## 1985 MANUFACTURING ENERGY CONSUMPTION SURVEY

**PLEASE COMPLETE THIS FORM AND RETURN TO**

**BUREAU OF THE CENSUS**

1201 East Tenth Street
Jeffersonville, Indiana 47132

**DUE DATE:** August 15, 1986

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).

**NOTE — Please read the enclosed instructions before filling out this form. Complete each item. If you have any questions, call (301) 763—7066.**

**PLEASE RETURN THIS COPY**

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

### Section I — COMBUSTIBLE ENERGY SOURCES

<table>
<thead>
<tr>
<th>Combustible Energy Source</th>
<th>Census use only</th>
<th>Quantity Purchased by and Delivered to this Establishment in 1985</th>
<th>Total Expenditure, Including Delivery Charges, of the Quantity in Column 4 (5)</th>
<th>Total Quantity Produced On-site During 1985</th>
<th>Quantity Consumed Onsite in 1985: As a Fuel (6)</th>
<th>For all Nonfuel Purposes (EIA-810 Respondents See &quot;Special Procedures&quot;) (7)</th>
<th>Design Storage Capacity as of 12/31/85 (8)</th>
<th>Reporting Capacity as of 12/31/85 (9)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residual fuel oil (No. 5 and 6, navy special, bunker C)</td>
<td>216 Barrels</td>
<td>361</td>
<td>612</td>
<td>564</td>
<td>Million Btu</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distillate fuel oil (No. 1, 2, and 4 fuel oils and diesel)</td>
<td>224 Barrels</td>
<td>361</td>
<td>612</td>
<td>564</td>
<td>Million Btu</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crude oil and lease condensate</td>
<td>208 Barrels</td>
<td>361</td>
<td>612</td>
<td>564</td>
<td>Million Btu</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motor gasoline</td>
<td>232 Gallons</td>
<td>361</td>
<td>612</td>
<td>564</td>
<td>Million Btu</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LPG (Ethane, ethylene, propane, propylene, butane, butylene)</td>
<td>240 Gallons</td>
<td>361</td>
<td>612</td>
<td>564</td>
<td>Million Btu</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Natural gas</td>
<td>307</td>
<td>1,000 cu. ft.</td>
<td>361</td>
<td>612</td>
<td>Million Btu</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anthracite</td>
<td>406 Short tons</td>
<td>361</td>
<td>612</td>
<td>564</td>
<td>Million Btu</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bituminous and subbituminous coal</td>
<td>414 Short tons</td>
<td>361</td>
<td>612</td>
<td>564</td>
<td>Million Btu</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lignite</td>
<td>422 Short tons</td>
<td>361</td>
<td>612</td>
<td>564</td>
<td>Million Btu</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coal coke</td>
<td>430 Short tons</td>
<td>361</td>
<td>612</td>
<td>564</td>
<td>Million Btu</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breeze</td>
<td>448 Short tons</td>
<td>361</td>
<td>612</td>
<td>564</td>
<td>Million Btu</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blast furnace gas</td>
<td>604 Million Btu</td>
<td>361</td>
<td>612</td>
<td>564</td>
<td>Million Btu</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coke oven gas</td>
<td>612 Million Btu</td>
<td>361</td>
<td>612</td>
<td>564</td>
<td>Million Btu</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Still gas</td>
<td>620 Million Btu</td>
<td>361</td>
<td>612</td>
<td>564</td>
<td>Million Btu</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Petroleum coke</td>
<td>703 Barrels</td>
<td>361</td>
<td>612</td>
<td>564</td>
<td>Million Btu</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roundwood (i.e., wood cut specifically for use as a fuel)</td>
<td>802 Million Btu</td>
<td>361</td>
<td>612</td>
<td>564</td>
<td>Million Btu</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wood chips, bark, and wood waste (50% moisture basis)</td>
<td>810 Million Btu</td>
<td>361</td>
<td>612</td>
<td>564</td>
<td>Million Btu</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waste materials (wastepaper, packing materials, etc.)</td>
<td>729 Million Btu</td>
<td>361</td>
<td>612</td>
<td>564</td>
<td>Million Btu</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pulping or black liquor</td>
<td>737 Million Btu</td>
<td>361</td>
<td>612</td>
<td>564</td>
<td>Million Btu</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waste oils and tars</td>
<td>711 Million Btu</td>
<td>361</td>
<td>612</td>
<td>564</td>
<td>Million Btu</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biomass</td>
<td>901 Million Btu</td>
<td>361</td>
<td>612</td>
<td>564</td>
<td>Million Btu</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydrogen</td>
<td>638 Million Btu</td>
<td>361</td>
<td>612</td>
<td>564</td>
<td>Million Btu</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other combustible energy sources: (List separately)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### FOR ESTABLISHMENTS THAT COMPLETE THE MONTHLY REFINERY REPORT, FORM EIA-810

Enter the 10-digit EIA ID number for this establishment as entered on form EIA-810

Please continue on reverse side ———
## Section II — NON-COMBUSTIBLE ENERGY SOURCES

