

Appendix D

Relative Standard Errors

Table D1. Relative Standard Errors for Estimates of District Heat Consumption by CBECS Survey Year, for Buildings Constructed Before 1980 (Percent)

| CBECS Survey Year | Floorspace Served by District Heat | District Heat Consumption | Consumption per Square Foot |
|-------------------|------------------------------------|---------------------------|-----------------------------|
| 1979 | 19.6 | 15.6 | 7.7 |
| 1983 | 18.1 | 26.4 | 15.5 |
| 1986 | 15.8 | 23.6 | 16.0 |
| 1989 | 23.1 | 22.8 | 15.2 |

Note: The 1979 and 1983 CBECS asked for purchased steam; the 1986 CBECS asked for purchased and nonpurchased steam and hot water; the 1989 CBECS asked for district steam or district hot water piped into the building.

Source: Energy Information Administration, Office of Energy Markets and End Use, 1979, 1983, 1986 and 1989 Commercial Buildings Energy Consumption Surveys.

Table D2. Relative Standard Errors for Principal Activity of Multibuilding Facility and Principal Activity of Commercial Buildings, Number of Buildings and Floorspace (Percent)

| Commercial Building Characteristics | All Buildings on Facilities | Principal Facility Activity | | | | |
|--|-----------------------------|-----------------------------|--------------|--------|--------------------------|----------|
| | | College and University | Other School | Office | Shopping Center and Mall | Hospital |
| Buildings | | | | | | |
| All Buildings on Facilities | 3.7 | 16.8 | 10.8 | 12.3 | 11.4 | 17.7 |
| Principal Building Activity | | | | | | |
| Assembly | 9.5 | 32.0 | 20.1 | 43.6 | 54.4 | 68.2 |
| Education | 11.6 | 24.5 | 12.4 | 100.0 | NC | 51.7 |
| Food Sales and Service | 16.4 | 51.6 | 29.7 | NC | 38.8 | NC |
| Health Care | 21.4 | 48.6 | NC | 43.8 | NC | 18.5 |
| Lodging | 10.2 | 19.6 | 53.9 | 75.4 | 84.6 | 53.6 |
| Mercantile and Service | 9.0 | 38.9 | 94.1 | 36.3 | 12.5 | 73.2 |
| Office | 9.2 | 40.6 | 42.8 | 14.1 | 57.1 | 26.2 |
| Parking Garage | 24.3 | 57.5 | 64.4 | 43.5 | 92.7 | 50.9 |
| Warehouse | 8.7 | 75.5 | 77.9 | 49.8 | 41.1 | 43.4 |
| Other | 27.1 | 43.5 | 0.3 | 45.4 | NC | 96.5 |
| Vacant | 14.5 | 67.2 | 76.4 | 22.3 | 49.6 | 87.2 |
| Ownership and Occupancy | | | | | | |
| Nongovernment Owned | | | | | | |
| Owner Occupied | 5.7 | 25.1 | 21.0 | 14.1 | 16.4 | 21.5 |
| Nonowner Occupied | 11.3 | 49.5 | 74.1 | 18.5 | 15.4 | 44.8 |
| Government Owned | | | | | | |
| | 7.7 | 20.4 | 12.1 | 25.5 | 3.2 | 30.0 |
| Floorspace | | | | | | |
| All Buildings on Facilities | 5.4 | 21.9 | 10.7 | 18.0 | 13.8 | 20.0 |
| Principal Building Activity | | | | | | |
| Assembly | 13.8 | 38.6 | 22.5 | 54.6 | 60.8 | 80.0 |
| Education | 10.3 | 33.1 | 11.2 | 100.0 | NC | 54.1 |
| Food Sales and Service | 17.3 | 50.5 | 23.4 | NC | 37.3 | NC |
| Health Care | 21.2 | 54.3 | NC | 49.2 | NC | 22.5 |
| Lodging | 12.2 | 18.4 | 73.1 | 70.8 | 70.9 | 34.5 |
| Mercantile and Service | 11.7 | 43.3 | 83.4 | 34.9 | 16.0 | 73.0 |
| Office | 13.2 | 39.5 | 39.2 | 21.4 | 55.2 | 23.4 |
| Parking Garage | 23.2 | 51.8 | 63.8 | 38.1 | 71.4 | 56.8 |
| Warehouse | 11.8 | 67.8 | 68.3 | 52.2 | 47.5 | 30.8 |
| Other | 23.2 | 52.0 | 0.3 | 41.6 | NC | 98.1 |
| Vacant | 26.2 | 59.0 | 82.9 | 19.0 | 43.5 | 63.9 |
| Ownership and Occupancy | | | | | | |
| Nongovernment Owned | | | | | | |
| Owner Occupied | 6.0 | 24.0 | 26.7 | 13.2 | 21.8 | 28.7 |
| Nonowner Occupied | 12.1 | 44.9 | 70.7 | 19.3 | 16.0 | 57.2 |
| Government Owned | | | | | | |
| | 9.3 | 26.3 | 11.2 | 40.0 | 3.2 | 20.2 |

See footnotes at end of table.

