

Form **EIA-846A**  
(4-6-95)

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U.S. Department of Commerce  
Bureau of the Census  
Acting as Collecting and  
Compiling Agent For

UNITED STATES DEPARTMENT  
OF ENERGY  
ENERGY INFORMATION  
ADMINISTRATION



In correspondence pertaining to this report, please refer to this Census File Number (CFN).

**1994  
MANUFACTURING  
ENERGY  
CONSUMPTION  
SURVEY**

Please correct errors in name, address, and ZIP Code. ENTER street and number if not shown.

**PLEASE COMPLETE THIS  
FORM AND RETURN TO**

BUREAU OF THE CENSUS  
1201 East 10th Street  
Jeffersonville, IN 47132-0001

**NOTE**

*Please read the enclosed instructions  
before filling out this form. Complete  
each item. If you have any questions,  
call 1-800-866-6327.*

**DUE DATE:**

If you cannot file by the due date, a time extension request should be sent to the above address. Please include your 11-digit Census File Number (CFN).

**The Manufacturing Energy Consumption Survey** – The Manufacturing Energy Consumption Survey (MECS) was designed, and is being sponsored, by the Energy Information Administration (EIA) of the U.S. Department of Energy (DOE). The survey is administered and compiled by the U.S. Bureau of the Census for the EIA. The previous MECS was conducted covering the year 1991.

**Mandatory Requirement** – This survey is **mandatory** under the Federal Energy Administration Act of 1974, Pub. L. No. 93-275, and under Title 3, Subtitle B, of the Omnibus Budget Reconciliation Act of 1986, Pub. L. No. 99-509, as amended by Title 1, Subtitle G, of the Energy Policy Act of 1992, Pub. L. No. 102-486. Failure to respond may result in criminal fines, civil penalties, and other sanctions as provided by law. Response is required by law from establishments included in the MECS sample and receiving the MECS form.

**Confidentiality of Data** – Under Section 9 of Title 13, U.S. Code, your report to the Census Bureau is **confidential**. It may be seen only by sworn Census Bureau employees and may be used only for statistical purposes. The law also provides that copies retained in your files are immune from legal process.

**Purpose of This Survey** – The MECS will collect data on energy consumption and usage patterns for the manufacturing sector of the U.S. economy. In addition, it will measure the short-term (within 30 days) capability of your establishment to substitute fuels in place of those actually consumed in 1994. The information obtained from the MECS forms will be used to publish aggregate statistics on the following: consumption of energy for fuel and nonfuel uses, energy characteristics of buildings in the manufacturing sector, energy consumption by end use, technologies currently in use by U.S. manufacturers, energy prices, electricity generation onsite, fuel-switching capabilities, and participation in energy-management activities. This information will be used by the DOE to implement policy plans effectively as well as to assist utilities in more accurate demand forecasting and resource planning.

**Form EIA-846A** – This form is addressed to establishments operating primarily in the manufacturing sector in industries as defined by the 1987 Standard Industrial Classification (SIC) Manual. Industries sampled for this form are in SIC 20 through 39, except for SIC 24, 26, 28, 29, 3312, 3321, 3331, and 3339. Establishments in SIC 22 (apparel/jobbers) and SIC 27 (printing/publishing) are manufacturers by definition and should complete this form.  
**Government-owned establishments that are privately operated are NOT exempt from completing this survey.**

**Due Date** – The questionnaire should be returned no later than the due date specified above. If you need additional time, please call our processing office on 1-800-528-3049. Please use the enclosed return envelope. If the envelope has been misplaced, return the completed questionnaire to us at the above address.

**A. General Instructions**

1. **No entries are required in the shaded areas.** All shaded areas are to be left blank.
2. Use the indicated units specified on the questionnaire for reporting all quantities. For example:
  - Electricity – Thousands of kilowatthours (1,000 kWh)
  - Steam – Millions of British thermal units (Million Btu)
  - Industrial hot water – Millions of Btu (Million Btu)
  - Coal – Short Tons
  - Natural gas – Thousands of cubic feet (1,000 cu. ft.)
  - Hydrogen – Millions of Btu (Million Btu)
  - Diesel fuel and distillate fuel oil – Barrels

If you need conversion factors in order to report in the specified units, refer to the detailed instructions for Sections I and II.
3. **Do not consolidate establishments.** The reporting boundaries for your establishment should correspond to those used in the Annual Survey of Manufactures and/or the Census of Manufactures.
4. If you do not maintain book records for particular items, please use carefully prepared estimates.
5. Please refer to the accompanying instruction guide as you answer the questions.

**B. Operational Status**

IF FORM MA-1000 (ANNUAL SURVEY OF MANUFACTURES) WAS COMPLETED FOR THIS ESTABLISHMENT IN 1994, SKIP THIS ITEM AND GO TO SECTION I – NONCOMBUSTIBLE ENERGY SOURCES. Otherwise, please **complete this item** fully to avoid unnecessary correspondence. Mark the box (1–5) that is applicable to the operation of this establishment at the end of 1994. If you check box 3, 4, or 5, please fill in the month, day, and year (numbers only, please) that the action became effective. If box 4 or 5 is checked, also supply the name and address (or location) of the new or former owner or operating company.

**If the ownership of this establishment changed** in 1994, please make certain that the date of the change in ownership is recorded in this item.

1. **If you sold the establishment during the year,** complete all sections of the report form for activities that occurred in 1994 **prior** to the sale.
2. **If you bought the establishment during the year,** complete all sections of the report form for activities that occurred in 1994 **after** the sale.

**Mark (X) only ONE box** which best describes this establishment at the end of 1994. If this establishment was not in operation for the full year during 1994, please complete this form for the part of the year that you were in operation.

		Date (Numbers Only)		
		Month	Day	Year
0001	<input type="checkbox"/> 1 In operation .....			
	<input type="checkbox"/> 2 Temporarily or seasonally inactive .....			
	<input type="checkbox"/> 3 Ceased operation (Provide date at right) .....			
	<input type="checkbox"/> 4 Sold or leased TO another operator (Provide date at right AND enter name, etc., below) .....			
	<input type="checkbox"/> 5 Acquired or leased FROM another operator (Provide date at right AND enter name, etc., below) .....			

Name of new/former owner or operator		Employer Identification (EI) Number (9 digits)		
Number and street	City	State	ZIP Code	

**CONTINUE WITH SECTION I ON PAGE 3**

**Section I - NONCOMBUSTIBLE ENERGY SOURCES**

Item Description (1)	IF ZERO, PLEASE ENTER ZERO (0) IN EACH BOX									
	Electricity			Steam			Industrial Hot Water			
	10	(2)		11	(3)		12	(4)		
<b>1a.</b> During 1994, what amount of each energy source was <b>purchased from utilities</b> by this establishment and delivered to this establishment site? ( <i>DO NOT include purchases by a central purchasing agent, quantities delivered from other establishments of your company, or quantities for which payment was made in-kind.</i> )		Kilowatthours			Million Btu			Million Btu		
	Mil	Thou	kWh							
01										
<b>1b.</b> What was the total expenditure, including all applicable taxes, for the purchased energy source(s) reported on line 1a?		Dollars			Dollars			Dollars		
	Mil	Thou	Dol	Mil	Thou	Dol	Mil	Thou	Dol	
02										
<b>2a.</b> During 1994, what amount of electricity and steam was <b>purchased from nonutility suppliers</b> by this establishment and delivered to this establishment site?		Kilowatthours			Million Btu					
	Mil	Thou	kWh							
03										
<b>2b.</b> What was the total expenditure, including all applicable taxes, for the purchased energy source(s) reported on line 2a?		Dollars			Dollars					
	Mil	Thou	Dol	Mil	Thou	Dol				
04										
<b>3.</b> During 1994, what amount of each energy source was <b>transferred</b> from outside establishments and delivered to this establishment site? ( <i>DO NOT include the purchases reported in lines 1a and 2a. DO include quantities received from a central purchasing agent, quantities delivered from other establishments of your company, and quantities for which payment was made in-kind.</i> )		Kilowatthours			Million Btu			Million Btu		
	Mil	Thou	kWh							
05										
<b>4. TOTAL QUANTITIES OF ELECTRICITY RECEIVED ONSITE</b> (Sum of lines 1a, 2a, and 3.) <b>NOTE</b> - Copy this quantity for electricity to Section III - FUEL SWITCHING, part A, line 1a, column (2) on page 6.										
06										
<b>5.</b> During 1994, how much electricity was generated on this establishment site by cogeneration? ( <i>Include ALL cogeneration facilities at this establishment site.</i> )										
07										
<b>6.</b> During 1994, how much of each energy source was generated onsite from each of the following:					Million Btu			Million Btu		
<b>a.</b> Solar power										
081										
<b>b.</b> Wind power										
082										
<b>c.</b> Hydropower										
083										
<b>d.</b> Geothermal power										
084										
<b>7.</b> During 1994, how much electricity was generated onsite by processes other than those covered on lines 5, 6a, 6b, 6c, and 6d?										
09										
<b>8. TOTAL ONSITE GENERATION OF ELECTRICITY</b> (Sum of lines 5, 6a, 6b, 6c, 6d, and 7.)										
10										
<b>9.</b> During 1994, how much electricity was sold or transferred to utilities?										
11										
<b>10.</b> During 1994, how much of each energy source was sold or transferred to any establishments other than utilities?					Million Btu			Million Btu		
12										
<b>11. TOTAL ELECTRICITY SALES AND TRANSFERS OFFSITE</b> (Line 9 plus line 10.)										
13										
<b>12. TOTAL ONSITE CONSUMPTION OF ELECTRICITY.</b> (Line 4 plus line 8 minus line 11.) <b>NOTE</b> - Copy this quantity for electricity consumption to Section IV - ESTIMATED PERCENT CONSUMPTION BY END USE, line 1, column (2) on page 9.										
14										