### Part 1 — ELECTRICITY

1. **During 1985, how much electricity was purchased by this establishment from utilities or other companies, and delivered to this establishment site?**

<table>
<thead>
<tr>
<th>Mil.</th>
<th>Thou.</th>
<th>kWh</th>
</tr>
</thead>
<tbody>
<tr>
<td>661</td>
<td>109</td>
<td></td>
</tr>
</tbody>
</table>

2. **During 1985, how much electricity was transferred from outside establishments and delivered to this establishment? Do not include the purchases recorded in item 1a.**

3. **During 1985, how much electricity was generated onsite by cogeneration?**

4. **During 1985, how much electricity was generated onsite from solar power, wind power, hydropower, and geothermal sources?**

5. **During 1985, how much electricity was generated onsite by processes other than those covered in items 3 and 4?**

6. **During 1985, how much electricity was sold to utilities? Include both sales and transfers for credit.**

### Part 2 — STEAM

1. **During 1985, how much steam was purchased by this establishment from utilities or other companies and delivered to this establishment site?**

<table>
<thead>
<tr>
<th>Million Btu</th>
</tr>
</thead>
<tbody>
<tr>
<td>551 105</td>
</tr>
</tbody>
</table>

2. **During 1985, how much steam was transferred from outside establishments and delivered to this establishment? Do not include the purchases recorded in item 1a.**

3. **During 1985, how much steam was generated onsite from solar power and geothermal sources?**

4. **During 1985, how much steam was sold or transferred to other establishment?**

### Section III — COMMENTS

Please use this space for any explanations that may be essential in understanding your reported data.

### Section IV — CERTIFICATION

This report is substantially accurate and has been prepared in accordance with instructions.

- Name of person to contact regarding this report: [Print or type]
- Telephone: [Area code] Number Extension
- Period covered by this report: FROM: [Mo., Day | Year] TO: [Mo., Day | Year]
- Address: [Number and street]
- Signature of authorized person: [Signature]
- City: [City]
- State: [State]
- ZIP Code: [ZIP Code]
- Title: [Title]
- Date: [Date]
Special procedures for petroleum refining operations

Establishments that submit the monthly Refinery Report (Form EIA-810) to the EIA already provide some data that are requested by the MECS. In order to minimize the reporting and data collection burden, establishments need not be required to complete certain portions of section I. Therefore, EIA-810 respondents should include an individual petroleum hydrocarbon as a separate energy source if a separate line item if only some of that product was burned as a fuel at your establishment in 1985. Do not report as separate line items those petroleum products that were exclusively sold or transferred as the refinery operation or sold. Any part of your establishment that is not covered by the EIA-810 (e.g., onsite petrochemical plants) is not covered by this special procedure. Report as separate line items any energy sources (e.g., petrochemical feedstocks) delivered from the refinery to the nonrefinery part of your establishment for processing.

Specific Instructions

Column 1 — Twenty two energy sources have been preprinted in column 1. If you consumed any additional energy sources onsite during 1985, please list them in the space provided in column 1. NOTE — Include energy sources whose sole means of supply to this establishment in 1985 was as a byproduct provided that some or all of it was consumed as a fuel onsite during 1985.

Column 3 — Please report all quantities in the units listed in column 3. The following conversion factors may be useful:

- 1 barrel = 42 gallons
- 1 gallon of LPG = 4.5 pounds of LPG
- 1,000 cubic feet of natural gas = 10.3 therms

Column 4 — For each listed energy source, enter the quantity that was PURCHASED AND PAID FOR BY THE ESTABLISHMENT and delivered to this establishment, if any. Include quantities that were delivered in 1985, regardless of when payment was made. Exclude any quantities that were delivered from another establishment in your company even if these quantities were repurchased from the same establishment. Also, exclude any quantities that were purchased and paid for by a central purchasing entity separate from this establishment. In addition, exclude any quantities for which payment was made in-kind.

Column 5 — Enter the TOTAL EXPENDITURE for the purchased quantities reported in column 3. Include all expenditures regardless of when payment actually was made.

Column 6 — Enter the total quantities that were produced onsite as —

- A BYPRODUCT of your establishment’s manufacturing activities (e.g., coke, hydrogen, still gas, coke oven gas, wood chips, black liquor);
- OUTPUT FROM CAPTIVE (ONSITE) MINES AND WELLS in 1985. (e.g., natural gas, oil, coal);
- WASTE (e.g., wood scraps, packing materials, waste paper and cardboard, waste oil).

Column 7 — Enter the QUANTITY THAT WAS CONSUMED AS A FUEL on this site for the production of heat, steam, power, or generated electricity in 1985.

Column 8 — Enter the QUANTITY THAT WAS CONSUMED FOR ALL NONFUEL PURPOSES on this establishment site in 1985. Include all quantities consumed as feedstocks (e.g., coal used to produce coke, crude oil used to produce petroleum products), raw materials, additives, or ingredients for products manufactured by this establishment.