Table D2. Relative Standard Errors for Principal Activity of Multibuilding Facility and Principal Activity of Commercial Buildings, Number of Buildings and Floorspace (Continued)
(Percent)

| Commercial Building Characteristics | Principal Facility Activity | | | | | |
|--|-----------------------------|-----------------|-----------------------|-----------|-----------|-------|
| | Industrial | Hotel and Motel | Entertainment Complex | Warehouse | Religious | Other |
| Buildings | | | | | | |
| All Buildings on Facilities | 17.6 | 16.5 | 17.2 | 11.4 | 14.4 | 12.5 |
| Principal Building Activity | | | | | | |
| Assembly | 89.9 | 99.0 | 17.7 | 1.9 | 18.0 | 42.9 |
| Education | 82.4 | NC | NC | 0.0 | 34.8 | NC |
| Food Sales and Service | 99.1 | 54.8 | 48.8 | 98.4 | 70.6 | 58.4 |
| Health Care | NC | NC | NC | NC | NC | 0.3 |
| Lodging | NC | 16.6 | 96.6 | NC | 78.9 | 70.3 |
| Mercantile and Service | 41.6 | 99.2 | 34.6 | 32.4 | NC | 17.8 |
| Office | 19.8 | 88.7 | 54.0 | 33.5 | 62.7 | 37.8 |
| Parking Garage | 87.2 | NC | 70.7 | 62.2 | 2.1 | 64.1 |
| Warehouse | 31.0 | 100.3 | 37.6 | 11.4 | NC | 25.5 |
| Other | 39.9 | NC | 8.2 | 98.7 | NC | 40.1 |
| Vacant | 33.2 | 100.3 | 74.7 | 29.8 | 63.3 | 39.2 |
| Ownership and Occupancy | | | | | | |
| Nongovernment Owned | | | | | | |
| Owner Occupied | 18.4 | 18.8 | 22.6 | 14.2 | 14.7 | 14.8 |
| Nonowner Occupied | 32.1 | 47.0 | 58.0 | 19.6 | 55.0 | 38.2 |
| Government Owned | | | | | | |
| | 34.9 | NC | 21.6 | 51.4 | NC | 24.0 |
| Floorspace | | | | | | |
| All Buildings on Facilities | 16.5 | 13.7 | 16.8 | 15.0 | 16.6 | 17.6 |
| Principal Building Activity | | | | | | |
| Assembly | 76.1 | 91.1 | 16.3 | 1.9 | 19.3 | 46.9 |
| Education | 75.3 | NC | NC | NC | 36.6 | NC |
| Food Sales and Service | 98.2 | 60.9 | 43.7 | 98.4 | 72.2 | 64.6 |
| Health Care | NC | NC | NC | NC | NC | 0.3 |
| Lodging | NC | 13.6 | 96.6 | NC | 73.9 | 71.5 |
| Mercantile and Service | 48.4 | 99.2 | 36.5 | 29.8 | NC | 21.5 |
| Office | 25.0 | 62.1 | 63.9 | 35.7 | 63.5 | 35.9 |
| Parking Garage | 75.1 | NC | 57.5 | 70.6 | 2.1 | 65.0 |
| Warehouse | 27.1 | 100.3 | 44.4 | 16 | NC | 32.3 |
| Other | 38.5 | NC | 8.2 | 98.7 | NC | 30.5 |
| Vacant | 29.1 | 100.3 | 80.7 | 57.2 | 68.3 | 47.0 |
| Ownership and Occupancy | | | | | | |
| Nongovernment Owned | | | | | | |
| Owner Occupied | 17.0 | 15.7 | 24.6 | 18.9 | 16.8 | 14.4 |
| Nonowner Occupied | 25.6 | 44.1 | 60.5 | 22.6 | 57.8 | 40.5 |
| Government Owned | | | | | | |
| | 35.5 | NC | 27.9 | 49.2 | NC | 29.8 |

NC = No cases in sample.

Source: Energy Information Administration, Office of Energy Markets and End Use, Forms EIA-871A, "Building Questionnaire," and EIA-871B, "Facility Form" of the 1989 Commercial Buildings Energy Consumption Survey.

Table D3. Relative Standard Errors for Census Region of Commercial Buildings on Multibuilding Facilities, Number of Buildings and Floorspace (Percent)

| Commercial Building Characteristics | All Buildings on Facilities | Census Region | | | |
|--|-----------------------------|---------------|---------|-------|------|
| | | Northeast | Midwest | South | West |
| Buildings | | | | | |
| All Buildings on Facilities | 3.7 | 9.9 | 11.2 | 7.6 | 6.0 |
| Principal Facility Activity | | | | | |
| College and University | 16.8 | 17.6 | 34.3 | 17.1 | 35.1 |
| Other School | 10.8 | 40.7 | 26.0 | 18.5 | 14.2 |
| Office | 12.3 | 26.9 | 30.9 | 20.7 | 12.7 |
| Shopping Center and Mall | 11.4 | 16.0 | 25.3 | 22.1 | 30.0 |
| Hospital | 17.7 | 35.7 | 30.5 | 42.8 | 35.9 |
| Industrial | 17.6 | 29.5 | 18.1 | 30.1 | 36.9 |
| Hotel and Motel | 16.5 | 41.6 | 57.1 | 29.7 | 25.5 |
| Entertainment Complex | 17.2 | 32.8 | 35.5 | 27.9 | 40.7 |
| Warehouse | 11.4 | 29.7 | 18.6 | 21.5 | 29.2 |
| Religious | 14.4 | 19.1 | 32.8 | 22.9 | 34.1 |
| Other | 12.5 | 29.7 | 21.0 | 21.6 | 34.8 |
| Floorspace | | | | | |
| All Buildings on Facilities | 5.4 | 14.6 | 12.0 | 10.4 | 10.3 |
| Principal Facility Activity | | | | | |
| College and University | 21.9 | 29.3 | 28.6 | 29.3 | 47.5 |
| Other School | 10.7 | 27.7 | 15.8 | 19.2 | 18.8 |
| Office | 18.0 | 31.2 | 31.1 | 31.9 | 19.3 |
| Shopping Center and Mall | 13.8 | 52.8 | 22.2 | 17.2 | 28.9 |
| Hospital | 20.0 | 30.2 | 43.0 | 22.5 | 33.7 |
| Industrial | 16.5 | 22.9 | 33.7 | 27.5 | 37.4 |
| Hotel and Motel | 13.7 | 47.8 | 65.5 | 27.8 | 17.5 |
| Entertainment Complex | 16.8 | 31.1 | 35.4 | 37.4 | 19.5 |
| Warehouse | 15.0 | 41.3 | 22.1 | 25.0 | 29.0 |
| Religious | 16.6 | 23.9 | 29.0 | 27.6 | 34.1 |
| Other | 17.6 | 41.4 | 16.9 | 28.6 | 37.8 |