**Section II - COMBUSTIBLE ENERGY SOURCES - Continued**

Energy sources <b>produced</b> onsite in 1994		Energy sources <b>consumed</b> onsite in 1994			Total design storage capacity located onsite as of 12/31/94	Energy Sources
Quantity produced onsite	Does the entry in column (7) represent the product or byproduct of another energy source consumed onsite?	Quantity consumed as a fuel	Quantity consumed for all nonfuel purposes			
04 (7)	05 (8)	06 (9)	07 (10)	09 (11)	(12)	
					<b>A. SOLIDS</b>	
					Anthracite	
					Bituminous and subbituminous coal	
					Lignite	
		Copy to Pg. 6, line 1a & Pg. 9, line 1				<b>Total coal</b> (Sum of lines A1, A2, and A3)
	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No				Breeze	
	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No				Coal coke	
	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No				Petroleum coke	
					Agricultural waste	
					Wood harvested from trees	
					Wood residues and byproducts from mills	
					Wood/paper-related refuse	
	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No				Other solids	
		Copy to Pg. 7, line 1a & Pg. 9, line 1				<b>B. GASES</b>
					<b>Total natural gas</b>	
					Natural gas purchased from utilities/LDC at a firm rate	
					Natural gas purchased from LDC at an interruptible rate	
					Natural gas purchased from LDC at other rates	
					Natural gas purchased from non-LDC sources	
					Cost of supplies	
					Cost of transportation	
					Other costs	
					Acetylene	
	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No				Hydrogen	
	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No				Waste and byproduct gases	
	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No				Other gases	

**Section II - COMBUSTIBLE ENERGY SOURCES - Continued**

Energy Sources (1)	Census Use Only (2)	Units used for reporting quantities (3)	Energy sources received onsite in 1994						
			Quantity purchased by and delivered to this establishment (4)		Total expenditures, including taxes and delivery charges, of the quantity in column (4) (5)			Total quantity of transfers in and central purchases (6)	
					02	Mil	Thou		Dol
<b>C. LIQUIDS (42 gallons = 1 barrel)</b>			01						
1. Diesel fuel, excluding highway usage	28	Barrels							
2. Distillate fuel oil (numbers 1, 2, and 4 fuel oils - exclude diesel fuel reported on line C1 above.)	29	Barrels							
3. Total diesel fuel and distillate fuel oil (Sum of lines C1 and C2)	22	Barrels							
4. LPG (liquid petroleum gas) (e.g., butane, ethane, propane, butylene, ethylene, propylene, and mixtures)	24	Gallons							
5. Kerosene	27	Barrels							
6. Motor gasoline, excluding highway usage	23	Gallons							
7. Residual fuel oil (numbers 5, 6, Navy Special, and Bunker C)	21	Barrels							
8. Waste oils and tars	71	Million Btu							
9. Other liquids (Specify liquid. Specify units, if not million Btu)									
9598	95	Million Btu							

**Section III - FUEL SWITCHING**

**A. BASIC CAPABILITY**

The purpose of this part is to determine this establishment's potential to switch from one type of fuel to another, regardless of whether or not any fuel switching was actually done.

Item Description (1)	Total Electricity Received (2) 10	Total Coal Excluding Coal Coke and Breeze (3) 46
1a. Quantity Consumed - Copy data into line 1a as instructed in the column headings.	Copy from Section I, line 4, column (2) 1,000 Kilowatthours	Copy from Section II, part A, line 4, column (9) Short Tons
50		
1b. Does line 1a contain any nonzero entries? 1 <input type="checkbox"/> Yes - Answer lines 2 and 3 for that column. 2 <input type="checkbox"/> No - Skip to Section IV - ESTIMATED PERCENT CONSUMPTION BY END USE, on page 9.		
10501		
Do not consider differences in energy prices when estimating amounts.	1,000 Kilowatthours	Short Tons
2. Quantity Nonswitchable - Enter the amount of the quantity in line 1a that could NOT have been replaced within 30 days by another energy source in 1994.		
51		
3a. Quantity Switchable - Subtract line 2 from line 1a and enter the results. This represents the total quantity of energy consumption that COULD HAVE BEEN replaced within 30 days by one or more alternative energy sources in 1994.	1,000 Kilowatthours	Short Tons
52		
3b. Does line 3a contain any nonzero entries? 1 <input type="checkbox"/> Yes - Answer lines 4 through 11, as appropriate, for that column. 2 <input type="checkbox"/> No - Skip to Section IV - ESTIMATED PERCENT CONSUMPTION BY END USE, on page 9.		
10521		
<b>PLEASE COMPLETE ONE COLUMN BEFORE STARTING ANOTHER</b>		
4. Of the amount shown in line 3a, what is the maximum amount that could have been replaced by electricity?		Short Tons
53		
5. Of the amount shown in line 3a, what is the maximum amount that could have been replaced by coal, excluding coal coke and breeze?	1,000 Kilowatthours	
67		
6. Of the amount shown in line 3a, what is the maximum amount that could have been replaced by total coal coke and breeze, excluding coal included in line 5 above?	1,000 Kilowatthours	
69		
7. Of the amount shown in line 3a, what is the maximum amount that could have been replaced by natural gas from any supplier(s)?	1,000 Kilowatthours	Short Tons
57		
8. Of the amount shown in line 3a, what is the maximum amount that could have been replaced by total diesel fuel and distillate fuel oil?	1,000 Kilowatthours	Short Tons
59		
9. Of the amount shown in line 3a, what is the maximum amount that could have been replaced by LPG?	1,000 Kilowatthours	Short Tons
61		
10. Of the amount shown in line 3a, what is the maximum amount that could have been replaced by residual fuel oil?	1,000 Kilowatthours	Short Tons
63		
11. Of the amount shown in line 3a, what is the maximum amount that could have been replaced by any other energy source? (Specify the energy source)	1,000 Kilowatthours	Short Tons
65		
1099		

**Section II - COMBUSTIBLE ENERGY SOURCES - Continued**

Energy sources <b>produced</b> onsite in 1994		Energy sources <b>consumed</b> onsite in 1994			Total design storage capacity located onsite as of 12/31/94	Energy Sources
Quantity produced onsite	Does the entry in column (7) represent the product or byproduct of another energy source consumed onsite?	Quantity consumed as a fuel	Quantity consumed for all nonfuel purposes			
04 (7)	05 (8)	06 (9)	07 (10)	09 (11)	(12)	
				Barrels	<b>C. LIQUIDS</b>	
				Barrels	Diesel fuel	
		Copy to line 1a below & on pg. 9			Distillate fuel oil	
		Copy to line 1a below & on pg. 9			<b>Total diesel fuel and distillate fuel oil (Sum of lines C1 and C2)</b>	
					LPG	
	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No				Kerosene	
				Gallons	Motor gasoline	
		Copy to line 1a below & on pg. 9		Barrels	Residual fuel oil	
	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No				Waste oils and tars	
					Other liquids	

**Section III - FUEL SWITCHING - Continued**

Total Natural Gas	Total Diesel Fuel and Distillate Fuel Oil	LPG	Residual Fuel Oil
30 (4)	22 (5)	24 (6)	21 (7)
Copy from Section II, part B, line 1, column (9)	Copy from Section II, part C, line 3, column (9)	Copy from Section II, part C, line 4, column (9)	Copy from Section II, part C, line 7, column (9)
1,000 cu. ft.	Barrels	Gallons	Barrels
1,000 cu. ft.	Barrels	Gallons	Barrels
1,000 cu. ft.	Barrels	Gallons	Barrels
<b>PLEASE COMPLETE ONE COLUMN BEFORE STARTING ANOTHER</b>			
1,000 cu. ft.	Barrels	Gallons	Barrels
1,000 cu. ft.	Barrels	Gallons	Barrels
1,000 cu. ft.	Barrels	Gallons	Barrels
	Barrels	Gallons	Copy to line 1a on page 8 Barrels
1,000 cu. ft.		Gallons	Barrels
1,000 cu. ft.	Barrels		Barrels
Copy to line 1a on page 8 1,000 cu. ft.	Barrels	Gallons	
1,000 cu. ft.	Barrels	Gallons	Barrels

**Section III - FUEL SWITCHING - Continued**

**B. SWITCHING BETWEEN NATURAL GAS AND RESIDUAL FUEL OIL**

The purpose of this part is to determine, for this establishment, if any actual switching took place between two specific fuels, namely natural gas and residual fuel oil; if so, the primary reasons for the switching and at what price difference would switching be a viable option.