NOTE FOR ESTABLISHMENTS THAT SUBMIT THE MONTHLY REFINERY REPORT (EIA-810) TO THE EIA — Report consumption for nonfuel purposes for ONLY those parts of your establishment that are not covered by the EIA-810 (e.g., onsite petrochemical plants). If this establishment is solely a refinery, enter the letter “R” in the spaces provided in column 5. Data for the refinery portion will be obtained from the EIA-810.

Column 9 — Enter the TOTAL DESIGN STORAGE CAPACITY ONSITE as of December 31, 1985. Include any capacity that is leased for storage of energy sources owned by other establishments.

Report the shell capacity, i.e., the design capacity of storage tanks.

EIA-810 ID NUMBER (At bottom of section I) — Establishments that submit the Monthly Refinery Report (EIA-810) to the EIA are required to enter their 10-digit identification number. This number will allow the use of existing feedstock data to complete column 8 for these establishments.

Section II — NONCOMBUSTIBLE ENERGY SOURCES

General Instructions

The purpose of section II is to collect 1985 data for noncombustible energy sources, in particular electricity and steam. Part 1 of section II collects data that will provide important information on the components of electricity production, and permit an estimate to be made of the total consumption of electricity at your establishment. Part 2 of section II collects data on the additional contribution that steam makes to the total consumption of energy at your establishment through net transfers and steam generated onsite by renewable energy sources. Report other noncombustible energy sources, such as hot water, on a photocopy of part 2 of this section.
Specific Instructions — Part 1 — Electricity

Item 1a — Enter the quantity of electricity that was PURCHASED AND PAID FOR BY THIS ESTABLISHMENT and delivered to this establishment site. Include quantities that were delivered in 1985, regardless of when payment was made. Exclude any quantities that were delivered from another establishment in your company even if these quantities were repurchased from them by your establishment. Also, exclude any quantities that were purchased and paid for by a central purchasing entity separate from this establishment. In addition, exclude any quantities for which payment was made in-kind.

Item 1b — Enter the TOTAL EXPENDITURE for the purchased quantities reported in item 1a. Include all expenditures regardless of when payment actually was made.

Item 2 — Enter the TOTAL QUANTITY OF ALL OTHER INPUTS OF ELECTRICITY FROM OUTSIDE THIS ESTABLISHMENT that were not reported in item 1a.

Item 3 — For purposes of this item, electrical cogeneration is defined as the production of electric energy and another form of useful energy (such as heat or steam) through the sequential use of energy. Enter the QUANTITY OF ELECTRICITY COGENERATED from all energy sources including renewable sources.

Item 4 — Enter the TOTAL QUANTITY OF ELECTRICITY GENERATED DIRECTLY FROM SOLAR OR WIND POWER, GEOTHERMAL SOURCES, OR HYDROPOWER. Any electricity produced as part of a cogeneration process should be excluded (e.g., electricity generated from geothermal steam which is then itself used, should be included in item 3.)

Item 5 — Enter the TOTAL QUANTITY OF ALL ELECTRICITY GENERATED BY DIESEL GENERATORS AND ALL OTHER MEANS NOT INCLUDED IN ITEMS 3 OR 4 ABOVE.

Item 6 — For purposes of this item, utilities are companies that are engaged primarily in producing and/or delivering electricity.

Item 7 — Report all dispositions of electricity not covered in item 6.

Specific Instructions — Part 2 — Steam

NOTE — If you keep your steam records in pounds rather than Btu's, and do not have conversion factors available, use a factor of 1,000 Btu per pound of steam.

Item 1a — Enter the quantity of steam that was PURCHASED AND PAID FOR BY THIS ESTABLISHMENT and delivered to this establishment site. Include quantities that were delivered in 1985, regardless of when payment was made. Exclude any quantities that were delivered from another establishment in your company even if these quantities were repurchased from them by your establishment. Also, exclude any quantities that were purchased and paid for by a central purchasing entity separate from this establishment. In addition, exclude any quantities for which payment was made in-kind.

Item 1b — Enter the TOTAL EXPENDITURE for the purchased quantities reported in item 1a. Include all expenditures regardless of when payment actually was made.

Item 2 — Report all QUANTITIES OF STEAM BROUGHT IN FROM OUTSIDE THIS ESTABLISHMENT other than that reported in item 1a.

Item 3 — Enter the TOTAL QUANTITY OF STEAM GENERATED ONSITE FROM SOLAR POWER AND GEOTHERMAL SOURCES.

Item 4 — Enter the TOTAL QUANTITY OF STEAM SOLD OR TRANSFERRED to other establishments.

Section III — COMMENTS — Please use this space for any explanations that may be essential in understanding your reported data.

Section IV — CERTIFICATION — Period covered by this report — Enter the month and day of the beginning and the end of period your report covers. If a calendar year report: “From January 1 to December 31, 1985,” if a fiscal year, specify which (such as “From December 1, 1984, to November 30, 1985.”) If a part-year report is submitted because the establishment was not in operation or under your company’s control for the entire year, specify the actual period covered: For example, “January 1, 1985 to August 15, 1985,” or “June 1, 1985 to December 31, 1985.”