Source: Energy Information Administration, Office of Energy Markets and End Use, Forms EIA-871A, "Building Questionnaire," and EIA-871B, "Facility Form" of the 1989 Commercial Buildings Energy Consumption Survey.

Table D4. Relative Standard Errors for Commercial Buildings by Presence of a Central Physical Plant on Multibuilding Facilities, Number of Buildings and Floorspace (Percent)

| Commercial Building Characteristics | All Buildings on Facilities | with Central Plant on Facility | Without Central Plant on Facility |
|--|-----------------------------|--------------------------------|-----------------------------------|
| Buildings | | | |
| All Buildings on Facilities | 3.7 | 10.9 | 3.8 |
| Principal Facility Activity | | | |
| College and University | 16.8 | 22.3 | 21.5 |
| Other School | 10.8 | 25.9 | 11.1 |
| Office | 12.3 | 34.6 | 13.2 |
| Shopping Center and Mall | 11.4 | 36.9 | 11.4 |
| Hospital | 17.7 | 18.8 | 37.2 |
| Industrial | 17.6 | 25.0 | 22.3 |
| Hotel and Motel | 16.5 | 48.3 | 18.4 |
| Entertainment Complex | 17.2 | 91.3 | 17.3 |
| Warehouse | 11.4 | NC | 11.4 |
| Religious | 14.4 | 59.7 | 14.6 |
| Other | 12.5 | 42.4 | 12.3 |
| Floorspace | | | |
| All Buildings on Facilities | 5.4 | 13.0 | 6.3 |
| Principal Facility Activity | | | |
| College and University | 21.9 | 26.6 | 20.4 |
| Other School | 10.7 | 24.9 | 10.6 |
| Office | 18.0 | 24.3 | 20.4 |
| Shopping Center and Mall | 13.8 | 47.0 | 13.7 |
| Hospital | 20.0 | 26.6 | 29.0 |
| Industrial | 16.5 | 19.1 | 22.4 |
| Hotel and Motel | 13.7 | 47.3 | 14.7 |
| Entertainment Complex | 16.8 | 87.0 | 20.9 |
| Warehouse | 15.0 | NC | 15.0 |
| Religious | 16.6 | 54.5 | 16.7 |
| Other | 17.6 | 36.9 | 14.3 |

NC = No cases in sample.

Source: Energy Information Administration, Office of Energy Markets and End Use, Forms EIA-871A, "Building Questionnaire," and EIA-871B, "Facility Form" of the 1989 Commercial Buildings Energy Consumption Survey.

Table D5. Relative Standard Errors for Energy Consumed at Commercial Buildings on Multibuilding Facilities (Percent)

| Commercial Building Characteristics | Major Fuels | Electricity | Natural Gas | Fuel Oil | District Heat |
|---------------------------------------|-------------|-------------|-------------|----------|---------------|
| All Buildings on Facilities | 11.2 | 11.1 | 12.7 | 26.4 | 24.3 |
| Principal Facility Activity | | | | | |
| College and University | 33.4 | 34.5 | 51.1 | 59.4 | 44.3 |
| Other School | 17.1 | 15.5 | 19.3 | 40.1 | 75.5 |
| Office | 12.4 | 12.6 | 21.5 | 62.0 | 37.7 |
| Shopping Center and Mall | 16.0 | 17.3 | 21.6 | 48.9 | NC |
| Hospital | 27.0 | 16.5 | 28.9 | 51.1 | 46.0 |
| Industrial | 25.7 | 29.4 | 43.9 | 94.9 | 40.3 |
| Hotel and Motel | 21.0 | 20.0 | 26.7 | 64.0 | 75.1 |
| Entertainment Complex | 22.1 | 19.0 | 32.0 | 27.3 | NC |
| Warehouse | 25.5 | 29.6 | 33.1 | 43.8 | NC |
| Religious | 15.4 | 16.5 | 18.9 | 35.4 | 3.0 |
| Other | 24.9 | 36.1 | 23.1 | 57.2 | 75.7 |
| Central Physical Plant | | | | | |
| Present on Facility | 19.6 | 20.8 | 24.8 | 43.9 | 25.3 |
| Not Present on Facility | 8.1 | 9.2 | 9.0 | 19.6 | 39.0 |

NC = No cases in sample.

Note: "District Heat" includes district steam and district hot water.

Source: Energy Information Administration, Office of Energy Markets and End Use, Forms EIA-871A through EIA-871F of the 1989 Commercial Buildings Energy Consumption Survey.

Table D6. Relative Standard Errors for Number and Floorspace of Multibuilding Facilities with Central Physical Plants (Percent)

| Facility Characteristics | Number of Facilities | Facility Floorspace | | Floorspace per Facility | Percent Commercial Floorspace |
|---------------------------------------|----------------------|---------------------|------------|-------------------------|-------------------------------|
| | | Total | Commercial | | |
| All Sectors | | | | | |
| All Facilities | 19.6 | 17.6 | 14.1 | 19.7 | 11.9 |
| Census Region | | | | | |
| Northeast | 45.6 | 23.2 | 22.0 | 25.9 | 11.4 |
| Midwest | 43.6 | 24.0 | 28.1 | 32.6 | 15.5 |
| South | 30.6 | 31.4 | 17.6 | 30.3 | 25.9 |
| West | 39.7 | 37.6 | 32.8 | 39.5 | 5.0 |
| Total Floorspace (square feet) | | | | | |
| 200,000 or Less | 29.8 | 34.2 | 24.3 | 15.5 | 18.6 |
| 200,001 to 500,000 | 30.3 | 30.4 | 20.9 | 3.9 | 25.2 |
| 500,001 to 1,000,000 | 28.4 | 27.3 | 24.8 | 4.6 | 11.2 |
| 1,000,001 to 5,000,000 | 23.2 | 24.0 | 21.1 | 9.3 | 16.8 |
| Over 5,000,000 | 42.1 | 46.8 | 37.5 | 17.9 | 32.6 |
| Commercial Sector | | | | | |
| All Facilities | 20.1 | 17.2 | 15.6 | 21.5 | 2.7 |
| Census Region | | | | | |
| Northeast | 30.8 | 24.0 | 24.3 | 29.7 | 4.5 |
| Midwest | 29.6 | 30.0 | 30.7 | 28.9 | 2.2 |
| South | 40.9 | 20.9 | 22.1 | 32.1 | 4.0 |
| West | 24.1 | 38.4 | 32.0 | 36.7 | 5.7 |
| Principal Facility Activity | | | | | |
| College and University | 28.4 | 31.2 | 27.3 | 31.4 | 4.0 |
| Other School | 41.0 | 26.2 | 26.4 | 26.6 | 5.4 |
| Office | 42.4 | 27.0 | 27.1 | 44.1 | .5 |
| Hospital | 28.2 | 28.3 | 29.7 | 26.1 | 4.9 |
| Other | 35.1 | 32.2 | 32.3 | 27.4 | 4.7 |
| Total Floorspace (square feet) | | | | | |
| 200,000 or Less | 36.2 | 27.5 | 27.9 | 15.9 | 3.8 |
| 200,001 to 500,000 | 28.9 | 29.3 | 28.8 | 5.2 | 4.2 |
| 500,001 to 1,000,000 | 26.8 | 25.3 | 25.8 | 4.3 | 4.7 |
| 1,000,001 to 5,000,000 | 25.9 | 21.9 | 22.4 | 7.8 | 1.8 |
| Over 5,000,000 | 44.5 | 43.5 | 38.4 | 4.7 | 7.0 |

See footnotes at end of table.

**Table D6. Relative Standard Errors for Number and Floorspace of Multibuilding Facilities with Central Physical Plants
(Continued)
(Percent)**

| Facility Characteristics | Number of Facilities | Facility Floorspace | | Floorspace per Facility | Percent Commercial Floorspace |
|---|----------------------|---------------------|------------|-------------------------|-------------------------------|
| | | Total | Commercial | | |
| Industrial Sector | | | | | |
| All Facilities | 30.6 | 31.0 | 20.5 | 30.2 | 27.1 |
| Census Region | | | | | |
| Northeast | 76.4 | 51.1 | 29.4 | 32.4 | 31.2 |
| Midwest | 71.7 | 42.4 | 42.0 | 57.1 | 30.8 |
| South | 41.4 | 46.0 | 34.8 | 38.8 | 34.5 |
| West | 120.0 | 53.1 | 60.6 | 68.4 | 15.5 |
| Total Floorspace (square feet) | | | | | |
| 200,000 or Less | 42.2 | 49.7 | 48.0 | 20.5 | 14.8 |
| 200,001 to 500,000 | 45.8 | 46.2 | 36.7 | 5.3 | 35.9 |
| 500,001 to 1,000,000 | 125.4 | 120.5 | 93.0 | 10.1 | 47.8 |
| 1,000,001 to 5,000,000 | 48.4 | 57.3 | 42.6 | 28.9 | 70.8 |
| Over 5,000,000 | 71.6 | 86.6 | 80.3 | 41.0 | 46.8 |

Note: "All Sectors" estimates include multibuilding residential facilities.

Source: Energy Information Administration, Office of Energy Markets and End Use, Form EIA-871B, "Facility Form" of the 1989 Commercial Buildings Energy Consumption Survey.

Table D7. Relative Standard Errors for Number of Buildings on Multibuilding Facilities with Central Plants, Number of Facilities (Percent)

| Facility Characteristics | All Facilities | Number of Buildings on Facility | | | | |
|---------------------------------------|----------------|---------------------------------|---------|----------|-----------|----------|
| | | 4 or Less | 5 to 10 | 11 to 25 | 26 to 100 | Over 100 |
| All Sectors | | | | | | |
| All Facilities | 19.6 | 33.1 | 39.5 | 41.5 | 42.1 | 38.4 |
| Total Floorspace (square feet) | | | | | | |
| 200,000 or Less | 29.8 | 42.0 | 46.7 | 84.3 | 122.1 | NC |
| 200,001 to 500,000 | 30.3 | 38.4 | 48.8 | 55.2 | 65.0 | 88.5 |
| 500,001 to 1,000,000 | 28.4 | 45.5 | 74.8 | 52.7 | 52.6 | 96.3 |
| 1,000,001 to 5,000,000 | 23.2 | 91.1 | 63.1 | 45.8 | 29.9 | 67.0 |
| Over 5,000,000 | 42.1 | 110.8 | 91.7 | 70.3 | 133.7 | 47.7 |
| Commercial Sector | | | | | | |
| All Facilities | 20.1 | 38.1 | 27.7 | 31.0 | 25.7 | 44.3 |
| Principal Facility Activity | | | | | | |
| College and University | 28.4 | 78.0 | 86.5 | 57.1 | 39.8 | 51.9 |
| Other School | 41.0 | 59.2 | 40.4 | 96.9 | 76.9 | 98.3 |
| Office | 42.4 | 56.2 | 62.0 | 95.5 | 81.2 | 74.4 |
| Hospital | 28.2 | 50.3 | 63.4 | 44.7 | 29.2 | 72.3 |
| Other | 35.1 | 55.2 | 64.8 | 83.9 | 101.3 | 94.1 |
| Total Floorspace (square feet) | | | | | | |
| 200,000 or Less | 36.2 | 48.0 | 38.9 | 79.5 | 155.9 | NC |
| 200,001 to 500,000 | 28.9 | 52.2 | 51.6 | 46.4 | 143.5 | NC |
| 500,001 to 1,000,000 | 26.8 | 45.8 | 78.4 | 62.7 | 48.2 | 99.2 |
| 1,000,001 to 5,000,000 | 25.9 | 60.2 | 70.2 | 44.0 | 25.6 | 67.2 |
| Over 5,000,000 | 44.5 | 110.8 | 100.9 | 128.4 | 73.5 | 50.0 |
| Industrial Sector | | | | | | |
| All Facilities | 30.6 | 61.0 | 53.0 | 69.4 | 60.5 | 70.3 |
| Total Floorspace (square feet) | | | | | | |
| 200,000 or Less | 42.2 | 80.5 | 55.3 | 106.8 | 128.2 | 0.0 |
| 200,001 to 500,000 | 45.8 | 59.1 | 142.6 | 97.0 | 69.5 | 88.5 |
| 500,001 to 1,000,000 | 125.4 | 28.9 | 177.7 | 83.6 | 142.1 | 146.3 |
| 1,000,001 to 5,000,000 | 48.4 | 135.9 | 128.7 | 102.8 | 128.5 | 159.9 |
| Over 5,000,000 | 71.6 | 0.0 | 20.4 | 70.8 | 1.0 | 134.1 |

NC = No cases in sample.

Note: "All Sectors" estimates include multibuilding residential facilities.

Source: Energy Information Administration, Office of Energy Markets and End Use, Form EIA-871B, "Facility Form" of the 1989 Commercial Buildings Energy Consumption Survey.

Table D8. Relative Standard Errors for Qualifying Facilities and Cogeneration, Number of Multibuilding Facilities (Percent)

| Facility Characteristics | Number of Facilities | Qualifying Facilities | Cogeneration System | |
|---------------------------------------|----------------------|-----------------------|---------------------|-------------------|
| | | | Total | Connected to Grid |
| All Sectors | | | | |
| All Facilities | 19.6 | 40.1 | 50.6 | 54.5 |
| Total Floorspace (square feet) | | | | |
| 200,000 or Less | 29.8 | 68.6 | 119.1 | 129.4 |
| 200,001 to 500,000 | 30.3 | 61.7 | 65.5 | 67.0 |
| 500,001 to 1,000,000 | 28.4 | 37.3 | 88.9 | 91.0 |
| 1,000,001 to 5,000,000 | 23.2 | 34.3 | 55.8 | 77.3 |
| Over 5,000,000 | 42.1 | 65.2 | 37.3 | 47.9 |
| Commercial Sector | | | | |
| All Facilities | 20.1 | 52.6 | 118.0 | 144.0 |
| Principal Facility Activity | | | | |
| College and University | 28.4 | 61.8 | 90.7 | 103.6 |
| Other School | 41.0 | 96.0 | 286.4 | 360.8 |
| Office | 42.4 | 63.1 | 103.5 | 110.2 |
| Hospital | 28.2 | 46.7 | 60.8 | 66.1 |
| Other | 35.1 | 80.1 | 129.4 | 147.7 |
| Total Floorspace (square feet) | | | | |
| 200,000 or Less | 36.2 | 79.9 | 238.1 | 319.6 |
| 200,001 to 500,000 | 28.9 | 62.9 | 166.3 | 202.3 |
| 500,001 to 1,000,000 | 26.8 | 40.9 | 112.0 | 111.6 |
| 1,000,001 to 5,000,000 | 25.9 | 36.4 | 46.0 | 47.6 |
| Over 5,000,000 | 44.5 | 104.0 | 42.5 | 56.4 |
| Industrial Sector | | | | |
| All Facilities | 30.6 | 56.8 | 61.1 | 62.2 |
| Total Floorspace (square feet) | | | | |
| 200,000 or Less | 42.2 | 106.9 | 155.2 | 157.5 |
| 200,001 to 500,000 | 45.6 | 79.6 | 69.6 | 70.0 |
| 500,001 to 1,000,000 | 125.4 | 156.8 | 131.5 | 141.8 |
| 1,000,001 to 5,000,000 | 48.4 | 72.6 | 189.5 | 350.7 |
| Over 5,000,000 | 71.6 | 67.5 | 61.3 | 69.5 |

Note: "All Sectors" estimates include multibuilding residential facilities.

Source: Energy Information Administration, Office of Energy Markets and End Use, Form EIA-871B, "Facility Form" of the 1989 Commercial Buildings Energy Consumption Survey.

Table D9. Relative Standard Errors for Number of Multibuilding Facilities by Types of Central Physical Plant Energy Outputs (Percent)

| Facility Characteristics | Number of Facilities | Types of Energy Outputs | | | |
|------------------------------------|----------------------|-------------------------|-----------|---------------|-------------|
| | | Steam | Hot Water | Chilled Water | Electricity |
| All Sectors | | | | | |
| All Facilities | 19.6 | 23.4 | 34.2 | 22.1 | 39.9 |
| Census Region | | | | | |
| Northeast | 45.6 | 53.4 | 40.9 | 31.4 | 94.4 |
| Midwest | 43.6 | 28.2 | 69.9 | 41.4 | 57.2 |
| South | 30.6 | 34.8 | 56.5 | 34.8 | 52.3 |
| West | 39.7 | 45.7 | 77.2 | 55.1 | 115.0 |
| Energy Outputs | | | | | |
| Steam | 23.4 | 23.4 | 31.1 | 32.1 | 43.5 |
| Hot Water | 34.2 | 31.1 | 34.2 | 30.3 | 112.1 |
| Chilled Water | 22.1 | 32.1 | 30.3 | 22.1 | 67.1 |
| Electricity | 39.9 | 43.5 | 112.1 | 67.1 | 39.9 |
| Energy Inputs | | | | | |
| Fuel Oil | 33.3 | 36.5 | 42.2 | 58.3 | 54.4 |
| Natural Gas | 23.4 | 27.8 | 32.7 | 25.4 | 45.5 |
| Coal | 53.3 | 56.6 | 109.1 | 74.1 | 73.4 |
| Electricity | 27.1 | 34.5 | 45.5 | 24.9 | 51.2 |
| Commercial Sector | | | | | |
| All Facilities | 20.1 | 26.7 | 35.1 | 19.1 | 41.7 |
| Principal Facility Activity | | | | | |
| College and University . | 28.4 | 33.5 | 42.4 | 29.4 | 80.6 |
| Other School | 41.0 | 54.6 | 62.6 | 47.2 | 123.3 |
| Office | 42.4 | 42.3 | 61.7 | 50.4 | 66.5 |
| Hospital | 28.2 | 33.6 | 67.5 | 44.1 | 66.7 |
| Other | 35.1 | 44.8 | 56.3 | 49.2 | 96.0 |
| Census Region | | | | | |
| Northeast | 30.8 | 36.3 | 69.5 | 43.4 | 147.0 |
| Midwest | 29.6 | 35.8 | 55.9 | 47.6 | 60.6 |
| South | 40.9 | 53.4 | 59.6 | 34.3 | 60.7 |
| West | 24.1 | 32.0 | 44.7 | 36.4 | 85.6 |
| Energy Outputs | | | | | |
| Steam | 26.7 | 26.7 | 45.2 | 27.6 | 51.1 |
| Hot Water | 35.1 | 45.2 | 35.1 | 38.7 | 87.0 |
| Chilled Water | 19.1 | 27.6 | 38.7 | 19.1 | 51.9 |
| Electricity | 41.7 | 51.1 | 87.0 | 51.9 | 41.7 |
| Energy Inputs | | | | | |
| Fuel Oil | 24.0 | 26.2 | 45.8 | 41.1 | 70.8 |
| Natural Gas | 17.9 | 17.8 | 38.6 | 19.8 | 41.6 |
| Coal | 77.8 | 79.0 | 115.3 | 82.4 | 79.5 |
| Electricity | 18.7 | 24.2 | 35.9 | 23.6 | 44.9 |

See footnotes at end of table.

Table D9. Relative Standard Errors for Number of Multibuilding Facilities by Types of Central Physical Plant Energy Outputs (Continued)
(Percent)

| Facility Characteristics | Number of Facilities | Types of Energy Outputs | | | |
|---------------------------------|----------------------|-------------------------|-----------|---------------|-------------|
| | | Steam | Hot Water | Chilled Water | Electricity |
| Industrial Sector | | | | | |
| All Facilities | 30.6 | 33.6 | 78.3 | 97.7 | 50.9 |
| Census Region | | | | | |
| Northeast | 76.4 | 77.5 | 108.3 | 328.0 | 190.5 |
| Midwest | 71.7 | 62.3 | 98.5 | 96.5 | 83.3 |
| South | 41.4 | 42.9 | 198.7 | 122.9 | 60.3 |
| West | 120.0 | 143.9 | 166.3 | 175.0 | 186.8 |
| Energy Outputs | | | | | |
| Steam | 33.6 | 33.6 | 83.6 | 108.7 | 53.8 |
| Hot Water | 78.3 | 83.6 | 78.3 | 81.3 | 229.2 |
| Chilled Water | 97.7 | 108.7 | 81.3 | 97.7 | 287.8 |
| Electricity | 50.9 | 53.8 | 229.2 | 287.8 | 50.9 |
| Energy Inputs | | | | | |
| Fuel Oil | 43.9 | 44.4 | 168.1 | 187.7 | 61.2 |
| Natural Gas | 39.4 | 41.2 | 127.3 | 103.9 | 73.2 |
| Coal | 72.2 | 81.8 | 501.9 | 148.8 | 76.9 |
| Electricity | 44.7 | 52.5 | 81.4 | 98.2 | 101.6 |

Note: "All Sectors" estimates include multibuilding residential facilities.

Source: Energy Information Administration, Office of Energy Markets and End Use, Form EIA-871B, "Facility Form" of the 1989 Commercial Buildings Energy Consumption Survey.

**Table D10. Relative Standard Errors for Central Physical Plant Energy Output Quantities
(Percent)**

| Facility Characteristics | Total Outputs | Steam | Hot Water | Chilled Water | Electricity |
|------------------------------------|---------------|-------|-----------|---------------|-------------|
| All Sectors | | | | | |
| All Facilities | 36.4 | 42.9 | 35.3 | 38.1 | 48.9 |
| Census Region | | | | | |
| Northeast | 52.9 | 62.8 | 63.5 | 68.1 | 81.5 |
| Midwest | 30.6 | 30.8 | 61.2 | 53.4 | 42.6 |
| South | 51.8 | 58.0 | 78.1 | 68.3 | 71.5 |
| West | 30.7 | 28.8 | 59.2 | 53.1 | 47.6 |
| Energy Inputs | | | | | |
| Fuel Oil | 53.9 | 63.2 | 67.5 | 70.3 | 62.4 |
| Natural Gas | 23.2 | 26.6 | 40.6 | 37.1 | 31.1 |
| Coal | 49.7 | 52.5 | 69.5 | 168.4 | 61.9 |
| Electricity | 24.7 | 29.2 | 43.8 | 33.7 | 35.5 |
| Energy Outputs | | | | | |
| Steam | 37.9 | 42.9 | 54.4 | 38.4 | 52.7 |
| Hot Water | 50.0 | 128.5 | 35.3 | 52.4 | 64.5 |
| Chilled Water | 40.0 | 57.4 | 52.1 | 38.1 | 54.2 |
| Electricity | 54.1 | 63.8 | 56.3 | 58.5 | 48.9 |
| Commercial Sector | | | | | |
| All Facilities | 18.9 | 19.7 | 43.8 | 30.3 | 32.7 |
| Principal Facility Activity | | | | | |
| College and University .. | 31.8 | 32.7 | 65.6 | 49.0 | 52.3 |
| Other School | 28.2 | 38.6 | 55.2 | 61.9 | 139.5 |
| Office | 32.6 | 39.0 | 62.7 | 58.1 | 59.2 |
| Hospital | 26.0 | 30.9 | 53.9 | 43.8 | 38.2 |
| Other | 41.7 | 52.4 | 98.6 | 117.4 | 91.3 |
| Census Region | | | | | |
| Northeast | 36.9 | 39.4 | 69.2 | 69.1 | 79.8 |
| Midwest | 37.3 | 37.0 | 62.1 | 58.0 | 56.3 |
| South | 37.2 | 30.6 | 75.7 | 48.5 | 48.8 |
| West | 31.2 | 23.4 | 66.4 | 63.0 | 50.5 |
| Energy Inputs | | | | | |
| Fuel Oil | 24.7 | 24.5 | 71.5 | 39.6 | 41.9 |
| Natural Gas | 20.9 | 21.6 | 49.3 | 31.8 | 33.9 |
| Coal | 55.4 | 51.9 | 72.0 | 90.5 | 73.4 |
| Electricity | 23.2 | 22.9 | 53.6 | 31.5 | 35.0 |
| Energy Outputs | | | | | |
| Steam | 20.7 | 19.7 | 72.6 | 34.8 | 36.2 |
| Hot Water | 38.2 | 48.2 | 43.8 | 64.7 | 67.6 |
| Chilled Water | 28.7 | 34.0 | 58.6 | 30.3 | 39.7 |
| Electricity | 34.3 | 40.4 | 67.1 | 41.3 | 32.7 |

See footnotes at end of table.

Table D10. Relative Standard Errors for Central Physical Plant Energy Output Quantities (Continued)
(Percent)

| Facility Characteristics | Total Outputs | Steam | Hot Water | Chilled Water | Electricity |
|---------------------------------|---------------|-------|-----------|---------------|-------------|
| Industrial Sector | | | | | |
| All Facilities | 45.7 | 50.5 | 112.3 | 118.5 | 59.6 |
| Census Region | | | | | |
| Northeast | 107.8 | 116.2 | 201.0 | 264.6 | 129.2 |
| Midwest | 43.5 | 43.0 | 126.7 | 88.3 | 56.9 |
| South | 55.8 | 60.3 | 237.5 | 172.4 | 76.7 |
| West | 59.0 | 109.0 | 81.3 | 68.9 | 93.9 |
| Energy Inputs | | | | | |
| Fuel Oil | 65.3 | 73.5 | 302.4 | 165.2 | 69.6 |
| Natural Gas | 35.0 | 37.0 | 151.1 | 131.8 | 49.1 |
| Coal | 56.9 | 60.6 | 105.8 | 453.0 | 67.8 |
| Electricity | 41.2 | 42.7 | 110.7 | 100.5 | 55.3 |
| Energy Outputs | | | | | |
| Steam | 46.1 | 50.5 | 160.6 | 109.0 | 62.4 |
| Hot Water | 147.0 | 236.4 | 112.3 | 78.4 | 104.7 |
| Chilled Water | 124.1 | 152.7 | 162.7 | 118.5 | 181.2 |
| Electricity | 61.8 | 69.8 | 117.1 | 267.1 | 59.6 |

Note: "All Sectors" estimates include multibuilding residential facilities.

Source: Energy Information Administration, Office of Energy Markets and End Use, Form EIA-871B, "Facility Form" of the 1989 Commercial Buildings Energy Consumption Survey.

Table D11. Relative Standard Errors for Number of Multibuilding Facilities by Types of Central Physical Plant Energy Inputs (Percent)

| Facility Characteristics | Number of Facilities | Types of Energy Inputs | | | |
|------------------------------------|----------------------|------------------------|-------------|-------|-------------|
| | | Fuel Oil | Natural Gas | Coal | Electricity |
| All Sectors | | | | | |
| All Facilities | 19.6 | 33.3 | 23.4 | 53.3 | 27.1 |
| Census Region | | | | | |
| Northeast | 45.6 | 54.9 | 52.9 | 126.0 | 35.3 |
| Midwest | 43.6 | 55.8 | 26.4 | 40.6 | 59.9 |
| South | 30.6 | 47.4 | 41.8 | 59.6 | 44.4 |
| West | 39.7 | 82.9 | 45.4 | 81.2 | 46.5 |
| Energy Inputs | | | | | |
| Fuel Oil | 33.3 | 33.3 | 44.7 | 74.2 | 52.0 |
| Natural Gas | 23.4 | 44.7 | 23.4 | 48.4 | 32.6 |
| Coal | 53.3 | 74.2 | 48.4 | 53.3 | 49.8 |
| Electricity | 27.1 | 52.0 | 32.6 | 49.8 | 27.1 |
| Energy Outputs | | | | | |
| Steam | 23.4 | 36.5 | 27.8 | 56.6 | 34.5 |
| Hot Water | 34.2 | 42.2 | 32.7 | 109.1 | 45.5 |
| Chilled Water | 22.1 | 58.3 | 25.4 | 74.1 | 24.9 |
| Electricity | 39.9 | 54.4 | 45.5 | 73.4 | 51.2 |
| Commercial Sector | | | | | |
| All Facilities | 20.1 | 24.0 | 17.9 | 77.8 | 18.7 |
| Principal Facility Activity | | | | | |
| College and University ... | 28.4 | 58.8 | 32.8 | 62.8 | 29.4 |
| Other School | 41.0 | 58.6 | 43.5 | 85.8 | 42.9 |
| Office | 42.4 | 82.8 | 38.2 | 306.0 | 53.6 |
| Hospital | 28.2 | 38.0 | 31.5 | 131.1 | 33.9 |
| Other | 35.1 | 61.3 | 38.3 | 205.3 | 48.7 |
| Census Region | | | | | |
| Northeast | 30.8 | 37.6 | 50.6 | 141.1 | 48.2 |
| Midwest | 29.6 | 60.3 | 29.8 | 60.1 | 36.6 |
| South | 40.9 | 51.5 | 39.0 | 91.7 | 32.2 |
| West | 24.1 | 51.6 | 27.7 | 82.0 | 30.4 |
| Energy Inputs | | | | | |
| Fuel Oil | 24.0 | 24.0 | 30.7 | 102.4 | 37.5 |
| Natural Gas | 17.9 | 30.7 | 17.9 | 74.8 | 20.2 |
| Coal | 77.8 | 102.4 | 74.8 | 77.8 | 68.1 |
| Electricity | 18.7 | 37.5 | 20.2 | 68.1 | 18.7 |
| Energy Outputs | | | | | |
| Steam | 26.7 | 26.2 | 17.8 | 79.0 | 24.2 |
| Hot Water | 35.1 | 45.8 | 38.6 | 115.3 | 35.9 |
| Chilled Water | 19.1 | 41.1 | 19.8 | 82.4 | 23.6 |
| Electricity | 41.7 | 70.8 | 41.6 | 79.5 | 44.9 |

See footnotes at end of table.

Table D11. Relative Standard Errors for Number of Multibuilding Facilities by Types of Central Physical Plant Energy Inputs (Continued)
(Percent)

| Facility Characteristics | Number of Facilities | Types of Energy Inputs | | | |
|-----------------------------|----------------------|------------------------|-------------|-------|-------------|
| | | Fuel Oil | Natural Gas | Coal | Electricity |
| Industrial Sector | | | | | |
| All Facilities | 30.6 | 43.9 | 39.4 | 72.2 | 44.7 |
| Census Region | | | | | |
| