.”  OTHERWISE = BLANK</p> <p><b>{BulbType}</b>  IF Fluorescent IN E53 [Lighting types] = “fluorescent lighting”  IF Compact fluorescent bulbs IN E53 [Lighting types] = “compact fluorescent bulbs”  IF Incandescent light bulbs IN E53 [Lighting types] = “incandescent bulbs”  IF Halogen bulbs IN E53 [Lighting types] = “halogen lighting”  IF High intensity discharge (HID) lights IN E53 [Lighting types] = “high intensity discharge lights”  IF Light-emitting diode (LED) lights IN E53 [Lighting types] = “LED lights”  IF Other type of lighting IN E53 [Lighting types] = “other lighting type”</p>
 SHOW CARD E11  {Introduction}  {Explanation}  Please look at Show Card E11. What percent of the lighted area in this establishment is lit by the {BulbType}?  ◆ PROBE for estimate if DK	
<b>RANGE</b>	0 to 100
<b>NEXT</b>	➔ E56 [Lighting controls]

<b>E56</b>	<b>Lighting controls</b>	<i>see below</i>																
<b>ASK</b>	IF (E49 [Percent lit when open] > 0 OR E50 [Lit when open category] ≠ Not lit OR E51 [Percent lit off hours] > 0 OR E52 [Lit off hours category] ≠ Not lit)																	
 SHOW CARD E12  Looking at Show Card E12, please tell me which of these lighting controls or lighting control strategies, if any, are used in this establishment. <ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply</li> </ul> <table style="width: 100%; border: none;"> <tr> <td style="width: 80%;">1 Scheduling</td> <td style="width: 20%; text-align: right;"><i>SCHED</i></td> </tr> <tr> <td>2 Occupancy sensors that reduce lighting when rooms are unoccupied</td> <td style="text-align: right;"><i>OCSN</i></td> </tr> <tr> <td>3 Multi-level lighting or dimming</td> <td style="text-align: right;"><i>DIM</i></td> </tr> <tr> <td>4 Daylight harvesting</td> <td style="text-align: right;"><i>DAYHARV</i></td> </tr> <tr> <td>5 High-end trimming or light-level tuning</td> <td style="text-align: right;"><i>TRIM</i></td> </tr> <tr> <td>6 Plug-load control</td> <td style="text-align: right;"><i>PLGCTRL</i></td> </tr> <tr> <td>7 Demand responsive lighting</td> <td style="text-align: right;"><i>DRLGHT</i></td> </tr> <tr> <td>8 None of these</td> <td></td> </tr> </table>			1 Scheduling	<i>SCHED</i>	2 Occupancy sensors that reduce lighting when rooms are unoccupied	<i>OCSN</i>	3 Multi-level lighting or dimming	<i>DIM</i>	4 Daylight harvesting	<i>DAYHARV</i>	5 High-end trimming or light-level tuning	<i>TRIM</i>	6 Plug-load control	<i>PLGCTRL</i>	7 Demand responsive lighting	<i>DRLGHT</i>	8 None of these	
1 Scheduling	<i>SCHED</i>																	
2 Occupancy sensors that reduce lighting when rooms are unoccupied	<i>OCSN</i>																	
3 Multi-level lighting or dimming	<i>DIM</i>																	
4 Daylight harvesting	<i>DAYHARV</i>																	
5 High-end trimming or light-level tuning	<i>TRIM</i>																	
6 Plug-load control	<i>PLGCTRL</i>																	
7 Demand responsive lighting	<i>DRLGHT</i>																	
8 None of these																		
<b>NEXT</b>	→ E57 [Window glass type]																	

<b>E57</b>	<b>Window glass type</b>	<i>WINTYP</i>
<b>ASK</b>	All Establishments	
 SHOW CARD E13  The picture on Show Card E13 shows a window with multi-layer glass. Do the exterior windows in this establishment contain single layer glass, multi-layer glass, or a combination of both of these types? <ul style="list-style-type: none"> <li>1 Single layer glass</li> <li>2 Multi-layer glass</li> <li>3 Combination of both</li> <li>4 IF VOLUNTEERED: No windows</li> </ul>		
<b>NEXT</b>	IF Single layer, Multi-layer, OR Combination → E58 [Daylighting features] IF No windows OR DK/RF → F1 [Section F Routing]	



<b>E58</b>	<b>Daylighting features</b>	<i>see below</i>										
<b>ASK</b>	IF E57 [Window glass type] ≠ (No windows OR DK/RF)											
 SHOW CARD E13  Looking at the list at the bottom of Show Card E13, please tell me which of these daylighting or conservation features are present in this establishment. <ul style="list-style-type: none"> <li>◆ PROBE for any others</li> <li>◆ ENTER all that apply             <table style="margin-left: 40px; border: none;"> <tr> <td>1 Tinted window glass</td> <td style="text-align: right;"><i>TINT</i></td> </tr> <tr> <td>2 Reflective window glass</td> <td style="text-align: right;"><i>REFL</i></td> </tr> <tr> <td>3 External overhangs or awnings</td> <td style="text-align: right;"><i>AWN</i></td> </tr> <tr> <td>4 Skylights or atriums designed to provide light</td> <td style="text-align: right;"><i>SKYLT</i></td> </tr> <tr> <td>5 IF VOLUNTEERED: None of these</td> <td></td> </tr> </table> </li> </ul>			1 Tinted window glass	<i>TINT</i>	2 Reflective window glass	<i>REFL</i>	3 External overhangs or awnings	<i>AWN</i>	4 Skylights or atriums designed to provide light	<i>SKYLT</i>	5 IF VOLUNTEERED: None of these	
1 Tinted window glass	<i>TINT</i>											
2 Reflective window glass	<i>REFL</i>											
3 External overhangs or awnings	<i>AWN</i>											
4 Skylights or atriums designed to provide light	<i>SKYLT</i>											
5 IF VOLUNTEERED: None of these												
<b>NEXT</b>	➔ E59 [Percent daylight]											

<b>E59</b>	<b>Percent daylight</b>	<i>DAYLTP</i>
<b>ASK</b>	IF E57 [Window glass type] ≠ (No windows OR DK/RF)	
What percent of the establishment receives enough outside light so that the interior lights do not need to be turned on? <ul style="list-style-type: none"> <li>◆ If none, ENTER "0"</li> <li>◆ PROBE for estimate if DK</li> </ul>		
<b>RANGE</b>	0 to 100	
<b>NEXT</b>	➔ F1 [Section F Routing]	

**SECTION F. ELECTRICITY**

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

<b>F2</b>	<b>Provide electricity figures</b>	<i>ELFIGS</i>
<b>ASK</b>	IF Electricity used	
<p>The next questions are about electricity usage in this establishment during calendar year 2018. This can be reported as either annual or monthly information. Are you able to provide electricity usage information for this establishment for 2018?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → F4 [Annual or monthly electricity] IF No OR DK/RF → F3 [Electricity included in rent]	

<b>F3</b>	<b>Electricity included in rent</b>	<i>ELNRENT</i>
<b>ASK</b>	IF F2 [Provide electricity figures] = No OR DK/RF	
<p>Is the cost of the electricity used in this establishment included in the rent?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	→ F16 [Number electricity suppliers]	

<b>F4</b>	<b>Annual or monthly electricity</b>	<i>ELANNMON</i>
<b>ASK</b>	IF F2 [Provide electricity figures] = Yes	
<p>Do you prefer to report the annual total electricity usage for 2018, or monthly electricity usage information?</p> <p>1 Prefer to report <u>annual total</u> electricity usage 2 Prefer to report <u>monthly</u> electricity usage</p>		
<b>NEXT</b>	IF (Prefer to report annual total OR Prefer to report monthly) & (D17 [Type of solar] = Solar panels used to generate electricity OR (Solar panels used to generate electricity OR Wind turbines IN D116 [Generation technologies]) OR (Wind turbines IN D117 [Generation technologies other than solar]) OR D120 [Use of generated electricity] = Whenever electricity was used) → F5 [Report generated electricity] IF Prefer to report annual total → F6 [Electricity consumption] IF Prefer to report monthly → F12 [Monthly electricity data] IF DK/RF → F16 [Number electricity suppliers]	

<b>F5</b>	<b>Report generated electricity</b>	<i>ELGENREP</i>
<b>ASK</b>	<p>IF Prefer to report annual total OR Prefer to report monthly IN F3 [Annual or monthly electricity] &amp; (D17 [Type of solar] = Solar panels used to generate electricity OR (Solar panels used to generate electricity OR Wind turbines IN D116 [Generation technologies]) OR (Wind turbines IN D117 [Generation technologies other than solar]) OR D120 [Use of generated electricity] = Whenever electricity was used)</p> <p>Earlier you mentioned that this establishment has on-site electricity generation. If possible, we would like to collect the combined purchased and generated electricity usage for this establishment. Are you able to report the combined purchased and generated electricity usage, or are you able to report only the purchased electricity usage?</p> <ol style="list-style-type: none"> <li>1 Can report combined purchased and generated electricity usage</li> <li>2 Can report only purchased electricity usage</li> </ol>	
<b>NEXT</b>	<p>IF F4 [Annual or monthly electricity] = Prefer to report annual total THEN:  IF Can report combined purchased and generated OR DK/RF → F6 [Electricity consumption]  IF Can report only purchased → F8 [Purchased electricity consumption]  IF F4 [Annual or monthly electricity] = Prefer to report monthly → F12 [Monthly electricity data]</p>	

<b>F6</b>	<b>Electricity consumption</b>	<i>ELCNS</i>
<b>ASK</b>	<p>IF F4 [Annual or monthly electricity] = Prefer to report annual total &amp; NOT F5 [Reported generated electricity] = Can report only purchased</p> <p>Please give me the total number of kilowatthours of electricity used in calendar year 2018.</p> <p>◆ VERIFY number <u>digit by digit</u></p>	
<b>RANGE</b>	1 to 99,999,999,999,999	
<b>NEXT</b>	<p>IF DK/RF → F16 [Number electricity suppliers]  IF F5 [Report generated electricity] = Can report combined purchased and generated → F7 [Able to report purchased electricity]  OTHERWISE → F9 [Electricity expenditures]</p>	

<b>F7</b>	<b>Able to report purchased electricity</b>	<i>REPSUP</i>
<b>ASK</b>	<p>IF F5 [Report generated electricity] = Can report combined purchased and generated &amp; F6 [Electricity consumption] ≠ DK/RF</p>	
<b>FILL</b>	<p>{Reported} = "F6 [Electricity consumption]"</p> <p>You reported {Reported} kilowatthours used in this establishment in 2018. Are you able to report how much of this total was purchased from an electricity supplier, not including what was generated on-site?</p> <ol style="list-style-type: none"> <li>1 Yes</li> <li>2 No</li> </ol>	
<b>NEXT</b>	<p>IF Yes → F8 [Purchased electricity consumption]  IF No OR DK/RF → F9 [Electricity expenditures]</p>	

<b>F8</b>	<b>Purchased electricity consumption</b>	<i>ELCNSSUP</i>
<b>ASK</b>	IF F5 [Report generated electricity] = Can report only purchased OR F7 [Able to report purchased electricity] = Yes	
Please give me the total number of kilowatthours of electricity <u>purchased</u> in calendar year 2018.		
◆ VERIFY number <u>digit by digit</u>		
<b>RANGE</b>	1 to 99,999,999,999	
<b>NEXT</b>	IF DK/RF & F5 [Report generated electricity] = Can report only purchased → F16 [Number electricity suppliers] OTHERWISE → F9 [Electricity expenditures]	

<b>F9</b>	<b>Electricity expenditures</b>	<i>ELEXP</i>
<b>ASK</b>	IF F6 [Electricity consumption] given OR F8 [Purchased electricity consumption] given	
Please give me the total dollars spent on electricity in calendar year 2018. This should include state and local taxes and all charges such as: fuel adjustment, system, distribution, and demand.		
◆ Do <u>not</u> enter cents		
◆ VERIFY number <u>digit by digit</u>		
<b>RANGE</b>	0 to 999,999,999	
<b>NEXT</b>	→ F10 [Starting date for electricity figures]	

<b>F10</b>	<b>Starting date for electricity figures</b>	<i>ELSTDAT</i>
<b>ASK</b>	IF F6 [Electricity consumption] given OR F8 [Purchased electricity consumption] given	
What is the starting date for these electricity usage figures?		
◆ ENTER date as MMDDYYYY		
◆ If the day is not known, ENTER "15" for DD		
<b>NEXT</b>	→ F11 [Ending date for electricity figures]	

<b>F11</b>	<b>Ending date for electricity figures</b>	<i>ELENDAT</i>
<b>ASK</b>	IF F6 [Electricity consumption] given OR F8 [Purchased electricity consumption] given	
<p>What is the ending date [for these electricity usage figures]?</p> <ul style="list-style-type: none"> <li>◆ ENTER date as MMDDYYYY</li> <li>◆ VERIFY that this is the <u>last</u> day of the last billing period</li> <li>◆ If the day is not known, ENTER "15" for DD</li> </ul>		
<b>NEXT</b>	→ F13 [Other estabs electricity included]	

<b>F12</b>	<b>Monthly electricity data</b>	<i>kWh_1217, ELCOST_1217, etc.</i>																																													
<b>ASK</b>	IF F4 [Annual or monthly electricity] = Prefer to report monthly																																														
<p>Please complete the grid below to report the monthly electricity usage in this establishment during 2018.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Month</th> <th style="text-align: center;">kWh</th> <th style="text-align: center;">Cost (\$)</th> </tr> </thead> <tbody> <tr><td>December 2017</td><td></td><td></td></tr> <tr><td>January 2018</td><td></td><td></td></tr> <tr><td>February 2018</td><td></td><td></td></tr> <tr><td>March 2018</td><td></td><td></td></tr> <tr><td>April 2018</td><td></td><td></td></tr> <tr><td>May 2018</td><td></td><td></td></tr> <tr><td>June 2018</td><td></td><td></td></tr> <tr><td>July 2018</td><td></td><td></td></tr> <tr><td>August 2018</td><td></td><td></td></tr> <tr><td>September 2018</td><td></td><td></td></tr> <tr><td>October 2018</td><td></td><td></td></tr> <tr><td>November 2018</td><td></td><td></td></tr> <tr><td>December 2018</td><td></td><td></td></tr> <tr><td>January 2019</td><td></td><td></td></tr> </tbody> </table>			Month	kWh	Cost (\$)	December 2017			January 2018			February 2018			March 2018			April 2018			May 2018			June 2018			July 2018			August 2018			September 2018			October 2018			November 2018			December 2018			January 2019		
Month	kWh	Cost (\$)																																													
December 2017																																															
January 2018																																															
February 2018																																															
March 2018																																															
April 2018																																															
May 2018																																															
June 2018																																															
July 2018																																															
August 2018																																															
September 2018																																															
October 2018																																															
November 2018																																															
December 2018																																															
January 2019																																															
<b>NEXT</b>	IF No data given → F16 [Number electricity suppliers] OTHERWISE → F13 [Other estabs electricity included]																																														

<b>F13</b>	<b>Other estabs electricity included</b>	<i>ELOTBD</i>
<b>ASK</b>	IF F6 [Electricity consumption] given OR F8 [Purchased electricity consumption] given OR F12 [Monthly electricity data] given	
<p>Is any consumption from other establishments included in these figures?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → F14 [Sq ft of other included] OTHERWISE → F15 [Include other major electricity]	

<b>F14</b>	<b>Sq ft of other included</b>	<i>ELOTSF</i>
<b>ASK</b>	IF F13 [Other estabs electricity included] = Yes	
<p>What is the approximate square footage of the <u>other</u> establishments that are included in these figures?</p> <p>◆ PROBE for estimate if DK</p>		
<b>RANGE</b>	1 to 999,999,999	
<b>NEXT</b>	→ F15 [Include other major electricity]	

<b>F15</b>	<b>Include other major electricity</b>	<i>ELOTUS</i>
<b>ASK</b>	IF F6 [Electricity consumption] given OR F8 [Purchased electricity consumption] given OR F12 [Monthly electricity data] given	
<p>Do these figures include charges for any <u>other</u> major electricity usage outside the establishment, such as electric vehicle charging stations, parking lot lights, exterior lights, signs or billboards, large pumps, or swimming pools?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	→ F16 [Number electricity suppliers]	

<b>F16</b>	<b>Number electricity suppliers</b>	<i>ELNUMSP</i>
<b>ASK</b>	IF Electricity used	
<b>FILL</b>	<p><b>{SuppliersIntro}</b>  IF (F2 [Provide electricity figures] = No OR DK/RF) OR F4 [Annual or monthly electricity] = DK/RF OR F6 [Electricity consumption] = DK/RF OR F8 [Purchased electricity consumption] = DK/RF OR F12 [Monthly electricity data] not given = "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 = "The next questions are about your electricity supplier or suppliers."</p>	
<p>{SuppliersIntro}</p> <p>How many different companies supplied electricity to this establishment during calendar year 2018?</p>		
<b>RANGE</b>	1 to 4	
<b>NEXT</b>	IF 1 to 4 → F17 [Electricity suppliers] IF DK/RF → F20 [Electricity bill available]	

<b>F17</b>	<b>Electricity suppliers</b>	<i>EL 1LKP—EL4LKP</i>
<b>ASK</b>	IF F16 [Number electricity suppliers] = 1 to 4	
<b>FILL</b>	<b>{FirstNext}</b> IF Only one supplier = BLANK IF First supplier given = "first" OTHERWISE = "next"	
<p>What is the name of the {FirstNext} supplier that provided electricity in calendar year 2018?</p> <ul style="list-style-type: none"> <li>◆ Start typing the name of the supplier or use [BACKSPACE] to bring up the look-up table</li> <li>◆ Type in the first few letters of the supplier name, and the look-up table will scroll to the closest match</li> <li>◆ If you find a match, make sure the correct line is highlighted (blue) and press [ENTER]</li> <li>◆ 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 <b>** NOT ON LIST</b> will be highlighted, then press [ENTER] two times</li> </ul>		
<b>NEXT</b>	IF NOT ON LIST selected → F19 [Supplier name] IF Supplier found in look-up table → F18 [Verify electricity supplier] IF DK/RF → F20 [Electricity bill available]	

<b>F18</b>	<b>Verify electricity supplier</b>
<b>ASK</b>	IF Supplier found in F17 [Electricity suppliers] look-up table
<b>FILL</b>	<b>{Supplier}</b> = Supplier name from F17 [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"> <li>◆ If No, you will be taken back to the previous screen to select again</li> </ul> <ol style="list-style-type: none"> <li>1 Yes</li> <li>2 No</li> </ol>	
<b>NEXT</b>	IF Yes → F21 [Number electricity accounts] IF No → F17 [Electricity suppliers]

<b>F19</b>	<b>Supplier name</b>	<i>EL 1NEW—EL4NEW</i>
<b>ASK</b>	IF NOT ON LIST selected in F17 [Electricity suppliers]	
<ul style="list-style-type: none"> <li>◆ ENTER the name of the supplier</li> </ul>		
<b>NEXT</b>	IF Name given → F21 [Number electricity accounts] IF DK/RF → F26 [Electricity bill available]	

<b>F20</b>	<b>Electricity bill available</b>	<i>ELBILL</i>
<b>ASK</b>	IF F16 [Number electricity suppliers] = DK/RF OR F17 [Electricity suppliers] = DK/RF	
<p>Can you provide a copy of one electricity bill? There is information on some utility bills that may help energy researchers who use these data.</p> <ul style="list-style-type: none"> <li>◆ EXP: [Examples of these items include miscellaneous charges, past months data, and units of measure.]</li> <li>◆ If available, directions for scanning or uploading the bill will be provided at the end of the interview.</li> </ul> <ol style="list-style-type: none"> <li>1 Yes, bill available</li> <li>2 No, will not be able to provide bill</li> </ol>		
<b>NEXT</b>	IF Only one supplier OR Last supplier OR DK/RF Number of suppliers → G1 [Section G Routing] IF More suppliers left to answer for → Back to F17 [Electricity suppliers] for next supplier	

<b>F21</b>	<b>Number electricity accounts</b>	<i>EL1NAC—EL4NAC</i>
<b>ASK</b>	IF Supplier found in F17 [Electricity suppliers] look-up table OR F19 [Supplier name] given	
<b>FILL</b>	<b>{Supplier}</b> = Supplier name from F17 [Electricity suppliers] look-up table OR F19 [Supplier name]	
How many different electricity accounts does this establishment have with {Supplier}?		
<b>RANGE</b>	1 to 999	
<b>NEXT</b>	IF 1 to 10 accounts → F22 [Electricity account number] IF More than 10 accounts OR DK/RF → F26 [Electricity bill available]	

<b>F22</b>	<b>Electricity account number</b>	<i>EL1AC1—EL4AC10</i>
<b>ASK</b>	IF F21 [Number electricity accounts] = 1 to 10	
<b>FILL</b>	<b>{Number}</b> IF Only one account = “number” OTHERWISE = “numbers” <b>{Supplier}</b> = Supplier name from F17 [Electricity suppliers] look-up table OR F19 [Supplier name]	
Please give me the electricity account {Number} for {Supplier}.		
◆ VERIFY number <u>digit by digit</u>		
<b>NEXT</b>	IF F2 [Provide electricity figures] = No OR DK/RF) OR F4 [Annual or monthly electricity] = DK/RF OR F6 [Electricity consumption] = DK/RF OR F8 [Purchased electricity consumption] = DK/RF OR F12 [Monthly electricity data] not given → F23 [Bills cover only establishment] OTHERWISE → F26 [Electricity bill available]	



<b>F23</b>	<b>Bills cover only establishment</b>	<i>EL10TB—EL40TB</i>
<b>ASK</b>	IF F21 [Number electricity accounts] = 1 to 10 & ((F2 [Provide electricity figures] = No OR DK/RF) OR F4 [Annual or monthly electricity] = DK/RF OR F6 [Electricity consumption] = DK/RF OR F8 [Purchased electricity consumption] = DK/RF OR F12 [Monthly electricity data] not given)	
<b>FILL</b>	<b>{Bills}</b> IF Only one account = “Does the bill or statement” IF 2 to 10 accounts = “Do the bills or statements” <b>{Supplier}</b> = Supplier name from F17 [Electricity suppliers] look-up table OR F19 [Supplier name]	
	{Bills} from {Supplier} cover just this establishment or are other establishments covered as well?  1 Just this establishment 2 Other establishment(s)	
<b>NEXT</b>	IF Other establishment → F24 [Sq ft of others included] IF Just this establishment OR DK/RF → F25 [Include other major electricity]	

<b>F24</b>	<b>Sq ft of others included</b>	<i>EL10TS—EL40TS</i>
<b>ASK</b>	IF F23 [Bills cover only establishment] = Other establishment	
<b>FILL</b>	<b>{Bills}</b> IF Only one account = “bill or statement” IF 2 to 10 accounts = “bills or statements”	
	What is the approximate square footage of the <u>other</u> establishments included on the {Bills}?  ◆ PROBE for estimate if DK	
<b>RANGE</b>	1 to 999,999,999	
<b>NEXT</b>	→ F25 [Include other major electricity]	

<b>F25</b>	<b>Include other major electricity</b>	<i>EL10TU—EL40TU</i>
<b>ASK</b>	IF F21 [Number electricity accounts] = 1 to 10 & ((F2 [Provide electricity figures] = No OR DK/RF) OR F4 [Annual or monthly electricity] = DK/RF OR F6 [Electricity consumption] = DK/RF OR F8 [Purchased electricity consumption] = DK/RF OR F12 [Monthly electricity data] not given)	
<b>FILL</b>	<b>{Bills}</b> IF Only one account = “Does the bill or statement” IF 2 to 10 accounts = “Do the bills or statements”	
	{Bills} include charges for any <u>other</u> major electricity usage outside the establishment, such as electric vehicle charging stations, parking lot lights, exterior lights, signs or billboards, large pumps or swimming pools?  1 Yes 2 No	
<b>NEXT</b>	→ F26 [Electricity bill available]	

<b>F26</b>	<b>Electricity bill available</b>	<i>EL1BILL—EL4BILL</i>
<b>ASK</b>	IF F16 [Number electricity suppliers] = 1 to 4 & NOT F21 [Electricity suppliers] = DK/RF	
<b>FILL</b>	<b>{Supplier}</b> IF F17 [Electricity suppliers] given = "F17 [Electricity suppliers]" IF F19 [Supplier name] given = "F19 [Supplier name]" IF F19 [Supplier name] = DK/RF = "this supplier"	
	<p>Can you provide a copy of one electricity bill from {Supplier}? There is information on some utility bills that may help energy researchers who use these data.</p> <ul style="list-style-type: none"> <li>◆ EXP: [Examples of these items include miscellaneous charges, past months data, and units of measure.]</li> <li>◆ If available, directions for scanning or uploading the bill will be provided at the end of the interview.</li> </ul> <ol style="list-style-type: none"> <li>1 Yes, bill available</li> <li>2 No, will not be able to provide bill</li> </ol>	
<b>NEXT</b>	IF More suppliers left to answer for → Back to F17 [Electricity suppliers] for next supplier OTHERWISE → G1 [Section G Routing]	


**SECTION G. NATURAL GAS**

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

<b>G2</b>	<b>Provide natural gas figures</b>	<i>NGFIGS</i>
<b>ASK</b>	IF Natural gas used	
<p>The next questions are about natural gas usage in this establishment during calendar year 2018. This can be reported as either annual or monthly information. Are you able to provide natural gas usage information for this establishment for 2018?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → G4 [Annual or monthly natural gas] IF No OR DK/RF → G3 [Natural gas included in rent]	

<b>G3</b>	<b>Natural gas included in rent</b>	<i>NGNRENT</i>
<b>ASK</b>	IF G2 [Provide natural gas figures] = No OR DK/RF	
<p>Is the cost of the natural gas used in this establishment included in the rent?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	→ G15 [Number natural gas suppliers]	

<b>G4</b>	<b>Annual or monthly natural gas</b>	<i>NGANNMON</i>
<b>ASK</b>	IF G2 [Provide natural gas figures] = Yes	
<p>Do you prefer to report the annual total natural gas usage for 2018, or monthly natural gas usage information?</p> <p>1 Prefer to report <u>annual total</u> natural gas usage 2 Prefer to report <u>monthly</u> natural gas usage</p>		
<b>NEXT</b>	IF DK/RF → G15 [Number natural gas suppliers] OTHERWISE → G5 [Units for natural gas]	

<b>G5</b>	<b>Units for natural gas</b>	<i>NGUNIT</i>
<b>ASK</b>	IF G4 [Annual or monthly natural gas] ≠ DK/RF	
 SHOW CARD G1  Please look at Show Card G1 and tell me the units in which your natural gas is measured. <ol style="list-style-type: none"> <li>1 Hundred cubic feet (Ccf)</li> <li>2 Therms</li> <li>3 Thousand cubic feet (Mcf)</li> <li>4 Dekatherms</li> <li>5 Cubic feet (cf)</li> <li>6 Million Btu (MMBtu)</li> <li>7 IF VOLUNTEERED: Some other units</li> </ol>		
<b>NEXT</b>	IF Some other units → G6 [Other natural gas units] IF Anything else OR DK/RF THEN: IF G4 [Annual or monthly natural gas] = Prefer to report annual total → G7 [Natural gas consumption] IF G4 [Annual or monthly natural gas] = Prefer to report monthly → G11 [Monthly natural gas data]	

<b>G6</b>	<b>Other natural gas units</b>	<i>NGUNITX</i>
<b>ASK</b>	IF G5 [Units for natural gas] = Some other units	
What are the other units?  ◆ ENTER the units		
<b>NEXT</b>	IF G4 [Annual or monthly natural gas] = Prefer to report annual total → G7 [Natural gas consumption] IF G4 [Annual or monthly natural gas] = Prefer to report monthly → G11 [Monthly natural gas data]	

<b>G7</b>	<b>Natural gas consumption</b>	<i>NGCNS</i>
<b>ASK</b>	IF G4 [Annual or monthly natural gas] = Prefer to report annual total	
Please give me the total amount of natural gas used in calendar year 2018.  ◆ VERIFY number <u>digit by digit</u>		
<b>RANGE</b>	1 to 99,999,999,999	
<b>NEXT</b>	IF DK/RF → G15 [Number natural gas suppliers] OTHERWISE → G8 [Natural gas expenditures]	

<b>G8</b>	<b>Natural gas expenditures</b>	<i>NGEXP</i>
<b>ASK</b>	IF G7 [Natural gas consumption] given	
<p>Please give me the total dollars spent on natural gas in calendar year 2018. This should include state and local taxes and all charges such as: fuel adjustment, system, demand, and distribution.</p> <ul style="list-style-type: none"> <li>◆ Do <u>not</u> enter cents</li> <li>◆ VERIFY number <u>digit by digit</u></li> </ul>		
<b>RANGE</b>	0 to 999,999,999	
<b>NEXT</b>	→ G9 [Starting date for natural gas figures]	

<b>G9</b>	<b>Starting date for natural gas figures</b>	<i>NGSTDAT</i>
<b>ASK</b>	IF G7 [Natural gas consumption] given	
<p>What is the starting date for these natural gas usage figures?</p> <ul style="list-style-type: none"> <li>◆ ENTER date as MMDDYYYY</li> <li>◆ If the day is not known, ENTER "15" for DD</li> </ul>		
<b>NEXT</b>	→ G10 [Ending date for natural gas figures]	

<b>G10</b>	<b>Ending date for natural gas figures</b>	<i>NGENDAT</i>
<b>ASK</b>	IF G7 [Natural gas consumption] given	
<p>What is the ending date [for these natural gas usage figures]?</p> <ul style="list-style-type: none"> <li>◆ ENTER date as MMDDYYYY</li> <li>◆ VERIFY that this is the <u>last</u> day of the last billing period</li> <li>◆ If the day is not known, ENTER "15" for DD</li> </ul>		
<b>NEXT</b>	→ G12 [Other estabs natural gas included]	

<b>G11</b>	<b>Monthly natural gas data</b>	<i>NGCNS_1217, NGCOST_1217, etc.</i>																																													
<b>ASK</b>	IF G4 [Annual or monthly natural gas] = Prefer to report monthly																																														
<b>FILL</b>	<b>{Units}</b> IF G5 [Units for natural gas] given = "G5 [Units for natural gas]" OTHERWISE = "Usage"																																														
<p>Please complete the grid below to report the monthly natural gas usage in this establishment during 2018.</p> <table border="1"> <thead> <tr> <th>Month</th> <th>{Units}</th> <th>Cost (\$)</th> </tr> </thead> <tbody> <tr><td>December 2017</td><td></td><td></td></tr> <tr><td>January 2018</td><td></td><td></td></tr> <tr><td>February 2018</td><td></td><td></td></tr> <tr><td>March 2018</td><td></td><td></td></tr> <tr><td>April 2018</td><td></td><td></td></tr> <tr><td>May 2018</td><td></td><td></td></tr> <tr><td>June 2018</td><td></td><td></td></tr> <tr><td>July 2018</td><td></td><td></td></tr> <tr><td>August 2018</td><td></td><td></td></tr> <tr><td>September 2018</td><td></td><td></td></tr> <tr><td>October 2018</td><td></td><td></td></tr> <tr><td>November 2018</td><td></td><td></td></tr> <tr><td>December 2018</td><td></td><td></td></tr> <tr><td>January 2019</td><td></td><td></td></tr> </tbody> </table>			Month	{Units}	Cost (\$)	December 2017			January 2018			February 2018			March 2018			April 2018			May 2018			June 2018			July 2018			August 2018			September 2018			October 2018			November 2018			December 2018			January 2019		
Month	{Units}	Cost (\$)																																													
December 2017																																															
January 2018																																															
February 2018																																															
March 2018																																															
April 2018																																															
May 2018																																															
June 2018																																															
July 2018																																															
August 2018																																															
September 2018																																															
October 2018																																															
November 2018																																															
December 2018																																															
January 2019																																															
<b>NEXT</b>	IF No data given → G15 [Number natural gas suppliers] OTHERWISE → G12 [Other estabs natural gas included]																																														

<b>G12</b>	<b>Other estabs natural gas included</b>	<i>NGOTBD</i>
<b>ASK</b>	IF G7 [Natural gas consumption] given OR G11 [Monthly natural gas data] given	
<p>Is any consumption from other establishments included in these figures?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → G13 [Sq ft of other included] IF No OR DK/RF → G14 [Include other major natural gas]	

<b>G13</b>	<b>Sq ft of other included</b>	<i>NGOTSF</i>
<b>ASK</b>	IF G12 [Other estabs natural gas included] = Yes	
<p>What is the approximate square footage of the <u>other</u> establishments that are included in these figures?</p> <p>◆ PROBE for estimate if DK</p>		
<b>RANGE</b>	1 to 999,999,999	
<b>NEXT</b>	→ G14 [Include other major natural gas]	

<b>G14</b>	<b>Include other major natural gas</b>	<i>NGOTUS</i>
<b>ASK</b>	IF G7 [Natural gas consumption] given OR G11 [Monthly natural gas data] given	
	<p>Do these figures include charges for any <u>other</u> major natural gas usage outside the establishment, such as for kilns, gas space heaters, exterior or decorative lighting, compressed natural gas vehicles, or pumps not used in the establishment?</p> <p>1 Yes 2 No</p>	
<b>NEXT</b>	→ G15 [Number natural gas suppliers]	

<b>G15</b>	<b>Number natural gas suppliers</b>	<i>NGNUMSP</i>
<b>ASK</b>	IF Natural gas used	
<b>FILL</b>	<p><b>{SuppliersIntro}</b>  IF (G2 [Provide natural gas figures] = No OR DK/RF) OR  G4 [Annual or monthly natural gas] = DK/RF OR G7 [Natural gas consumption] = DK/RF OR  G11 [Monthly natural gas data] not given = "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 = "The next questions are about your natural gas supplier or suppliers."</p>	
	<p>{SuppliersIntro}</p> <p>How many different companies supplied natural gas to this establishment during calendar year 2018?</p>	
<b>RANGE</b>	1 to 4	
<b>NEXT</b>	IF 1 to 4 → G16 [Natural gas suppliers] IF DK/RF → G19 [Natural gas bill available]	

<b>G16</b>	<b>Natural gas suppliers</b>	<i>NG1LKP—NG2LKP</i>
<b>ASK</b>	IF G15 [Number natural gas suppliers] = 1 to 4	
<b>FILL</b>	<b>{FirstNext}</b> IF Only one supplier = BLANK IF First supplier given = "first" OTHERWISE = "next"	
<p>What is the name of the {FirstNext} supplier that provided natural gas in calendar year 2018?</p> <ul style="list-style-type: none"> <li>◆ Start typing the name of the supplier or use [BACKSPACE] to bring up the look-up table</li> <li>◆ Type in the first few letters of the supplier name, and the look-up table will scroll to the closest match</li> <li>◆ If you find a match, make sure the correct line is highlighted (blue) and press [ENTER]</li> <li>◆ 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 <b>** NOT ON LIST</b> will be highlighted, then press [ENTER] two times</li> </ul>		
<b>NEXT</b>	IF NOT ON LIST selected → G15 [Supplier name] IF Supplier found in look-up table → G17 [Verify natural gas supplier] IF DK/RF → G19 [Natural gas bill available]	

<b>G17</b>	<b>Verify natural gas supplier</b>
<b>ASK</b>	IF Supplier found in G16 [Natural gas suppliers] look-up table
<b>FILL</b>	<b>{Supplier}</b> = Supplier name from G16 [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"> <li>◆ If No, you will be taken back to the previous screen to select again</li> </ul> <ol style="list-style-type: none"> <li>1 Yes</li> <li>2 No</li> </ol>	
<b>NEXT</b>	IF Yes → G20 [Number natural gas accounts] IF No → G16 [Natural gas suppliers]

<b>G18</b>	<b>Supplier name</b>	<i>NG1NEW—NG4NEW</i>
<b>ASK</b>	IF NOT ON LIST selected in G16 [Natural gas suppliers]	
<ul style="list-style-type: none"> <li>◆ ENTER the name of the supplier</li> </ul>		
<b>NEXT</b>	IF Name given → G20 [Number natural gas accounts] IF DK/RF → G25 [Natural gas bill available]	



<b>G19</b>	<b>Natural gas bill available</b>	<i>NGBILL</i>
<b>ASK</b>	IF G15 [Number natural gas suppliers] = DK/RF OR G16 [Natural gas suppliers] = DK/RF	
<p>Can you provide a copy of one natural gas bill? There is information on some utility bills that may help energy researchers who use these data.</p> <ul style="list-style-type: none"> <li>◆ EXP: [Examples of these items include miscellaneous charges, past months data, and units of measure.]</li> <li>◆ If available, directions for scanning or uploading the bill will be provided at the end of the interview.</li> </ul> <ol style="list-style-type: none"> <li>1 Yes, bill available</li> <li>2 No, will not be able to provide bill</li> </ol>		
<b>NEXT</b>	IF Only one supplier OR Last supplier OR DK/RF Number of suppliers → H1 [Section H Routing] IF More suppliers left to answer for → Back to G16 [Natural gas suppliers] for next supplier	

<b>G20</b>	<b>Number natural gas accounts</b>	<i>NG1NAC—NG4NAC</i>
<b>ASK</b>	IF Supplier found in G16 [Natural gas suppliers] look-up table OR G18 [Supplier name] given	
<b>FILL</b>	<b>{Supplier}</b> = Supplier name from G16 [Natural gas suppliers] look-up table OR G18 [Supplier name]	
How many different natural gas accounts does this establishment have with {Supplier}?		
<b>RANGE</b>	1 to 999	
<b>NEXT</b>	IF 1 to 10 accounts → G21 [Natural gas account number] IF More than 10 accounts OR DK/RF → G25 [Natural gas bill available]	

<b>G21</b>	<b>Natural gas account number</b>	<i>NG1AC1—NG4AC10</i>
<b>ASK</b>	IF G20 [Number natural gas accounts] = 1 to 10	
<b>FILL</b>	<b>{Number}</b> IF Only one account = "number" OTHERWISE = "numbers" <b>{Supplier}</b> = Supplier name from G16 [Natural gas suppliers] look-up table OR G18 [Supplier name]	
Please give me the natural gas account {Number} for {Supplier}. <ul style="list-style-type: none"> <li>◆ VERIFY number <u>digit by digit</u></li> </ul>		
<b>NEXT</b>	IF (G2 [Provide natural gas figures] = No OR DK/RF) OR G4 [Annual or monthly natural gas] = DK/RF OR G7 [Natural gas consumption] = DK/RF OR G11 [Monthly natural gas data] not given → G22 [Bills cover only establishment] OTHERWISE → G25 [Natural gas bill available]	

<b>G22</b>	<b>Bills cover only establishment</b>	<i>NG10TB—NG40TB</i>
<b>ASK</b>	IF G20 [Number natural gas accounts] = 1 to 10 & ((G2 [Provide natural gas figures] = No OR DK/RF) OR G4 [Annual or monthly natural gas] = DK/RF OR G7 [Natural gas consumption] = DK/RF OR G11 [Monthly natural gas data] not given)	
<b>FILL</b>	<b>{Bills}</b> IF Only one account = “Does the bill or statement” IF 2 to 10 accounts = “Do the bills or statements” <b>{Supplier}</b> = Supplier name from G16 [Natural gas suppliers] look-up table OR G18 [Supplier name]	
	{Bills} from {Supplier} cover just this establishment or are other establishments covered as well?  1 Just this establishment 2 Other establishment(s)	
<b>NEXT</b>	IF Other establishments → G23 [Sq ft of others included] IF Just this establishment OR DK/RF → G24 [Include other major natural gas]	

<b>G23</b>	<b>Sq ft of others included</b>	<i>NG10TS—NG40TS</i>
<b>ASK</b>	IF G22 [Bills cover only establishment] = Other establishment	
<b>FILL</b>	<b>{Bills}</b> IF Only one account = “bill or statement” IF 2 to 10 accounts = “bills or statements”	
	What is the approximate square footage of the <u>other</u> establishments included on the {Bills}?  ◆ PROBE for estimate if DK	
<b>RANGE</b>	1 to 999,999,999	
<b>NEXT</b>	→ G23 [Include other major natural gas]	

<b>G24</b>	<b>Include other major natural gas</b>	<i>NG10TU—NG40TU</i>
<b>ASK</b>	IF G2- [Number natural gas accounts] = 1 to 10 & ((G2 [Provide natural gas figures] = No OR DK/RF) OR G4 [Annual or monthly natural gas] = DK/RF OR G7 [Natural gas consumption] = DK/RF OR G11 [Monthly natural gas data] not given)	
<b>FILL</b>	<b>{Bills}</b> IF Only one account = “Does the bill or statement” IF 2 to 10 accounts = “Do the bills or statements”	
	{Bills} include charges for any <u>other</u> major natural gas usage outside the establishment, such as for kilns, gas space heaters, exterior or decorative lighting, compressed natural gas vehicles, or pumps not used in the establishment?  1 Yes 2 No	
<b>NEXT</b>	→ G25 [Natural gas bill available]	

<b>G25</b>	<b>Natural gas bill available</b>	<i>NG1BILL—NG4BILL</i>
<b>ASK</b>	IF G15 [Number natural gas suppliers] = 1 to 4 & NOT G16 [Natural gas suppliers] = DK/RF	
<b>FILL</b>	<p><b>{Supplier}</b>  IF G16 [Natural gas suppliers] given = "G16 [Natural gas suppliers]"  IF G18 [Supplier name] given = "G18 [Supplier name]"  IF G18 [Supplier name] = DK/RF = "this supplier"</p>	
	<p>Can you provide a copy of one natural gas bill from {Supplier}? There is information on some utility bills that may help energy researchers who use these data.</p> <ul style="list-style-type: none"> <li>◆ EXP: [Examples of these items include miscellaneous charges, past months data, and units of measure.]</li> <li>◆ If available, directions for scanning or uploading the bill will be provided at the end of the interview.</li> </ul> <ol style="list-style-type: none"> <li>1 Yes, bill available</li> <li>2 No, will not be able to provide bill</li> </ol>	
<b>NEXT</b>	IF More suppliers left to answer for → Back to G16 [Natural gas suppliers] for next supplier OTHERWISE → H1 [Section H Routing]	

## SECTION H. FUEL OIL/DIESEL/KEROSENE

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

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

<b>H2</b>	<b>Provide fuel oil figures</b>	<i>FKFIGS</i>
<b>ASK</b>	IF Fuel oil used	
<b>FILL</b>	{FuelOilType} = Type or types specified in D15 [Fuel oil, diesel, or kerosene]	
<p>The next questions are about {FuelOilType} purchases for this establishment during calendar year 2018. Are you able to report how much {FuelOilType} was purchased for this establishment during 2018?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → H3 [Fuel oil purchases] IF No OR DK/RF → H5 [Purchased before 2018]	

<b>H3</b>	<b>Fuel oil purchases</b>	<i>FKCNS</i>
<b>ASK</b>	IF H2 [Provide fuel oil figures] = Yes	
<b>FILL</b>	{FuelOilType} = Type or types specified in D15 [Fuel oil, diesel, or kerosene]	
<p>Please give me the total number of gallons of {FuelOilType} purchased in calendar year 2018.</p> <p>◆ VERIFY number <u>digit by digit</u></p>		
<b>RANGE</b>	0 to 99,999,999,999	
<b>NEXT</b>	→ H4 [Fuel oil expenditures]	

<b>H4</b>	<b>Fuel oil expenditures</b>	<i>FKEXP</i>
<b>ASK</b>	IF H2 [Provide fuel oil figures] = Yes	
<b>FILL</b>	{FuelOilType} = Type or types specified in D15 [Fuel oil, diesel, or kerosene]	
<p>Please give me the total dollars spent on {FuelOilType} in calendar year 2018, including state and local taxes.</p> <ul style="list-style-type: none"> <li>◆ Do <u>not</u> enter cents</li> <li>◆ VERIFY number <u>digit by digit</u></li> </ul>		
<b>RANGE</b>	0 to 999,999,999	
<b>NEXT</b>	IF (H3 [Fuel oil purchases] = Zero OR DK/RF) & (H4 [Fuel oil expenditures] = Zero OR DK/RF) → H5 [Purchased before 2018] OTHERWISE → H6 [Starting date for fuel oil figures]	

<b>H5</b>	<b>Purchased before 2018</b>	<i>FKSTORD</i>
<b>ASK</b>	IF (H3 [Fuel oil purchases] = Zero OR DK/RF) & (H4 [Fuel oil expenditures] = Zero OR DK/RF)	
<b>FILL</b>	{FuelOilType} = Type or types specified in D15 [Fuel oil, diesel, or kerosene]	
<p>Was any of the {FuelOilType} used in 2018 purchased or delivered in 2017 or before?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Fuel oil IN D21 [Source for main heating] OR D22 [Other source for main heating] OR D23 [Which other sources for heating] OR D25 [Other source for heating] OR D107 [Sources for water heating] OR D108 [Other water heating source] OR (D119 [Sources for electricity generation] = Fuel oil & D120 [Use of generated electricity] = Whenever electricity was used) → H13 [Fuel oil bill available] OTHERWISE → I1 [Section I Routing]	

<b>H6</b>	<b>Starting date for fuel oil figures</b>	<i>FKSTDAT</i>
<b>ASK</b>	IF H3 [Fuel oil purchases] > 0 OR H4 [Fuel oil expenditures] > 0	
<b>FILL</b>	{FuelOilType} = Type or types specified in D15 [Fuel oil, diesel, or kerosene]	
<p>What is the first delivery date for these {FuelOilType} purchases?</p> <ul style="list-style-type: none"> <li>◆ ENTER date as MMDDYYYY</li> <li>◆ If the day is not known, ENTER "15" for DD</li> </ul>		
<b>NEXT</b>	→ H7 [Ending date for fuel oil figures]	

<b>H7</b>	<b>Ending date for fuel oil figures</b>	<i>FKENDAT</i>
<b>ASK</b>	IF H3 [Fuel oil purchases] > 0 OR H4 [Fuel oil expenditures] > 0	
<b>FILL</b>	{FuelOilType} = Type or types specified in D15 [Fuel oil, diesel, or kerosene]	
<p>What is the last delivery date [for these {FuelOilType} purchases]?</p> <ul style="list-style-type: none"> <li>◆ ENTER date as MMDDYYYY</li> <li>◆ If the day is not known, ENTER "15" for DD</li> </ul>		
<b>NEXT</b>	→ H8 [Other estabs fuel oil included]	

<b>H8</b>	<b>Other estabs fuel oil included</b>	<i>FKOTBD</i>
<b>ASK</b>	IF H3 [Fuel oil purchases] > 0 OR H4 [Fuel oil expenditures] > 0	
<p>Is any consumption from other establishments included in these figures?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → H9 [Sq ft of other included] OTHERWISE → H10 [Include other major fuel oil]	

<b>H9</b>	<b>Sq ft of other included</b>	<i>FKOTSF</i>
<b>ASK</b>	IF H8 [Other estabs fuel oil included] = Yes	
<p>What is the approximate square footage of the <u>other</u> establishments that are included in these figures?</p> <ul style="list-style-type: none"> <li>◆ PROBE for estimate if DK</li> </ul>		
<b>RANGE</b>	1 to 999,999,999	
<b>NEXT</b>	→ H10 [Include other major fuel oil]	

<b>H10</b>	<b>Include other major fuel oil</b>	<i>FKOTUS</i>
<b>ASK</b>	IF H3 [Fuel oil purchases] > 0 OR H4 [Fuel oil expenditures] > 0	
<b>FILL</b>	{FuelOilType} = Type or types specified in D15 [Fuel oil, diesel, or kerosene]	
<p>Do these figures include charges for any <u>other</u> major {FuelOilType} usage outside the establishment, such as for kilns, welding, pumps, or motors?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	→ H11 [Number fuel oil suppliers]	

<b>H11</b>	<b>Number fuel oil suppliers</b>	<i>FKNUMSP</i>
<b>ASK</b>	IF Fuel oil IN D21 [Source for main heating] OR D22 [Other source for main heating] OR D23 [Which other sources for heating] OR D25 [Other source for heating] OR D107 [Sources for water heating] OR D108 [Other water heating source] OR (D119 [Sources for electricity generation] = Fuel oil & D120 [Use of generated electricity] = Whenever electricity was used)	
<b>FILL</b>	<b>{SuppliersIntro}</b> IF H2 [Provide fuel oil figures] = No OR 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 = "The next questions are about your fuel oil supplier or suppliers." <b>{FuelOilType}</b> = Type or types specified in D15 [Fuel oil, diesel, or kerosene]	
{SuppliersIntro}  How many different companies supplied {FuelOilType} to this establishment during calendar year 2018?		
<b>RANGE</b>	1 to 4	
<b>NEXT</b>	IF 1 to 4 → H12 [Fuel oil supplier name] IF DK/RF → H13 [Fuel oil bill available]	

<b>H12</b>	<b>Fuel oil supplier name</b>	<i>FK1SUP—FK4SUP</i>
<b>ASK</b>	IF H11 [Number fuel oil suppliers] = 1 to 4	
<b>FILL</b>	<b>{FirstNext}</b> IF Only one supplier = BLANK IF First supplier given = "first" OTHERWISE = "next" <b>{FuelOilType}</b> = Type or types specified in D15 [Fuel oil, diesel, or kerosene]	
What is the name of the {FirstNext} supplier that provided {FuelOilType} during 2018?  ◆ ENTER the name of the supplier		
<b>NEXT</b>	IF Name given → H14 [Street address] IF DK/RF → H13 [Fuel oil bill available]	

<b>H13</b>	<b>Fuel oil bill available</b>	<i>FKBILL</i>
<b>ASK</b>	IF NOT (Fuel oil IN D21 [Source for main heating] OR D22 [Other source for main heating] OR D23 [Which other sources for heating] OR D25 [Other source for heating] OR D107 [Sources for water heating] OR D108 [Other water heating source] OR (D119 [Sources for electricity generation] = Fuel oil & D120 [Use of generated electricity] = Whenever electricity was used) OR H11 [Number fuel oil suppliers] = DK/RF OR H12 [Fuel oil supplier name] = DK/RF	
<b>FILL</b>	<b>{FuelOilType}</b> = Type or types specified in D15 [Fuel oil, diesel, or kerosene]	
<p>Can you provide a copy of one {FuelOilType} bill? There is information on some utility bills that may help energy researchers who use these data.</p> <ul style="list-style-type: none"> <li>◆ EXP: [Examples of these items include miscellaneous charges, past months data, and units of measure.]</li> <li>◆ If available, directions for scanning or uploading the bill will be provided at the end of the interview.</li> </ul> <ol style="list-style-type: none"> <li>1 Yes, bill available</li> <li>2 No, will not be able to provide bill</li> </ol>		
<b>NEXT</b>	IF NOT (Fuel oil IN D21 [Source for main heating] OR D22 [Other source for main heating] OR D23 [Which other sources for heating] OR D25 [Other source for heating] OR D107 [Sources for water heating] OR D108 [Other water heating source] OR (D119 [Sources for electricity generation] = Fuel oil & D120 [Use of generated electricity] = Whenever electricity was used) → I1 [Section I Routing] IF Only one supplier OR Last supplier OR DK/RF Number of suppliers → I1 [Section I Routing] IF More suppliers left to answer for → Back to H12 [Fuel oil supplier name] for next supplier	

<b>H14</b>	<b>Street address</b>	<i>FK1AD1—FK4AD1</i>
<b>ASK</b>	IF Name given in H12 [Fuel oil supplier name]	
<b>FILL</b>	<b>{Supplier}</b> = H12 [Fuel oil supplier name]	
What is the address for {Supplier}, beginning with the street?		
<b>NEXT</b>	→ H15 [P.O. Box or Suite]	

<b>H15</b>	<b>P.O. Box or Suite</b>	<i>FK1AD2—FK4AD2</i>
<b>ASK</b>	IF Name given in H12 [Fuel oil supplier name]	
Is there a post office box or suite number?		
<ul style="list-style-type: none"> <li>◆ If not, press [ENTER]</li> </ul>		
<b>NEXT</b>	→ H16 [City]	



<b>H16</b>	<b>City</b>	<i>FK1CTY—FK4CTY</i>
<b>ASK</b>	IF Name given in H12 [Fuel oil supplier name]	
What is the city?		
<b>NEXT</b>	➔ H17 [State abbreviation]	

<b>H17</b>	<b>State abbreviation</b>	<i>FK1STA—FK4STA</i>
<b>ASK</b>	IF Name given in H12 [Fuel oil supplier name]	
What is the state?		
◆ ENTER the two letter abbreviation		
<b>NEXT</b>	➔ H18 [ZIP code]	

<b>H18</b>	<b>ZIP code</b>	<i>FK1ZIP—FK4ZIP</i>
<b>ASK</b>	IF Name given in H12 [Fuel oil supplier name]	
And what is the zip code?		
<b>NEXT</b>	➔ H19 [Number fuel oil accounts]	

<b>H19</b>	<b>Number fuel oil accounts</b>	<i>FK1NAC—FK4NAC</i>
<b>ASK</b>	IF Name given in H12 [Fuel oil supplier name]	
<b>FILL</b>	<b>{FuelOilType}</b> = Type or types specified in D12 [Fuel oil, diesel, or kerosene] <b>{Supplier}</b> = "H12 [Fuel oil supplier name]"	
How many different {FuelOilType} accounts does this establishment have with {Supplier}?		
<b>NEXT</b>	IF 1 to 10 accounts ➔ H20 [Fuel oil account number] IF More than 10 accounts OR DK/RF ➔ H24 [Fuel oil bill available]	

<b>H20</b>	<b>Fuel oil account number</b>	<i>FK1AC1—FK4AC10</i>
<b>ASK</b>	IF H19 [Number fuel oil accounts] = 1 to 10	
<b>FILL</b>	<b>{Number}</b> IF Only one account = "number" OTHERWISE = "numbers" <b>{FuelOilType}</b> = Type or types specified in D15 [Fuel oil, diesel, or kerosene] <b>{Supplier}</b> = "H12 [Fuel oil supplier name]"	
Please give me the {FuelOilType} account {Number} for {Supplier}.  ◆ VERIFY number <u>digit by digit</u>		
<b>NEXT</b>	IF H2 [Provide fuel oil figures] = No OR DK/RF → H21 [Bills cover only establishment] OTHERWISE → H24 [Fuel oil bill available]	

<b>H21</b>	<b>Bills cover only establishment</b>	<i>FK10TB—FK40TB</i>
<b>ASK</b>	IF H19 [Number fuel oil accounts] = 1 to 10 & (H2 [Provide fuel oil figures] = No OR DK/RF)	
<b>FILL</b>	<b>{Bills}</b> IF Only one account = "Does the bill or statement" IF 2 to 10 accounts = "Do the bills or statements" <b>{Supplier}</b> = H13 [Fuel oil supplier name]	
{Bills} from {Supplier} cover just this establishment or are other establishments covered as well?  1 Just this establishment 2 Other establishment(s)		
<b>NEXT</b>	IF Other establishments → H22 [Sq ft of others included] IF Just this establishment OR DK/RF → H23 [Include other major fuel oil]	

<b>H22</b>	<b>Sq ft of others included</b>	<i>FK10TS—FK40TS</i>
<b>ASK</b>	IF H21 [Bills cover only establishment] = Other establishments	
<b>FILL</b>	<b>{Bills}</b> IF Only one account = "bill or statement" IF 2 to 10 accounts = "bills or statements"	
What is the approximate square footage of the <u>other</u> establishments included on the {Bills}?  ◆ PROBE for estimate if DK		
<b>RANGE</b>	1 to 999,999,999	
<b>NEXT</b>	→ H23 [Include other major fuel oil]	


<b>H23</b>	<b>Include other major fuel oil</b>	<i>FK10TU—FK40TU</i>
<b>ASK</b>	IF H19 [Number fuel oil accounts] = 1 to 10 & (H2 [Provide fuel oil figures] = No OR DK/RF)	
<b>FILL</b>	<b>{Bills}</b> IF Only one account = “Does the bill or statement” IF 2 to 10 accounts = “Do the bills or statements”	
<p>{Bills} include charges for any <u>other</u> major fuel oil usage outside the establishment, such as for kilns, welding, pumps, or motors?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	➔ H24 [Fuel oil bill available]	

<b>H24</b>	<b>Fuel oil bill available</b>	<i>FK1BILL—FK4BILL</i>
<b>ASK</b>	IF H11 [Number fuel oil suppliers] = 1 to 4 & NOT H12 [Fuel oil supplier name] = DK/RF	
<b>FILL</b>	<b>{FuelOilType}</b> = Type or types specified in D15 [Fuel oil, diesel, or kerosene] <b>{Supplier}</b> = “H12 [Fuel oil supplier name]”	
<p>Can you provide a copy of one {FuelOilType} bill from {Supplier}? There is information on some utility bills that may help energy researchers who use these data.</p> <ul style="list-style-type: none"> <li>◆ EXP: [Examples of these items include miscellaneous charges, past months data, and units of measure.]</li> <li>◆ If available, directions for scanning or uploading the bill will be provided at the end of the interview.</li> </ul> <p>1 Yes, bill available 2 No, will not be able to provide bill</p>		
<b>NEXT</b>	IF More suppliers left to answer for ➔ Back to H12 [Fuel oil supplier name] for next supplier OTHERWISE ➔ I1 [Section I Routing]	

## SECTION I. DISTRICT STEAM

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

<b>I2</b>	<b>Provide district steam figures</b>	<i>STFIGS</i>
<b>ASK</b>	IF District steam used	
<p>The next questions are about district steam usage in this establishment during calendar year 2018. Are you able to report how much district steam was used in this establishment during 2018?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → I3 [Units for district steam] IF No OR DK/RF → I11 [District steam supplier name]	

<b>I3</b>	<b>Units for district steam</b>	<i>STUNIT</i>
<b>ASK</b>	IF I2 [Provide district steam figures] = Yes	
<p> SHOW CARD I1</p> <p>Please look at Show Card I1 and tell me the units in which your district steam is measured.</p> <p>1 Thousand pounds 2 Pounds 3 Million Btu (MMBtu) 4 IF VOLUNTEERED: Some other units</p>		
<b>NEXT</b>	IF Some other units → I4 [Other district steam units] OTHERWISE → I5 [District steam consumption]	

<b>I4</b>	<b>Other district steam units</b>	<i>STUNITX</i>
<b>ASK</b>	IF I3 [Units for district steam] = Some other units	
<p>What are the other units?</p>		
<b>NEXT</b>	→ I5 [District steam consumption]	

<b>I5</b>	<b>District steam consumption</b>	<i>STCNS</i>
<b>ASK</b>	IF I2 [Provide district steam figures] = Yes	
<p>Please give me the total amount of district steam used in calendar year 2018.</p> <ul style="list-style-type: none"> <li>◆ VERIFY number <u>digit by digit</u></li> </ul>		
<b>RANGE</b>	1 to 99,999,999,999	
<b>NEXT</b>	IF DK/RF → I11 [District steam supplier name] OTHERWISE → I6 [District steam expenditures]	

<b>I6</b>	<b>District steam expenditures</b>	<i>STEXP</i>
<b>ASK</b>	IF I5 [District steam consumption] given	
<p>Please give me the total dollars spent on district steam in calendar year 2018, including state and local taxes.</p> <ul style="list-style-type: none"> <li>◆ Do <u>not</u> enter cents</li> <li>◆ VERIFY number <u>digit by digit</u></li> </ul>		
<b>RANGE</b>	0 to 999,999,999	
<b>NEXT</b>	→ I7 [Starting date for district steam figures]	

<b>I7</b>	<b>Starting date for district steam figures</b>	<i>STSTDAT</i>
<b>ASK</b>	IF I5 [District steam consumption] given	
<p>What is the starting date for these district steam usage figures?</p> <ul style="list-style-type: none"> <li>◆ ENTER date as MMDDYYYY</li> <li>◆ If the day is not known, ENTER "15" for DD</li> </ul>		
<b>NEXT</b>	→ I8 [Ending date for district steam figures]	

<b>I8</b>	<b>Ending date for district steam figures</b>	<i>STENDAT</i>
<b>ASK</b>	IF I5 [District steam consumption] given	
<p>What is the ending date [for these district steam usage figures]?</p> <ul style="list-style-type: none"> <li>◆ ENTER date as MMDDYYYY</li> <li>◆ VERIFY that this is the <u>last</u> day of the last billing period</li> <li>◆ If the day is not known, ENTER "15" for DD</li> </ul>		
<b>NEXT</b>	→ I9 [Other estabs steam included]	

<b>I9</b>	<b>Other estabs steam included</b>	<i>STOTBD</i>
<b>ASK</b>	IF I5 [District steam consumption] given	
<p>Is any consumption from other establishments included in these figures?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → I10 [Sq ft of other included] OTHERWISE → I11 [District steam supplier name]	

<b>I10</b>	<b>Sq ft of other included</b>	<i>STOTSF</i>
<b>ASK</b>	IF I10 [Other estabs steam included] = Yes	
<p>What is the approximate square footage of the <u>other</u> establishments that are included in these figures?</p> <ul style="list-style-type: none"> <li>◆ PROBE for estimate if DK</li> </ul>		
<b>RANGE</b>	1 to 999,999,999	
<b>NEXT</b>	→ I11 [District steam supplier name]	

<b>I11</b>	<b>District steam supplier name</b>	<i>STSUP</i>
<b>ASK</b>	IF District steam used	
<b>FILL</b>	<p><b>{SuppliersIntro}</b>  IF (I2 [Provide district steam figures] = No OR DK/RF) OR I5 [District steam consumption] = DK/RF  = "We should be able to obtain this information directly from your district steam supplier, so I just need to collect some information about your district steam accounts."  OTHERWISE = "The next questions are about your district steam supplier."</p>	
	<p>{SuppliersIntro}</p> <p>What is the name of the supplier that provided district steam in calendar year 2018?</p> <ul style="list-style-type: none"> <li>◆ ENTER the name of the supplier</li> </ul>	
<b>NEXT</b>	IF Name given → I13 [Street address] IF DK/RF → I12 [District steam bill available]	

<b>I12</b>	<b>District steam bill available</b>	<i>STBILL</i>
<b>ASK</b>	IF I11 [District steam supplier name] = DK/RF	
	<p>Can you provide a copy of one district steam bill? There is information on some utility bills that may help energy researchers who use these data.</p> <ul style="list-style-type: none"> <li>◆ EXP: [Examples of these items include miscellaneous charges, past months data, and units of measure.]</li> <li>◆ If available, directions for scanning or uploading the bill will be provided at the end of the interview.</li> </ul> <ol style="list-style-type: none"> <li>1 Yes, bill available</li> <li>2 No, will not be able to provide bill</li> </ol>	
<b>NEXT</b>	→ J1 [Section J Routing]	

<b>I13</b>	<b>Street address</b>	<i>STAD1</i>
<b>ASK</b>	IF I11 [District steam supplier name] given	
<b>FILL</b>	<b>{Supplier}</b> = "I11 [District steam supplier name]"	
	<p>What is the address for {Supplier}, beginning with the street?</p>	
<b>NEXT</b>	→ I14 [P.O. Box or Suite]	

<b>I14</b>	<b>P.O. Box or Suite</b>	<i>STAD2</i>
<b>ASK</b>	IF I11 [District steam supplier name] given	
<p>Is there a post office box or suite number?</p> <p>◆ If not, press [ENTER]</p>		
<b>NEXT</b>	➔ I15 [City]	

<b>I15</b>	<b>City</b>	<i>STCTY</i>
<b>ASK</b>	IF I11 [District steam supplier name] given	
<p>What is the city?</p>		
<b>NEXT</b>	➔ I16 [State abbreviation]	

<b>I16</b>	<b>State abbreviation</b>	<i>STSTA</i>
<b>ASK</b>	IF I11 [District steam supplier name] given	
<p>What is the state?</p> <p>◆ ENTER the two letter abbreviation</p>		
<b>NEXT</b>	➔ I17 [ZIP code]	

<b>I17</b>	<b>ZIP code</b>	<i>STZIP</i>
<b>ASK</b>	IF I11 [District steam supplier name] given	
<p>And what is the ZIP code?</p>		
<b>NEXT</b>	➔ I18 [Number district steam accounts]	



<b>I18</b>	<b>Number district steam accounts</b>	<i>STNAC</i>
<b>ASK</b>	IF I11 [District steam supplier name] given	
<b>FILL</b>	{Supplier} = "I11 [District steam supplier name]"	
How many different district steam accounts does this establishment have with {Supplier}?		
<b>RANGE</b>	1 to 999	
<b>NEXT</b>	IF 1 to 10 accounts → I19 [District steam account number] IF More than 10 accounts OR DK/RF → I22 [District steam bill available]	

<b>I19</b>	<b>District steam account number</b>	<i>STAC1—STAC10</i>
<b>ASK</b>	IF I18 [Number district steam accounts] = 1 to 10	
<b>FILL</b>	{Number} IF Only one account = "number" OTHERWISE = "numbers" {Supplier} = "I11 [District steam supplier name]"	
Please give me the district steam account {Number} for {Supplier}.		
◆ VERIFY number <u>digit by digit</u>		
<b>NEXT</b>	IF (I2 [Provide district steam figures] = No OR DK/RF) OR I5 [District steam consumption] = DK/RF → I20 [Bills cover only establishment] OTHERWISE → I22 [District steam bill available]	

<b>I20</b>	<b>Bills cover only establishment</b>	<i>STOTB</i>
<b>ASK</b>	IF I18 [Number district steam accounts] = 1 to 10 & ((I2 [Provide district steam figures] = No OR DK/RF) OR I5 [District steam consumption] = DK/RF)	
<b>FILL</b>	{Bills} IF Only one account = "Does the bill or statement" IF 2 to 10 accounts = "Do the bills or statements" {Supplier} = "I11 [District steam supplier name]"	
{Bills} from {Supplier} cover just this establishment or are other establishments covered as well?		
1 Just this establishment 2 Other establishment(s)		
<b>NEXT</b>	IF Other establishments → I21 [Sq ft of others included] IF Just this establishment OR DK/RF → I22 [District steam bill available]	

<b>I21</b>	<b>Sq ft of others included</b>	<i>STOTS</i>
<b>ASK</b>	IF I20 [Bills cover only establishment] = Other establishments	
<b>FILL</b>	<b>{Bills}</b> IF Only one account = "bill or statement" IF 2 to 10 accounts = "bills or statements"	
What is the approximate square footage of the <u>other</u> establishments included on the {Bills}?  ◆ PROBE for estimate if DK		
<b>RANGE</b>	1 to 999,999,999	
<b>NEXT</b>	➔ I22 [District steam bill available]	

<b>I22</b>	<b>District steam bill available</b>	<i>STBILL2</i>
<b>ASK</b>	IF I11 [District steam supplier name] given	
<b>FILL</b>	<b>{Supplier}</b> = "I11 [District steam supplier name]"	
Can you provide a copy of one district steam 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, directions for scanning or uploading the bill will be provided at the end of the interview.  1 Yes, bill available 2 No, will not be able to provide bill		
<b>NEXT</b>	➔ J1 [Section J Routing]	

## SECTION J. DISTRICT HOT WATER

<b>J1</b>	<b>Section J Routing</b>
<b>NEXT</b>	IF District hot water used → J2 [Provide district hot water figures] OTHERWISE → L1 [Respondent effort]

<b>J2</b>	<b>Provide district hot water figures</b>	<i>HWFIGS</i>
<b>ASK</b>	IF District hot water used	
<p>The next questions are about district hot water usage in this establishment during calendar year 2018. Are you able to report how much district hot water was used in this establishment during 2018?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes → J3 [District hot water consumption] IF No OR DK/RF → J9 [District hot water supplier name]	

<b>J3</b>	<b>District hot water consumption</b>	<i>HWCNS</i>
<b>ASK</b>	IF J2 [Provide district hot water figures] = Yes	
<p>Please give me the total amount, in million Btu, of district hot water used in calendar year 2018.</p> <p>◆ VERIFY number <u>digit by digit</u></p>		
<b>RANGE</b>	1 to 99,999,999,999	
<b>NEXT</b>	IF DK/RF → J9 [District hot water supplier name] OTHERWISE → J4 [District hot water expenditures]	

<b>J4</b>	<b>District hot water expenditures</b>	<i>HWEXP</i>
<b>ASK</b>	IF J3 [District hot water consumption] given	
<p>Please give me the total dollars spent on district hot water in calendar year 2018, including state and local taxes.</p> <p>◆ Do <u>not</u> enter cents ◆ VERIFY number <u>digit by digit</u></p>		
<b>RANGE</b>	0 to 999,999,999	
<b>NEXT</b>	→ J5 [Starting date for district hot water figures]	

<b>J5</b>	<b>Starting date for district hot water figures</b>	<i>HWSTDAT</i>
<b>ASK</b>	IF J3 [District hot water consumption] given	
<p>What is the starting date for these district hot water usage figures?</p> <ul style="list-style-type: none"> <li>◆ ENTER date as MMDDYYYY</li> <li>◆ If the day is not known, ENTER "15" for DD</li> </ul>		
<b>NEXT</b>	➔ J6 [Ending date for district hot water figures]	

<b>J6</b>	<b>Ending date for district hot water figures</b>	<i>HWENDAT</i>
<b>ASK</b>	IF J3 [District hot water consumption] given	
<p>What is the ending date [for these district hot water usage figures]?</p> <ul style="list-style-type: none"> <li>◆ ENTER date as MMDDYYYY</li> <li>◆ VERIFY that this is the <u>last</u> day of the last billing period</li> <li>◆ If the day is not known, ENTER "15" for DD</li> </ul>		
<b>NEXT</b>	➔ J7 [Other estabs hot water included]	

<b>J7</b>	<b>Other estabs hot water included</b>	<i>HWOTBD</i>
<b>ASK</b>	IF J3 [District hot water consumption] given	
<p>Is any consumption from other establishments included in these figures?</p> <p>1 Yes 2 No</p>		
<b>NEXT</b>	IF Yes ➔ J8 [Sq ft of other included] OTHERWISE ➔ J9 [District hot water supplier name]	

<b>J8</b>	<b>Sq ft of other included</b>	<i>HWOTSF</i>
<b>ASK</b>	IF J7 [Other estabs hot water included] = Yes	
<p>What is the approximate square footage of the <u>other</u> establishments that are included in these figures?</p> <ul style="list-style-type: none"> <li>◆ PROBE for estimate if DK</li> </ul>		
<b>RANGE</b>	1 to 999,999,999	
<b>NEXT</b>	➔ J9 [District hot water supplier name]	

<b>J9</b>	<b>District hot water supplier name</b>	<i>HWSUP</i>
<b>ASK</b>	IF District hot water used	
<b>FILL</b>	<p><b>{SuppliersIntro}</b>  IF (J2 [Provide district hot water figures] = No OR DK/RF) OR  J3 [District hot water consumption] = DK/RF = "We should be able to obtain this information directly from your district hot water supplier, so I just need to collect some information about your district hot water accounts."  OTHERWISE = "The next questions are about your district hot water supplier."</p>	
	<p>{SuppliersIntro}</p> <p>What is the name of the supplier that provided district hot water in calendar year 2018?</p> <p>◆ ENTER the name of the supplier</p>	
<b>NEXT</b>	IF Name given → J11 [Street address] IF DK/RF → J10 [District hot water bill available]	

<b>J10</b>	<b>District hot water bill available</b>	<i>HWBILL</i>
<b>ASK</b>	IF J9 [District hot water supplier name] = DK/RF	
	<p>Can you provide a copy of one district hot water bill? 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, directions for scanning or uploading the bill will be provided at the end of the interview.</p> <p>1 Yes, bill available  2 No, will not be able to provide bill</p>	
<b>NEXT</b>	→ L1 [Respondent effort]	

<b>J11</b>	<b>Street address</b>	<i>HWAD1</i>
<b>ASK</b>	IF J9 [District hot water supplier name] given	
<b>FILL</b>	<b>{Supplier}</b> = "J9 [District hot water supplier name]"	
	What is the address for {Supplier}, beginning with the street?	
<b>NEXT</b>	→ J12 [P.O. Box or Suite]	

<b>J12</b>	<b>P.O. Box or Suite</b>	<i>HWAD2</i>
<b>ASK</b>	IF J9 [District hot water supplier name] given	
<p>Is there a post office box or suite number?</p> <p>◆ If not, press [ENTER]</p>		
<b>NEXT</b>	→ J13 [City]	

<b>J13</b>	<b>City</b>	<i>HWCTY</i>
<b>ASK</b>	IF J9 [District hot water supplier name] given	
<p>What is the city?</p>		
<b>NEXT</b>	→ J14 [State abbreviation]	

<b>J14</b>	<b>State abbreviation</b>	<i>HWSTA</i>
<b>ASK</b>	IF J9 [District hot water supplier name] given	
<p>What is the state?</p> <p>◆ ENTER the two letter abbreviation</p>		
<b>NEXT</b>	→ J15 [ZIP code]	

<b>J15</b>	<b>ZIP code</b>	<i>HWZIP</i>
<b>ASK</b>	IF J9 [District hot water supplier name] given	
<p>And what is the ZIP code?</p>		
<b>NEXT</b>	→ J16 [Number district hot water accounts]	

<b>J16</b>	<b>Number district hot water accounts</b>	<i>HWNAC</i>
<b>ASK</b>	IF J9 [District hot water supplier name] given	
<b>FILL</b>	<b>{Supplier}</b> = "J9 [District hot water supplier name]"	
How many different district hot water accounts does this establishment have with {Supplier}?		
<b>RANGE</b>	1 to 999	
<b>NEXT</b>	IF 1 to 10 accounts → J17 [District hot water account number] IF More than 10 accounts OR DK/RF → J20 [District hot water bill available]	

<b>J17</b>	<b>District hot water account number</b>	<i>HWAC1—HWAC10</i>
<b>ASK</b>	IF J16 [Number district hot water accounts] = 1 to 10	
<b>FILL</b>	<b>{Number}</b> IF Only one account = "number" OTHERWISE = "numbers" <b>{Supplier}</b> = "J9 [District hot water supplier name]"	
Please give me the district hot water account {Number} for {Supplier}.		
◆ VERIFY number <u>digit by digit</u>		
<b>NEXT</b>	IF (J2 [Provide district hot water figures] = No OR DK/RF) OR J3 [District hot water consumption] = DK/RF → J18 [Bills cover only establishment] OTHERWISE → J20 [District hot water bill available]	

<b>J18</b>	<b>Bills cover only establishment</b>	<i>HWOTB</i>
<b>ASK</b>	IF J16 [Number district hot water accounts] = 1 to 10 & ((J2 [Provide district hot water figures] = No OR DK/RF) OR J3 [District hot water consumption] = DK/RF)	
<b>FILL</b>	<b>{Bills}</b> IF Only one account = "Does the bill or statement" IF 2 to 10 accounts = "Do the bills or statements" <b>{Supplier}</b> = "J9 [District hot water supplier name]"	
{Bills} from {Supplier} cover just this establishment or are other establishments covered as well?		
1 Just this establishment 2 Other establishment(s)		
<b>NEXT</b>	IF Other establishments → J19 [Sq ft of others included] IF Just this establishment OR DK/RF → J20 [District hot water bill available]	

<b>J19</b>	<b>Sq ft of others included</b>	<i>HWOTS</i>
<b>ASK</b>	IF J18 [Bills cover only establishment] = Other establishments	
<b>FILL</b>	<b>{Bills}</b> IF Only one account = "bill or statement" IF 2 to 10 accounts = "bills or statements"	
What is the approximate square footage of the <u>other</u> establishments included on the {Bills}? <ul style="list-style-type: none"> <li>◆ PROBE for estimate if DK</li> </ul>		
<b>RANGE</b>	1 to 999,999,999	
<b>NEXT</b>	→ J20 [District hot water bill available]	

<b>J20</b>	<b>District hot water bill available</b>	<i>HWBILL2</i>
<b>ASK</b>	IF J9 [District hot water supplier name] given	
Can you provide a copy of one district hot water bill from {Supplier}? (There is information on some utility bills that may help energy researchers who use these data.) <ul style="list-style-type: none"> <li>◆ EXP: [Examples of these items include miscellaneous charges, past months data, and units of measure.]</li> <li>◆ If available, directions for scanning or uploading the bill will be provided at the end of the interview.</li> </ul> <ol style="list-style-type: none"> <li>1 Yes, bill available</li> <li>2 No, will not be able to provide bill</li> </ol>		
<b>NEXT</b>	→ L1 [Respondent effort]	



**SECTION L. SURVEY CLOSEOUT**

<b>L1</b>	<b>Response effort</b>	<i>REFFORT</i>
<b>ASK</b>	All Establishments	
Including yourself, please tell me how many people were needed to compile the information for this interview.		
<b>RANGE</b>	1 to 99	
<b>NEXT</b>	IF F20 [Electricity bill available] = Yes OR F26 [Electricity bill available] = Yes OR G19 [Natural gas bill available] = Yes OR G25 [Natural gas bill available] = Yes OR H13 [Fuel oil bill available] = Yes OR H24 [Fuel oil bill available] = Yes OR I12 [District steam bill available] = Yes OR I22 [District steam bill available] = Yes OR J10 [District hot water bill available] = Yes OR J20 [District hot water bill available] = Yes → L2 [Interview complete with bills] OTHERWISE → L3 [Interview complete]	

<b>L2</b>	<b>Interview complete with bills</b>	
<b>ASK</b>	IF F20 [Electricity bill available] = Yes OR F26 [Electricity bill available] = Yes OR G19 [Natural gas bill available] = Yes OR G25 [Natural gas bill available] = Yes OR H13 [Fuel oil bill available] = Yes OR H24 [Fuel oil bill available] = Yes OR I12 [District steam bill available] = Yes OR I22 [District steam bill available] = Yes OR J10 [District hot water bill available] = Yes OR J20 [District hot water bill available] = Yes	
That completes our interview. Thank you so much for your time and help. <ul style="list-style-type: none"> <li>◆ Provide instructions about scanning or uploading any available energy bills.</li> <li>◆ ENTER "1", [ENTER], then [F10] to Exit</li> </ul>		
<b>NEXT</b>	INTERVIEW COMPLETE	

<b>L3</b>	<b>Interview complete</b>	
<b>ASK</b>	IF NOT (F20 [Electricity bill available] = Yes OR F26 [Electricity bill available] = Yes OR G19 [Natural gas bill available] = Yes OR G25 [Natural gas bill available] = Yes OR H13 [Fuel oil bill available] = Yes OR H24 [Fuel oil bill available] = Yes OR I12 [District steam bill available] = Yes OR I22 [District steam bill available] = Yes OR J10 [District hot water bill available] = Yes OR J20 [District hot water bill available] = Yes)	
That completes our interview. Thank you so much for your time and help. <ul style="list-style-type: none"> <li>◆ ENTER "1", [ENTER], then [F10] to Exit</li> </ul>		
<b>NEXT</b>	INTERVIEW COMPLETE	