Item Description (1)	Total Natural Gas	Residual Fuel Oil
	30 (2) Copy from Section III, part A, line 10, column (4) 1,000 cu. ft.	21 (3) Copy from Section III, part A, line 7, column (7) Barrels
<b>1a. Replaceable amount</b> - Copy data into line 1a as instructed in the column headings.	90	
<b>1b.</b> Does line 1a contain any nonzero entries?		
1501 1 <input type="checkbox"/> Yes - Answer lines 2a, 2b, and 2c, as appropriate, for that column. 2 <input type="checkbox"/> No - Skip to Section IV - ESTIMATED PERCENT CONSUMPTION BY END USE, on page 9.		
<b>2.</b> At any time during the full year 1994, did this establishment . . .		
<b>2a.</b> SWITCH FROM natural gas TO residual fuel oil?		
1502 1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No		
<b>2b.</b> SWITCH FROM residual fuel oil TO natural gas?		
1503 1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No		
<b>2c.</b> Do lines 2a or 2b contain any "YES" responses?		
1504 1 <input type="checkbox"/> Yes - Answer lines 3 and 4, as appropriate, for that column. 2 <input type="checkbox"/> No - Skip to line 4 on this page.		
<b>3.</b> What is the primary reason(s) that this establishment SWITCHED FROM this fuel TO the other fuel?	<b>Total Natural Gas</b>	<b>Residual Fuel Oil</b>
	<i>Mark (X) all that apply</i>	<i>Mark (X) all that apply</i>
a. Supply shortage or curtailment of this fuel . . . . .	1505 1 <input type="checkbox"/>	1506 1 <input type="checkbox"/>
b. Down-time caused by maintenance . . . . .	1507 1 <input type="checkbox"/>	1508 1 <input type="checkbox"/>
c. Less expensive substitute . . . . .	1509 1 <input type="checkbox"/>	1510 1 <input type="checkbox"/>
d. Environmental restriction on emissions or waste . . . . .	1511 1 <input type="checkbox"/>	1512 1 <input type="checkbox"/>
e. Other (Specify and mark appropriate box(es))		
15121 (1)	1513 1 <input type="checkbox"/>	1514 1 <input type="checkbox"/>
15122 (2)	1515 1 <input type="checkbox"/>	1516 1 <input type="checkbox"/>
<b>Please answer line 4 as appropriate for the columns with nonzero entries in line 1a.</b>	<b>Total Natural Gas</b>	<b>Residual Fuel Oil</b>
<b>4.</b> Regardless of whether or not your establishment actually SWITCHED FROM this fuel during 1994, or did so because of a less expensive substitute, is there a LOWEST PERCENTAGE of price difference of the less expensive substitute that would cause your establishment to SWITCH FROM this fuel?	<i>Mark (X) only one box</i>	<i>Mark (X) only one box</i>
The formula for percentage of price difference is: Percentage of Price Difference = $\frac{PC - PA}{PC} \times 100\%$ Where PC = Price per British thermal unit of current fuel PA = Price per British thermal unit of alternative fuel	1517	1518
a. Would not switch regardless of percentage of price difference . . . . .	1 <input type="checkbox"/>	1 <input type="checkbox"/>
b. Would switch at price difference of 1 - 5 percent . . . . .	2 <input type="checkbox"/>	2 <input type="checkbox"/>
c. Would switch at price difference of 6 - 10 percent . . . . .	3 <input type="checkbox"/>	3 <input type="checkbox"/>
d. Would switch at price difference of 11 - 15 percent . . . . .	4 <input type="checkbox"/>	4 <input type="checkbox"/>
e. Would switch at price difference of 16 - 20 percent . . . . .	5 <input type="checkbox"/>	5 <input type="checkbox"/>
f. Would switch at price difference of 21 - 30 percent . . . . .	6 <input type="checkbox"/>	6 <input type="checkbox"/>
g. Would switch at price difference of 31 - 40 percent . . . . .	7 <input type="checkbox"/>	7 <input type="checkbox"/>
h. Would switch at price difference of 41 - 50 percent . . . . .	8 <input type="checkbox"/>	8 <input type="checkbox"/>
i. Would switch at price difference over 50 percent . . . . .	9 <input type="checkbox"/>	9 <input type="checkbox"/>
j. Reasonable estimate cannot be provided . . . . .	10 <input type="checkbox"/>	10 <input type="checkbox"/>
k. Would switch to the <b>more expensive substitute</b> if price premium were reasonable . . . . .	11 <input type="checkbox"/>	11 <input type="checkbox"/>

**Section IV – ESTIMATED PERCENT CONSUMPTION BY END USE**

End Uses (1)	Total Electricity Consumption		Total Coal Excluding Coal Coke and Breeze		Total Natural Gas		Total Diesel Fuel and Distillate Fuel Oil		LPG		Residual Fuel Oil	
	10	(2)	46	(3)	30	(4)	22	(5)	24	(6)	21	(7)
<b>1. Quantity consumed</b> – Copy data into line 1 as instructed in the column headings.	Copy from Section I, line 12, column (2)		Copy from Section II, part A, line 4, column (9)		Copy from Section II, part B, line 1, column (9)		Copy from Section II, part C, line 3, column (9)		Copy from Section II, part C, line 4, column (9)		Copy from Section II, part C, line 7, column (9)	
	70	1,000 kWh	46	Short Tons	30	1,000 cu. ft.	22	Barrels	24	Gallons	21	Barrels

Energy sources can be consumed in three major end-use classes: indirect use (boiler fuel), direct process use, and direct nonprocess use. **Indirect use is the transformation of energy to another usable energy source, as in a boiler for example.** Direct process use includes usage in motors, ovens, kilns, and strip heaters. Direct nonprocess use includes usage for facility lighting and conditioning equipment.

For each energy source, the sum of the elements in these three classes equals 100 percent.

For columns with nonzero entries in line 1 above, please report the approximate percentage of each energy source used for the purposes listed below.

**PLEASE COMPLETE ONE COLUMN BEFORE STARTING ANOTHER.  
REASONABLE APPROXIMATIONS ARE ACCEPTABLE – SEE INSTRUCTIONS.**

End Uses (1)	Total Electricity Consumption		Total Coal Excluding Coal Coke and Breeze		Total Natural Gas		Total Diesel Fuel and Distillate Fuel Oil		LPG		Residual Fuel Oil	
	10	(2)	46	(3)	30	(4)	22	(5)	24	(6)	21	(7)
<b>INDIRECT USES – BOILERS</b>												
2. Boiler fuel (e.g., fuel for boilers, gas turbines)	71	%	46	%	30	%	22	%	24	%	21	%
<b>DIRECT USES – PROCESS</b>												
3. Process heating (e.g., kilns, furnaces, ovens, strip heaters)	72	%	46	%	30	%	22	%	24	%	21	%
4. Process cooling and refrigeration	73	%	46	%	30	%	22	%	24	%	21	%
5. Machine drive (e.g., motors, pumps, etc. associated with manufacturing process equipment)	74	%	46	%	30	%	22	%	24	%	21	%
6. Electro-chemical processes (e.g., reduction process)	75	%	46	%	30	%	22	%	24	%	21	%
7. Other (Please specify any other uses of energy)	76	%	46	%	30	%	22	%	24	%	21	%
10761	76	%	46	%	30	%	22	%	24	%	21	%
<b>DIRECT USES – NONPROCESS</b>												
8. Facility heating, ventilation, and air conditioning	77	%	46	%	30	%	22	%	24	%	21	%
9. Facility lighting	78	%	46	%	30	%	22	%	24	%	21	%
10. Facility support other than lines 8 and 9 above (e.g., cooking, water heating, office equipment)	79	%	46	%	30	%	22	%	24	%	21	%
11. Onsite transportation, excluding highway usage	80	%	46	%	30	%	22	%	24	%	21	%
12. Conventional electricity generation	81	%	46	%	30	%	22	%	24	%	21	%
13. Other (Please specify any other uses of energy)	82	%	46	%	30	%	22	%	24	%	21	%
10821	82	%	46	%	30	%	22	%	24	%	21	%
<b>TOTAL for all purposes</b>		<b>100%</b>		<b>100%</b>		<b>100%</b>		<b>100%</b>		<b>100%</b>		<b>100%</b>

**Section V - ESTABLISHMENT CHECKLIST**

This section is divided into eight parts. All establishments are to complete Parts A, B, C1, C2, and C3.

**Part A - ESTIMATED SQUARE FOOTAGE OF BUILDINGS**

1. What was the **approximate** total enclosed square footage of the buildings located on this establishment site as of December 31, 1994?

Square Feet		
Mil	Thou	Feet
1301		

2. Of the square footage indicated above, what percentage had controlled heating or cooling, using equipment designed to modify the internal building temperature, during 1994?

Please provide the approximate percentage to the nearest multiple of 5 percent.

1302  %

**Part B - ENERGY PURCHASING AND ENERGY-MANAGEMENT ACTIVITIES**

1. Please refer to Section II, Part B, line 1, column (6) on page 4 for the quantity of **total natural gas that was transferred in and centrally purchased**.

Does column (6) of line B1 on page 4 contain a nonzero entry?

- 30031 1  Yes - Answer lines 1a and 1b below.  
2  No - Skip to line 2 below.

1a. Enter the total expenditures, including all applicable taxes and delivery charges, for the quantity of **total natural gas that was transferred in and centrally purchased**.

If no expenditure was made, please enter zero.

Mil	Thou	Dol
30032		

1b. What is the best description of the expenditure amount in line 1a above?

Mark (X) only one box.

- 30033 1  Market price  
2  Internal price based on this establishment's accounting principles  
3  Don't know  
4  Other (Specify)

30034

2. At any time between January 1, 1992 and December 31, 1994, did your **electric utility** sponsor any type of programs designed for the purposes listed below, regardless of whether or not your establishment participated:

- to lower your energy consumption or costs, or
- to shift the timing of your electricity demand, or
- to promote your use of electricity instead of another energy source?

(Often these programs are referred to as Demand-Side Management (DSM))

Mark (X) only one box.

- 1303 1  Yes  
2  No  
3  Don't know

3. At any time between January 1, 1992 and December 31, 1994, did your **natural gas utility** sponsor any type of programs designed for the purposes listed below, regardless of whether or not your establishment participated:

- to lower your energy consumption or costs, or
- to shift the timing of your natural gas demand, or
- to promote your use of natural gas instead of another energy source?

(Often these programs are referred to as Demand-Side Management (DSM))

Mark (X) only one box.

- 1304 1  Yes  
2  No  
3  Don't know

4a. For the period between January 1, 1992 and December 31, 1994, was the natural gas utility/local distribution company (LDC) for your establishment the **same entity** as your electric utility?

Mark (X) only one box.

- 1305 1  Yes  
2  No  
3  Don't know

4b. At any time between January 1, 1992 and December 31, 1994, was your establishment involved in any type of energy-management activity?

- 13051 1  Yes - Go to line 5 on page 11.  
2  No - Skip to Part C1 on page 11.

**Section V - ESTABLISHMENT CHECKLIST - Continued**

**Part B - ENERGY PURCHASING AND ENERGY-MANAGEMENT ACTIVITIES - Continued**

**5. In what type(s) of energy-management activity(ies) was your establishment involved between January 1, 1992 and December 31, 1994? Mark (X) all that apply. Note that it is possible to have marks in all four columns for any of the activities listed.**

Energy-Management Activities (1)	Involvement Through Electric Utility Sponsorship (2)	Involvement Through Self-Sponsorship (3)	Involvement Through Federal, State, Local Government Sponsorship, Excluding Utilities (4)	Involvement Through Other (3rd Party) Sponsorship (5)
a. Energy audits	1306 <input type="checkbox"/>	13071 <input type="checkbox"/>	13072 <input type="checkbox"/>	13073 <input type="checkbox"/>
b. Electricity load control	1308 <input type="checkbox"/>	13091 <input type="checkbox"/>	13092 <input type="checkbox"/>	13093 <input type="checkbox"/>
c. Special rate schedule (e.g., interruptible or time-of-use)	1310 <input type="checkbox"/>			
d. Standby generation program	1326 <input type="checkbox"/>	13271 <input type="checkbox"/>	13272 <input type="checkbox"/>	13273 <input type="checkbox"/>
e. Equipment rebates	1328 <input type="checkbox"/>	13291 <input type="checkbox"/>	13292 <input type="checkbox"/>	13293 <input type="checkbox"/>
f. Power factor correction or improvement	1338 <input type="checkbox"/>	1339 <input type="checkbox"/>	1340 <input type="checkbox"/>	1341 <input type="checkbox"/>
g. U.S. Environmental Protection Agency's Energy Star Program			1342 <input type="checkbox"/>	
h. U.S. Environmental Protection Agency's Green Lights Program			1343 <input type="checkbox"/>	
i. U.S. Department of Energy's Motor Challenge Program			1344 <input type="checkbox"/>	
j. Equipment installation or retrofit for the <b>primary</b> purpose of improving energy efficiency affecting:				
(1) Steam production (e.g., boilers, burners)	1312 <input type="checkbox"/>	13131 <input type="checkbox"/>	13132 <input type="checkbox"/>	13133 <input type="checkbox"/>
(2) Direct/indirect process heating	1314 <input type="checkbox"/>	13151 <input type="checkbox"/>	13152 <input type="checkbox"/>	13153 <input type="checkbox"/>
(3) Direct process cooling, refrigeration	1316 <input type="checkbox"/>	13171 <input type="checkbox"/>	13172 <input type="checkbox"/>	13173 <input type="checkbox"/>
(4) Direct machine drive (e.g., adjustable-speed drives, motors, pumps) excluding Motor Challenge Program	1318 <input type="checkbox"/>	13191 <input type="checkbox"/>	13192 <input type="checkbox"/>	13193 <input type="checkbox"/>
(5) Facility heating, ventilation, and air conditioning, excluding Energy Star Program	1320 <input type="checkbox"/>	13211 <input type="checkbox"/>	13212 <input type="checkbox"/>	13213 <input type="checkbox"/>
(6) Facility lighting, excluding Green Lights Program	1322 <input type="checkbox"/>	13231 <input type="checkbox"/>	13232 <input type="checkbox"/>	13233 <input type="checkbox"/>
k. Equipment installation or retrofit for the <b>primary</b> purpose of using a different energy source (e.g., electrification). (Exclude modifications made principally for energy efficiency)	1324 <input type="checkbox"/>	13251 <input type="checkbox"/>	13252 <input type="checkbox"/>	13253 <input type="checkbox"/>
l. Other, including other government programs (Specify)				
1396 (1)	1330 <input type="checkbox"/>	1331 <input type="checkbox"/>	1332 <input type="checkbox"/>	1333 <input type="checkbox"/>
1397 (2)	1334 <input type="checkbox"/>	1335 <input type="checkbox"/>	1336 <input type="checkbox"/>	1337 <input type="checkbox"/>

All establishments are to complete Parts C1, C2, and C3.

**Part C1 - GENERAL TECHNOLOGIES**

Mark (X) all technologies that were in place at your establishment during 1994.

1401 <input type="checkbox"/> Computer control of building environment (e.g., space-heating equipment, cooling equipment, lights)	1403 <input type="checkbox"/> Waste heat recovery
1402 <input type="checkbox"/> Computer control of processes or major energy-using equipment (e.g., boilers, furnaces, conveyers) used in the manufacturing process	1404 <input type="checkbox"/> Adjustable-speed motors
	14041 <input type="checkbox"/> None of the above

**Part C2 - COGENERATION TECHNOLOGIES**

Mark (X) all technologies that were in place at your establishment during 1994.

14042 <input type="checkbox"/> Steam turbines supplied by either conventional or fluidized bed boilers	14045 <input type="checkbox"/> Internal combustion engines with heat recovery
14043 <input type="checkbox"/> Conventional combustion turbines with heat recovery	14046 <input type="checkbox"/> Steam turbines supplied by heat recovered from high-temperature processes
14044 <input type="checkbox"/> Combined-cycle combustion turbines	14047 <input type="checkbox"/> None of the above

**Part C3 - ONE-TIME COLLECTION OF ESTABLISHMENT ACTIVITIES**

Your CORPORATE energy manager has the option of completing this part for EACH individual establishment site. Otherwise, your energy manager at the establishment site is the best source for this information. Please respond using best-guess estimates from respondents' own knowledge. A search for these items is not necessary.

1. What is your establishment's most commonly used method of evaluation for purchases of, and modifications to, electric motor systems?

Mark (X) only one box.

1601 <input type="checkbox"/> An evaluation is based primarily on all expected costs over the projected lifetime of the system.	4 <input type="checkbox"/> An evaluation is done but not certain <b>how</b> it is done.
2 <input type="checkbox"/> An evaluation is based primarily on initial purchase prices of competing systems.	5 <input type="checkbox"/> No evaluation is done.
3 <input type="checkbox"/> Another type of evaluation is used.	6 <input type="checkbox"/> Not certain <b>if</b> any type of evaluation is done.

2. What kind of listing do you keep regarding your operating electric motors at this establishment?

Mark (X) only one box.

1602 <input type="checkbox"/> A listing is kept of <b>all</b> operating electric motors at this establishment - Go to line 3 below.	3 <input type="checkbox"/> No listing at all is kept - Skip to page 12.
2 <input type="checkbox"/> A listing is kept of <b>some</b> operating electric motors at this establishment - Go to line 3 below.	4 <input type="checkbox"/> The existence of a listing is not known - Skip to page 12.

3. Does your listing contain information on age of your motors? Mark (X) only one box.

1603 <input type="checkbox"/> Yes	2 <input type="checkbox"/> No	3 <input type="checkbox"/> Don't know
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4. Does your listing contain information on horsepower (wattage) of your motors? Mark (X) only one box.

1604 <input type="checkbox"/> Yes	2 <input type="checkbox"/> No	3 <input type="checkbox"/> Don't know
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**Section V - ESTABLISHMENT CHECKLIST - Continued**

There is one additional part to complete for specific SIC codes. This establishment's four-digit SIC code is included as part of the address mailing label on page 1 of this survey.

If the first two digits of your establishment's SIC code are:

- "20" (food industries), then complete Part D.
- or "22" (textile industries), then complete Part E.
- or "32" (stone, clay, and glass industries), then complete Part F.

Otherwise, skip to Section VI - REMARKS.

**Part D - SPECIFIC TECHNOLOGIES FOR FOOD INDUSTRIES (SIC 20 ONLY)**

Mark (X) all technologies that were in place at your establishment during 1994.

- |      |                          |  |       |                          |   |
|------|--------------------------|--|-------|--------------------------|---|
| 1405 | <input type="checkbox"/> | Infrared heating                                   | 1409  | <input type="checkbox"/> | Gas-driven rotary engines and/or turbines |
| 1406 | <input type="checkbox"/> | Microwave drying                                   | 1410  | <input type="checkbox"/> | Membrane separation                       |
| 1407 | <input type="checkbox"/> | Closed-cycle heat pump system used to recover heat | 1411  | <input type="checkbox"/> | Irradiation                               |
| 1408 | <input type="checkbox"/> | Open-cycle heat pump system used to produce steam  | 1412  | <input type="checkbox"/> | Freeze concentration                      |
|      |                          |  | 14121 | <input type="checkbox"/> | None of the above                         |

**Part E - SPECIFIC TECHNOLOGIES FOR TEXTILE INDUSTRIES (SIC 22 ONLY)**

Mark (X) all technologies that were in place at your establishment during 1994.

- |      |                          |                                 |       |                          |                      |
|------|--------------------------|---------------------------------|-------|--------------------------|----------------------|
| 1413 | <input type="checkbox"/> | Open-end spinning               | 1418  | <input type="checkbox"/> | Dye bath reuse       |
| 1414 | <input type="checkbox"/> | Water-jet weaving               | 1419  | <input type="checkbox"/> | Foam dyeing          |
| 1415 | <input type="checkbox"/> | Projectile weaving              | 1420  | <input type="checkbox"/> | Foam printing        |
| 1416 | <input type="checkbox"/> | Wet-on-wet dyeing and finishing | 1421  | <input type="checkbox"/> | Foam finishing       |
| 1417 | <input type="checkbox"/> | Indirect steam heating of dye   | 1422  | <input type="checkbox"/> | Low-add-on finishing |
|      |                          |                                 | 14221 | <input type="checkbox"/> | None of the above    |

**Part F - SPECIFIC TECHNOLOGIES FOR STONE, CLAY, AND GLASS INDUSTRIES (SIC 32 ONLY)**

Mark (X) all technologies that were in place at your establishment during 1994.

- |                      |                          |   |       |                          |  |
|----------------------|--------------------------|---|-------|--------------------------|--|
| <b>Glass Related</b> |                          | <b>Cement Related</b>   |       |                          |  |
| 1423                 | <input type="checkbox"/> | Oxygen-enriched combustion air  | 1429  | <input type="checkbox"/> | High-efficiency classifiers in closed-circuit grinding plants  |
| 1424                 | <input type="checkbox"/> | Forehearth designed for independently applied heating and cooling operations and minimal energy use       | 1430  | <input type="checkbox"/> | Improved grinding media and linings, wear-resistant materials such as high-chrome alloys, and classifying liners   |
| 1425                 | <input type="checkbox"/> | Forehearth designed to eliminate side-to-middle temperature gradients with improved temperature stability | 1431  | <input type="checkbox"/> | Waste heat drying  |
| 1426                 | <input type="checkbox"/> | Batch preheaters  | 1432  | <input type="checkbox"/> | Dry-suspension preheater kilns   |
| 1428                 | <input type="checkbox"/> | Advanced glass refiner  | 1433  | <input type="checkbox"/> | Dry-precalsiner kilns  |
| 14281                | <input type="checkbox"/> | None of the above   | 1434  | <input type="checkbox"/> | Kiln combustion system improvements such as semi-direct/indirect coal firing, optimal oxygen levels and advanced burners matched to the kiln/cooler design flame control |
|                      |                          |   | 1435  | <input type="checkbox"/> | Controlled particle size cement  |
|                      |                          |   | 14351 | <input type="checkbox"/> | None of the above  |

**Section VI - REMARKS**

Please use this space or attach a separate sheet for any explanations that may be essential in understanding your reported data.

1599

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**Section VII - CERTIFICATION**

Name of person to contact regarding this report - (Print or type)			Telephone number →	Area code	Number	Extension
Address - Number and street			City	State	ZIP Code	
Period covered by this report: →	<b>From</b>			<b>To</b>		
	Month	Day	Year	Month	Day	Year
Signature of authorized person			Internet number or E-Mail (if available)			Date
			@			

Form **EIA-846B**  
(4-13-95)U.S. Department of Commerce  
Bureau of the Census  
Acting as Collecting and  
Compiling Agent ForUNITED STATES DEPARTMENT  
OF ENERGY  
ENERGY INFORMATION  
ADMINISTRATION**Petroleum  
Refineries  
1994  
MANUFACTURING  
ENERGY  
CONSUMPTION  
SURVEY**

Public reporting burden for this collection of information is estimated to average 9 hours per response, including the time of reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Energy Information Administration, Office of Statistical Standards, EI-73, 1707 H-Street, NW, Washington, DC 20585; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

**In correspondence pertaining to this report, please refer to this Census File Number (CFN).***Please correct errors in name, address, and ZIP Code. ENTER street and number if not shown.***PLEASE COMPLETE THIS  
FORM AND RETURN TO**BUREAU OF THE CENSUS  
1201 East 10th Street  
Jeffersonville, IN 47132-0001**NOTE***Please read the enclosed instructions  
before filling out this form. Complete  
each item. If you have any questions,  
call 1-800-866-6327.***DUE DATE:**

If you cannot file by the due date, a time extension request should be sent to the above address. Please include your 11-digit Census File Number (CFN).

**The Manufacturing Energy Consumption Survey** – The Manufacturing Energy Consumption Survey (MECS) was designed, and is being sponsored, by the Energy Information Administration (EIA) of the U.S. Department of Energy (DOE). The survey is administered and compiled by the U.S. Bureau of the Census for the EIA. The previous MECS was conducted covering the year 1991.

**Mandatory Requirement** – This survey is **mandatory** under the Federal Energy Administration Act of 1974, Pub. L. No. 93-275, and under Title 3, Subtitle B, of the Omnibus Budget Reconciliation Act of 1986, Pub. L. No. 99-509, as amended by Title 1, Subtitle G, of the Energy Policy Act of 1992, Pub. L. No. 102-486. Failure to respond may result in criminal fines, civil penalties, and other sanctions as provided by law. Response is required by law from establishments included in the MECS sample and receiving the MECS form.

**Confidentiality of Data** – Under Section 9 of Title 13, U.S. Code, your report to the Census Bureau is **confidential**. It may be seen only by sworn Census Bureau employees and may be used only for statistical purposes. The law also provides that copies retained in your files are immune from legal process.

**Purpose of This Survey** – The MECS will collect data on energy consumption and usage patterns for the manufacturing sector of the U.S. economy. In addition, it will measure the short-term (within 30 days) capability of your establishment to substitute fuels in place of those actually consumed in 1994. The information obtained from the MECS forms will be used to publish aggregate statistics on the following: consumption of energy for fuel and nonfuel uses, energy characteristics of buildings in the manufacturing sector, energy consumption by end use, technologies currently in use by U.S. manufacturers, energy prices, electricity generation onsite, fuel-switching capabilities, and participation in energy-management activities. This information will be used by the DOE to implement policy plans effectively as well as to assist utilities in more accurate demand forecasting and resource planning.

**Form EIA-846B** – This form is addressed to establishments operating primarily in the manufacturing sector in industries as defined by the 1987 Standard Industrial Classification (SIC) Manual. Form EIA-846B is addressed to establishments operating primarily in the Petroleum Refining Industry (SIC 2911). If your establishment has received form EIA-846B but is not a petroleum refinery, call the Census Bureau, MECS staff, on 1-800-866-6327 to report this information. Government-owned establishments that are privately operated are NOT exempt from completing this survey.

**Due Date** – The questionnaire should be returned no later than the due date specified above. If you need additional time, please call our processing office on 1-800-528-3049. Please use the enclosed return envelope. If the envelope has been misplaced, return the completed questionnaire to us at the above address.

**A. General Instructions**

1. **No entries are required in the shaded areas.** All shaded areas are to be left blank.
2. Use the indicated units specified on the questionnaire for reporting all quantities. For example:
  - Electricity – Thousands of kilowatthours (1,000 kWh)
  - Steam – Millions of British thermal units (Million Btu)
  - Industrial hot water – Millions of Btu (Million Btu)
  - Coal – Short Tons
  - Natural gas – Thousands of cubic feet (1,000 cu. ft.)
  - Hydrogen – Millions of Btu (Million Btu)
  - Diesel fuel and distillate fuel oil – Barrels
  - Liquid petroleum gas – Gallons
  - Natural gas liquids – Gallons

If you need conversion factors in order to report in the specified units, refer to the detailed instructions for Sections I and II.

3. **Do not consolidate establishments.** The reporting boundaries for your establishment should correspond to those used in the Annual Survey of Manufactures and/or the Census of Manufactures.
4. Be sure to mark (X) the appropriate box at the top of page 4 to classify your establishment. If the establishment consists of **refinery operations only**, do not make any entries in Section II, columns (9) and (10).
5. If you do not maintain book records for particular items, please use carefully prepared estimates.
6. Please refer to the accompanying instruction guide as you answer the questions.

**B. Operational Status**

IF FORM MA-1000 (ANNUAL SURVEY OF MANUFACTURES) WAS COMPLETED FOR THIS ESTABLISHMENT IN 1994, SKIP THIS ITEM AND GO TO SECTION I – NONCOMBUSTIBLE ENERGY SOURCES. Otherwise, please **complete this item** fully to avoid unnecessary correspondence. Mark the box (1–5) that is applicable to the operation of this establishment at the end of 1994. If you check box 3, 4, or 5, please fill in the month, day, and year (numbers only, please) that the action became effective. If box 4 or 5 is checked, also supply the name and address (or location) of the new or former owner or operating company.

**If the ownership of this establishment changed** in 1994, please make certain that the date of the change in ownership is recorded in this item.

1. **If you sold the establishment during the year**, complete all sections of the report form for activities that occurred in 1994 **prior** to the sale.
2. **If you bought the establishment during the year**, complete all sections of the report form for activities that occurred in 1994 **after** the sale.

**Mark (X) only ONE box** which best describes this establishment at the end of 1994. If this establishment was not in operation for the full year during 1994, please complete this form for the part of the year that you were in operation.

- 0001
- 1  In operation . . . . .
  - 2  Temporarily or seasonally inactive . . . . .
  - 3  Ceased operation (Provide date at right) . . . . .
  - 4  Sold or leased TO another operator (Provide date at right AND enter name, etc., below) . . . . .
  - 5  Acquired or leased FROM another operator (Provide date at right AND enter name, etc., below) . . . . .

Date (Numbers Only)		
Month	Day	Year

Name of new/former owner or operator \_\_\_\_\_ Employer Identification (EI) Number (9 digits) \_\_\_\_\_

Number and street \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ ZIP Code \_\_\_\_\_

**CONTINUE WITH SECTION I ON PAGE 3**

**Section I - NONCOMBUSTIBLE ENERGY SOURCES**

Item Description (1)	IF ZERO, PLEASE ENTER ZERO (0) IN EACH BOX								
	Electricity			Steam			Industrial Hot Water		
	10	(2)		11	(3)		12	(4)	
<b>1a.</b> During 1994, what amount of each energy source was <b>purchased from utilities</b> by this establishment and delivered to this establishment site? ( <i>DO NOT include purchases by a central purchasing agent, quantities delivered from other establishments of your company, or quantities for which payment was made in-kind.</i> )	Kilowatthours Mil   Thou   kWh			Million Btu			Million Btu		
01									
<b>1b.</b> What was the total expenditure, including all applicable taxes, for the purchased energy source(s) reported on line 1a?	Dollars Mil   Thou   Dol			Dollars Mil   Thou   Dol			Dollars Mil   Thou   Dol		
02									
<b>2a.</b> During 1994, what amount of electricity and steam was <b>purchased from nonutility suppliers</b> by this establishment and delivered to this establishment site?	Kilowatthours Mil   Thou   kWh			Million Btu					
03									
<b>2b.</b> What was the total expenditure, including all applicable taxes, for the purchased energy source(s) reported on line 2a?	Dollars Mil   Thou   Dol			Dollars Mil   Thou   Dol					
04									
<b>3.</b> During 1994, what amount of each energy source was <b>transferred</b> from outside establishments and delivered to this establishment site? ( <i>DO NOT include the purchases reported in lines 1a and 2a. DO include quantities received from a central purchasing agent, quantities delivered from other establishments of your company, and quantities for which payment was made in-kind.</i> )	Kilowatthours Mil   Thou   kWh			Million Btu			Million Btu		
05									
<b>4. TOTAL QUANTITIES OF ELECTRICITY RECEIVED ONSITE</b> ( <i>Sum of lines 1a, 2a, and 3.</i> ) <b>NOTE</b> - Copy this quantity for electricity to Section III - FUEL SWITCHING, part A, line 1a, column (2) on page 6.									
06									
<b>5.</b> During 1994, how much electricity was generated on this establishment site by cogeneration? ( <i>Include ALL cogeneration facilities at this establishment site.</i> )									
07									
<b>6.</b> During 1994, how much of each energy source was generated onsite from each of the following:				Million Btu			Million Btu		
<b>a.</b> Solar power									
081									
<b>b.</b> Wind power									
082									
<b>c.</b> Hydropower									
083									
<b>d.</b> Geothermal power									
084									
<b>7.</b> During 1994, how much electricity was generated onsite by processes other than those covered on lines 5, 6a, 6b, 6c, and 6d?									
09									
<b>8. TOTAL ONSITE GENERATION OF ELECTRICITY</b> ( <i>Sum of lines 5, 6a, 6b, 6c, 6d, and 7.</i> )									
10									
<b>9.</b> During 1994, how much electricity was sold or transferred to utilities?									
11									
<b>10.</b> During 1994, how much of each energy source was sold or transferred to any establishments other than utilities?				Million Btu			Million Btu		
12									
<b>11. TOTAL ELECTRICITY SALES AND TRANSFERS OFFSITE</b> ( <i>Line 9 plus line 10.</i> )									
13									
<b>12. TOTAL ONSITE CONSUMPTION OF ELECTRICITY.</b> ( <i>Line 4 plus line 8 minus line 11.</i> ) <b>NOTE</b> - Copy this quantity for electricity consumption to Section IV - ESTIMATED PERCENT CONSUMPTION BY END USE, line 1, column (2) on page 9.									
14									

**Section II - COMBUSTIBLE ENERGY SOURCES**

**IMPORTANT - HOW TO REPORT**

Mark (X) the box next to the correct description of the establishment identified on the address label. Then supply data for Section II according to the instructions for that description.

- 1801  Establishment consists of REFINERY operations ONLY. (There may be nonrefinery (petrochemical) operations collocated, but those operations are identified as a separate establishment for purposes of the Annual Survey of Manufactures, Census Form MA-1000.) - Complete Section II but do NOT make any entries in columns (9) and (10).
- Establishment consists of both REFINERY and NONREFINERY operations. - Complete Section II including columns (9) and (10).
- None of the above - Call the MECS staff on 1-800-866-6327 IF NOT A REFINERY.

Energy Sources (1)	Census Use Only (2)	Units used for reporting quantities (3)	Energy sources received onsite in 1994						
			Quantity purchased by and delivered to this establishment		Total expenditures, including taxes and delivery charges, of the quantity in column (4)			Total quantity of transfers in and central purchases (6)	
			01 (4)	02 (5)	Mil	Thou	Dol		03
<b>A. PETROLEUM BASED</b>									
1. Butane as liquid petroleum gas (LPG) or natural gas liquids (NGL)	36	Gallons							
2. Ethane as liquid petroleum gas (LPG) or natural gas liquids (NGL)	37	Gallons							
3. Propane as liquid petroleum gas (LPG) or natural gas liquids (NGL)	38	Gallons							
4. Mixtures of ethane, butane, and propane	34	Gallons							
5. Other LPG and NGL (e.g., butylene, ethylene, propylene)	35	Gallons							
6. Total LPG and NGL (Sum of lines A1, A2, A3, A4 and A5)	24	Gallons							
7. Diesel fuel, excluding highway usage	28	Barrels							
8. Distillate fuel oil (numbers 1, 2, and 4 fuel oils)	29	Barrels							
9. Total diesel fuel and distillate fuel oil (Sum of lines A7 and A8)	22	Barrels							
10. Crude oil/lease condensate	20	Barrels							
11. Motor gasoline, excluding highway usage	23	Gallons							
12. Residual fuel oil (numbers 5, 6, Navy Special, and Bunker C)	21	Barrels							
13. Waste and byproduct gases (e.g., refinery offgas, vent gas, plant gas, still gas)	62	Million Btu							
14. Fluid catalytic cracking unit coke	77	Barrels							
15. Marketable petroleum coke - unrefined or green	78	Barrels							
16. Marketable petroleum coke - calcined	79	Barrels							
17. Waste oils and tars	71	Barrels							
18. Other (Specify. Specify units, if not million Btu)									
9598 (1)	95	Million Btu							
9698 (2)	96	Million Btu							
<b>B. NONPETROLEUM BASED</b>									
1. Anthracite	40	Short Tons							
2. Bituminous and subbituminous coal	41	Short Tons							
3. Lignite	42	Short Tons							
4. Total coal (Sum of lines B1, B2, and B3)	46	Short Tons							
5. Coal coke	43	Short Tons							
6. Breeze	44	Short Tons							
7. Total natural gas (Include well production onsite in column (7)) In the following parts 7a-7c please classify natural gas purchases which are reported in line 7.	30	1,000 cu. ft.						See Pg. 10, Part B	
<b>UTILITY/LDC</b>									
7a. Natural gas purchased directly from your utilities/local distribution companies (LDC) at a firm service rate	48	1,000 cu. ft.							
7b. Natural gas purchased directly from LDC at an interruptible service rate	49	1,000 cu. ft.							
7c. Natural gas purchased directly from LDC at other service rates (Specify type of service rate)									
5098	50	1,000 cu. ft.							
Did this establishment purchase natural gas in 1994 from sources other than utilities/LDC?									
50981	<input type="checkbox"/> YES - Go to line 7d on page 6 <input type="checkbox"/> NO - Skip to line B8, Hydrogen, on page 6								

**Section II - COMBUSTIBLE ENERGY SOURCES - Continued**

Enter amounts for <b>entire establishment</b>		Enter amounts for <b>nonrefinery operations only.</b> Complete if box 2 at top of page 4 is marked (X).		Energy Sources  (11)
Quantity produced onsite  (7)	Quantity consumed as a fuel  (8)	Quantity consumed for all nonfuel purposes  (9)	Quantity shipped offsite to other establishments in 1994  (10)	
				<b>A. PETROLEUM BASED</b>
				1. Butane as liquid petroleum gas (LPG) or natural gas liquids (NGL)
				2. Ethane as liquid petroleum gas (LPG) or natural gas liquids (NGL)
				3. Propane as liquid petroleum gas (LPG) or natural gas liquids (NGL)
				4. Mixtures of ethane, butane, and propane
				5. Other LPG and NGL (e.g., butylene, ethylene, propylene)
	Copy to Pg. 7, line 1a & Pg. 9, line 1			6. <b>Total LPG and NGL</b> (Sum of lines A1, A2, A3, A4 and A5)
				7. Diesel fuel, excluding highway usage
				8. Distillate fuel oil (numbers 1, 2, and 4 fuel oils)
	Copy to Pg. 7, line 1a & Pg. 9, line 1			9. <b>Total diesel fuel and distillate fuel oil</b> (Sum of lines A7 and A8)
				10. Crude oil/lease condensate
				11. Motor gasoline, excluding highway usage
	Copy to Pg. 7, line 1a & Pg. 9, line 1			12. Residual fuel oil (numbers 5, 6, Navy Special, and Bunker C)
				13. Waste and byproduct gases (e.g., refinery offgas, vent gas, plant gas, still gas)
				14. Fluid catalytic cracking unit coke
				15. Marketable petroleum coke - unrefined or green
				16. Marketable petroleum coke - calcined
				17. Waste oils and tars
				18. Other (Specify)
				(1)
				(2)
				<b>B. NONPETROLEUM BASED</b>
				1. Anthracite
				2. Bituminous and subbituminous coal
				3. Lignite
	Copy to Pg. 6, line 1a & Pg. 9, line 1			4. <b>Total coal</b> (Sum of lines B1, B2, and B3)
				5. Coal coke
				6. Breeze
	Copy to Pg. 7, line 1a & Pg. 9, line 1			7. <b>Total natural gas</b>
				7a. Natural gas purchased from utilities/LDC at a <b>firm</b> service rate
				7b. Natural gas purchased from LDC at an <b>interruptible</b> service rate
				7c. Natural gas purchased from LDC at <b>other service</b> rates



**Section II - COMBUSTIBLE ENERGY SOURCES - Continued**

Enter amounts for <b>entire establishment</b>		Enter amounts for <b>nonrefinery operations only.</b> Complete if box 2 at top of page 4 is marked (X).		Energy Sources
Quantity produced onsite	Quantity consumed as a fuel	Quantity consumed for all nonfuel purposes	Quantity shipped offsite to other establishments in 1994	
04 (7)	06 (8)	07 (9)	08 (10)	(11)
				<b>7d.</b> Natural gas purchased from non-LDC sources
				<b>7e(1).</b> Cost of supplies
				<b>7e(2).</b> Cost of transportation
				<b>7e(3).</b> Other costs
				<b>8.</b> Hydrogen
				<b>9.</b> Wood fuel and wood/paper refuse
				<b>10.</b> Other ( <i>Specify</i> )
				(1)
				(2)

**Section III - FUEL SWITCHING - Continued**

Total Natural Gas	Total Diesel Fuel and Distillate Fuel Oil	Total LPG and NGL	Residual Fuel Oil
30 (4)	22 (5)	24 (6)	21 (7)
<i>Copy from Section II, part B, line 7, column (8)</i>	<i>Copy from Section II, part A, line 9, column (8)</i>	<i>Copy from Section II, part A, line 6, column (8)</i>	<i>Copy from Section II, part A, line 12, column (8)</i>
1,000 cu. ft.	Barrels	Gallons	Barrels
1,000 cu. ft.	Barrels	Gallons	Barrels
1,000 cu. ft.	Barrels	Gallons	Barrels
<b>PLEASE COMPLETE ONE COLUMN BEFORE STARTING ANOTHER</b>			
1,000 cu. ft.	Barrels	Gallons	Barrels
1,000 cu. ft.	Barrels	Gallons	Barrels
1,000 cu. ft.	Barrels	Gallons	Barrels
	Barrels	Gallons	<i>Copy to line 1a on page 8</i> Barrels
1,000 cu. ft.		Gallons	Barrels
1,000 cu. ft.	Barrels		Barrels
<i>Copy to line 1a on page 8</i> 1,000 cu. ft.	Barrels	Gallons	
1,000 cu. ft.	Barrels	Gallons	Barrels

**Section III - FUEL SWITCHING - Continued**

**B. SWITCHING BETWEEN NATURAL GAS AND RESIDUAL FUEL OIL**

The purpose of this part is to determine, for this establishment, if any actual switching took place between two specific fuels, namely natural gas and residual fuel oil; if so, the primary reasons for the switching and at what price difference would switching be a viable option.

Item Description (1)	Total Natural Gas		Residual Fuel Oil	
	30	(2)	21	(3)
	Copy from Section III, part A, line 10, column (4)		Copy from Section III, part A, line 7, column (7)	
	1,000 cu ft.		Barrels	
<b>1a. Replaceable amount</b> - Copy data into line 1a as instructed in the column headings.	90			
<b>1b.</b> Does line 1a contain any nonzero entries?				
1501 1 <input type="checkbox"/> Yes - Answer lines 2a, 2b, and 2c, as appropriate, for that column. 2 <input type="checkbox"/> No - Skip to Section IV - ESTIMATED PERCENT CONSUMPTION BY END USE, on page 9.				
<b>2.</b> At any time during the full year 1994, did this establishment . . .				
<b>2a.</b> SWITCH FROM natural gas TO residual fuel oil?				
1502 1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No				
<b>2b.</b> SWITCH FROM residual fuel oil TO natural gas?				
1503 1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No				
<b>2c.</b> Do lines 2a or 2b contain any "YES" responses?				
1504 1 <input type="checkbox"/> Yes - Answer lines 3 and 4, as appropriate, for that column. 2 <input type="checkbox"/> No - Skip to line 4 on this page.				
<b>3.</b> What is the primary reason(s) that this establishment SWITCHED FROM this fuel TO the other fuel?	<b>Total Natural Gas</b>		<b>Residual Fuel Oil</b>	
	Mark (X) all that apply		Mark (X) all that apply	
<b>a.</b> Supply shortage or curtailment of this fuel . . . . .	1505	1 <input type="checkbox"/>	1506	1 <input type="checkbox"/>
<b>b.</b> Down-time caused by maintenance . . . . .	1507	1 <input type="checkbox"/>	1508	1 <input type="checkbox"/>
<b>c.</b> Less expensive substitute . . . . .	1509	1 <input type="checkbox"/>	1510	1 <input type="checkbox"/>
<b>d.</b> Environmental restriction on emissions or waste . . . . .	1511	1 <input type="checkbox"/>	1512	1 <input type="checkbox"/>
<b>e.</b> Other (Specify and mark appropriate box(es))				
15121 (1)	1513	1 <input type="checkbox"/>	1514	1 <input type="checkbox"/>
15122 (2)	1515	1 <input type="checkbox"/>	1516	1 <input type="checkbox"/>
<b>4.</b> Please answer line 4 as appropriate for the columns with nonzero entries in line 1a. Regardless of whether or not your establishment actually SWITCHED FROM this fuel during 1994, or did so because of a less expensive substitute, is there a LOWEST PERCENTAGE of price difference of the less expensive substitute that would cause your establishment to SWITCH FROM this fuel?	<b>Total Natural Gas</b>		<b>Residual Fuel Oil</b>	
The formula for percentage of price difference is: Percentage of Price Difference = $\frac{PC - PA}{PC} \times 100\%$ Where PC = Price per British thermal unit of current fuel PA = Price per British thermal unit of alternative fuel	Mark (X) only one box		Mark (X) only one box	
	1517		1518	
<b>a.</b> Would not switch regardless of percentage of price difference . . . . .		1 <input type="checkbox"/>		1 <input type="checkbox"/>
<b>b.</b> Would switch at price difference of 1 - 5 percent . . . . .		2 <input type="checkbox"/>		2 <input type="checkbox"/>
<b>c.</b> Would switch at price difference of 6 - 10 percent . . . . .		3 <input type="checkbox"/>		3 <input type="checkbox"/>
<b>d.</b> Would switch at price difference of 11 - 15 percent . . . . .		4 <input type="checkbox"/>		4 <input type="checkbox"/>
<b>e.</b> Would switch at price difference of 16 - 20 percent . . . . .		5 <input type="checkbox"/>		5 <input type="checkbox"/>
<b>f.</b> Would switch at price difference of 21 - 30 percent . . . . .		6 <input type="checkbox"/>		6 <input type="checkbox"/>
<b>g.</b> Would switch at price difference of 31 - 40 percent . . . . .		7 <input type="checkbox"/>		7 <input type="checkbox"/>
<b>h.</b> Would switch at price difference of 41 - 50 percent . . . . .		8 <input type="checkbox"/>		8 <input type="checkbox"/>
<b>i.</b> Would switch at price difference over 50 percent . . . . .		9 <input type="checkbox"/>		9 <input type="checkbox"/>
<b>j.</b> Reasonable estimate cannot be provided . . . . .		10 <input type="checkbox"/>		10 <input type="checkbox"/>
<b>k.</b> Would switch to the more expensive substitute if price premium were reasonable . . . . .		11 <input type="checkbox"/>		11 <input type="checkbox"/>

**Section IV – ESTIMATED PERCENT CONSUMPTION BY END USE**

End Uses (1)	Total Electricity Consumption		Total Coal Excluding Coal Coke and Breeze		Total Natural Gas		Total Diesel Fuel and Distillate Fuel Oil		Total LPG and NGL		Residual Fuel Oil	
	10	(2)	46	(3)	30	(4)	22	(5)	24	(6)	21	(7)
		<i>Copy from Section I, line 12, column (2)</i>		<i>Copy from Section II, part B, line 4, column (8)</i>		<i>Copy from Section II, part B, line 7, column (8)</i>		<i>Copy from Section II, part A, line 9, column (8)</i>		<i>Copy from Section II, part A, line 6, column (8)</i>		<i>Copy from Section II, part A, line 12, column (8)</i>
		1,000 kWh		Short Tons		1,000 cu. ft.		Barrels		Gallons		Barrels
<b>1. Quantity consumed</b> – Copy data into line 1 as instructed in the column headings.	70											

Energy sources can be consumed in three major end-use classes: indirect use (boiler fuel), direct process use, and direct nonprocess use. **Indirect use is the transformation of energy to another usable energy source, as in a boiler for example.** Direct process use includes usage in motors, ovens, kilns, and strip heaters. Direct nonprocess use includes usage for facility lighting and conditioning equipment.

For each energy source, the sum of the elements in these three classes equals 100 percent.

For columns with nonzero entries in line 1 above, please report the approximate percentage of each energy source used for the purposes listed below.

**PLEASE COMPLETE ONE COLUMN BEFORE STARTING ANOTHER.  
REASONABLE APPROXIMATIONS ARE ACCEPTABLE – SEE INSTRUCTIONS.**

End Uses (1)	Total Electricity Consumption		Total Coal Excluding Coal Coke and Breeze		Total Natural Gas		Total Diesel Fuel and Distillate Fuel Oil		Total LPG and NGL		Residual Fuel Oil	
	10	(2)	46	(3)	30	(4)	22	(5)	24	(6)	21	(7)
<b>INDIRECT USES – BOILERS</b>												
<b>2.</b> Boiler fuel (e.g., fuel for boilers, gas turbines)	71	%		%		%		%		%		%
<b>DIRECT USES – PROCESS</b>												
<b>3.</b> Process heating (e.g., kilns, furnaces, ovens, strip heaters)	72	%		%		%		%		%		%
<b>4.</b> Process cooling and refrigeration	73	%		%		%		%		%		%
<b>5.</b> Machine drive (e.g., motors, pumps, etc. associated with manufacturing process equipment)	74	%		%		%		%		%		%
<b>6.</b> Electro-chemical processes (e.g., reduction process)	75	%										
<b>7.</b> Other (Please specify any other uses of energy)												
10761	76	%		%		%		%		%		%
<b>DIRECT USES – NONPROCESS</b>												
<b>8.</b> Facility heating, ventilation, and air conditioning	77	%		%		%		%		%		%
<b>9.</b> Facility lighting	78	%										
<b>10.</b> Facility support other than lines 8 and 9 above (e.g., cooking, water heating, office equipment)	79	%		%		%		%		%		%
<b>11.</b> Onsite transportation, excluding highway usage	80	%				%		%		%		
<b>12.</b> Conventional electricity generation	81			%		%		%		%		%
<b>13.</b> Other (Please specify any other uses of energy)												
10821	82	%		%		%		%		%		%
<b>TOTAL for all purposes</b>		<b>100%</b>		<b>100%</b>		<b>100%</b>		<b>100%</b>		<b>100%</b>		<b>100%</b>

**Section V - ESTABLISHMENT CHECKLIST**

This section is divided into five parts. All establishments are to complete Parts A, B, C1, C2, and C3.

**Part A - ESTIMATED SQUARE FOOTAGE OF BUILDINGS**

1. What was the **approximate** total enclosed square footage of the buildings located on this establishment site as of December 31, 1994?

1301

Square Feet		
Mil	Thou	Feet

2. Of the square footage indicated above, what percentage had controlled heating or cooling, using equipment designed to modify the internal building temperature, during 1994?

Please provide the approximate percentage to the nearest multiple of 5 percent.

1302

\_\_\_\_\_ %

**Part B - ENERGY PURCHASING AND ENERGY-MANAGEMENT ACTIVITIES**

1. Please refer to Section II, Part B, line 7, column (6) on page 4 for the quantity of **total natural gas that was transferred in and centrally purchased.**

Does column (6) of line B7 on page 4 contain a nonzero entry?

30031

- 1  Yes - Answer lines 1a and 1b below.  
 2  No - Skip to line 2 below.

1a. Enter the total expenditures, including all applicable taxes and delivery charges, for the quantity of **total natural gas that was transferred in and centrally purchased.**

If no expenditure was made, please enter zero.

30032

Mil	Thou	Dol

1b. What is the best description of the expenditure amount in line 1a above?  
**Mark (X) only one box.**

30033

- 1  Market price  
 2  Internal price based on this establishment's accounting principles  
 3  Don't know  
 4  Other (Specify) z

30034

\_\_\_\_\_

2. At any time between January 1, 1992 and December 31, 1994, did your **electric utility** sponsor any type of programs designed for the purposes listed below, regardless of whether or not your establishment participated:

- to lower your energy consumption or costs, or
  - to shift the timing of your electricity demand, or
  - to promote your use of electricity instead of another energy source?
- (Often these programs are referred to as Demand-Side Management (DSM))

**Mark (X) only one box.**

1303

- 1  Yes  
 2  No  
 3  Don't know

3. At any time between January 1, 1992 and December 31, 1994, did your **natural gas utility** sponsor any type of programs designed for the purposes listed below, regardless of whether or not your establishment participated:

- to lower your energy consumption or costs, or
  - to shift the timing of your natural gas demand, or
  - to promote your use of natural gas instead of another energy source?
- (Often these programs are referred to as Demand-Side Management (DSM))

**Mark (X) only one box.**

1304

- 1  Yes  
 2  No  
 3  Don't know

4a. For the period between January 1, 1992 and December 31, 1994, was the natural gas utility/local distribution company (LDC) for your establishment the **same entity** as your electric utility?

**Mark (X) only one box.**

1305

- 1  Yes  
 2  No  
 3  Don't know

4b. At any time between January 1, 1992 and December 31, 1994, was your establishment involved in any type of energy-management activity?

13051

- 1  Yes - Go to line 5 on page 11.  
 2  No - Skip to Part C1 on page 11.

**Section V - ESTABLISHMENT CHECKLIST - Continued**

**Part B - ENERGY PURCHASING AND ENERGY-MANAGEMENT ACTIVITIES - Continued**

**5. In what type(s) of energy-management activity(ies) was your establishment involved between January 1, 1992 and December 31, 1994? Mark (X) all that apply. Note that it is possible to have marks in all four columns for any of the activities listed.**

Energy-Management Activities (1)	Involvement Through Electric Utility Sponsorship (2)	Involvement Through Self-Sponsorship (3)	Involvement Through Federal, State, Local Government Sponsorship, Excluding Utilities (4)	Involvement Through Other (3rd Party) Sponsorship (5)
a. Energy audits	1306 <input type="checkbox"/>	13071 <input type="checkbox"/>	13072 <input type="checkbox"/>	13073 <input type="checkbox"/>
b. Electricity load control	1308 <input type="checkbox"/>	13091 <input type="checkbox"/>	13092 <input type="checkbox"/>	13093 <input type="checkbox"/>
c. Special rate schedule (e.g., interruptible or time-of-use)	1310 <input type="checkbox"/>			
d. Standby generation program	1326 <input type="checkbox"/>	13271 <input type="checkbox"/>	13272 <input type="checkbox"/>	13273 <input type="checkbox"/>
e. Equipment rebates	1328 <input type="checkbox"/>	13291 <input type="checkbox"/>	13292 <input type="checkbox"/>	13293 <input type="checkbox"/>
f. Power factor correction or improvement	1338 <input type="checkbox"/>	1339 <input type="checkbox"/>	1340 <input type="checkbox"/>	1341 <input type="checkbox"/>
g. U.S. Environmental Protection Agency's Energy Star Program			1342 <input type="checkbox"/>	
h. U.S. Environmental Protection Agency's Green Lights Program			1343 <input type="checkbox"/>	
i. U.S. Department of Energy's Motor Challenge Program			1344 <input type="checkbox"/>	
j. Equipment installation or retrofit for the <b>primary</b> purpose of improving energy efficiency affecting:				
(1) Steam production (e.g., boilers, burners)	1312 <input type="checkbox"/>	13131 <input type="checkbox"/>	13132 <input type="checkbox"/>	13133 <input type="checkbox"/>
(2) Direct/indirect process heating	1314 <input type="checkbox"/>	13151 <input type="checkbox"/>	13152 <input type="checkbox"/>	13153 <input type="checkbox"/>
(3) Direct process cooling, refrigeration	1316 <input type="checkbox"/>	13171 <input type="checkbox"/>	13172 <input type="checkbox"/>	13173 <input type="checkbox"/>
(4) Direct machine drive (e.g., adjustable-speed drives, motors, pumps) excluding Motor Challenge Program	1318 <input type="checkbox"/>	13191 <input type="checkbox"/>	13192 <input type="checkbox"/>	13193 <input type="checkbox"/>
(5) Facility heating, ventilation, and air conditioning, excluding Energy Star Program	1320 <input type="checkbox"/>	13211 <input type="checkbox"/>	13212 <input type="checkbox"/>	13213 <input type="checkbox"/>
(6) Facility lighting, excluding Green Lights Program	1322 <input type="checkbox"/>	13231 <input type="checkbox"/>	13232 <input type="checkbox"/>	13233 <input type="checkbox"/>
k. Equipment installation or retrofit for the <b>primary</b> purpose of using a different energy source (e.g., electrification). (Exclude modifications made principally for energy efficiency)	1324 <input type="checkbox"/>	13251 <input type="checkbox"/>	13252 <input type="checkbox"/>	13253 <input type="checkbox"/>
l. Other, including other government programs (Specify)				
1396 (1)	1330 <input type="checkbox"/>	1331 <input type="checkbox"/>	1332 <input type="checkbox"/>	1333 <input type="checkbox"/>
1397 (2)	1334 <input type="checkbox"/>	1335 <input type="checkbox"/>	1336 <input type="checkbox"/>	1337 <input type="checkbox"/>

All establishments are to complete Parts C1, C2, and C3.

**Part C1 - GENERAL TECHNOLOGIES**

Mark (X) all technologies that were in place at your establishment during 1994.

1401 <input type="checkbox"/>	Computer control of building environment (e.g., space-heating equipment, cooling equipment, lights)	1403 <input type="checkbox"/>	Waste heat recovery
1402 <input type="checkbox"/>	Computer control of processes or major energy-using equipment (e.g., boilers, furnaces, conveyers) used in the manufacturing process	1404 <input type="checkbox"/>	Adjustable-speed motors
		14041 <input type="checkbox"/>	None of the above

**Part C2 - COGENERATION TECHNOLOGIES**

Mark (X) all technologies that were in place at your establishment during 1994.

14042 <input type="checkbox"/>	Steam turbines supplied by either conventional or fluidized bed boilers	14045 <input type="checkbox"/>	Internal combustion engines with heat recovery
14043 <input type="checkbox"/>	Conventional combustion turbines with heat recovery	14046 <input type="checkbox"/>	Steam turbines supplied by heat recovered from high-temperature processes
14044 <input type="checkbox"/>	Combined-cycle combustion turbines	14047 <input type="checkbox"/>	None of the above

**Part C3 - ONE-TIME COLLECTION OF ESTABLISHMENT ACTIVITIES**

Your CORPORATE energy manager has the option of completing this part for EACH individual establishment site. Otherwise, your energy manager at the establishment site is the best source for this information. Please respond using best-guess estimates from respondents' own knowledge. A search for these items is not necessary.

1. What is your establishment's most commonly used method of evaluation for purchases of, and modifications to, electric motor systems?

Mark (X) only one box.

1601 <input type="checkbox"/>	An evaluation is based primarily on all expected costs over the projected lifetime of the system.	4 <input type="checkbox"/>	An evaluation is done but not certain <b>how</b> it is done.
<input type="checkbox"/>	An evaluation is based primarily on initial purchase prices of competing systems.	5 <input type="checkbox"/>	No evaluation is done.
<input type="checkbox"/>	Another type of evaluation is used.	6 <input type="checkbox"/>	Not certain <b>if</b> any type of evaluation is done.

2. What kind of listing do you keep regarding your operating electric motors at this establishment?

Mark (X) only one box.

1602 <input type="checkbox"/>	A listing is kept of <b>all</b> operating electric motors at this establishment - Go to line 3 below.	3 <input type="checkbox"/>	No listing at all is kept - Skip to page 12.
<input type="checkbox"/>	A listing is kept of <b>some</b> operating electric motors at this establishment - Go to line 3 below.	4 <input type="checkbox"/>	The existence of a listing is not known - Skip to page 12.

3. Does your listing contain information on age of your motors? Mark (X) only one box.

1603 <input type="checkbox"/>	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	Don't know
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4. Does your listing contain information on horsepower (wattage) of your motors? Mark (X) only one box.

1604 <input type="checkbox"/>	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	Don't know
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**Section VI - REMARKS**

Please use this space or attach a separate sheet for any explanations that may be essential in understanding your reported data.

1599

**Section VII - CERTIFICATION**

Name of person to contact regarding this report - (Print or type)					Telephone number →	Area code	Number	Extension
Address - Number and street				City	State	ZIP Code		
Period covered by this report: →	From			To				
	Month	Day	Year	Month	Day	Year		
Signature of authorized person				Internet number or E-Mail (if available)			Date	
				@				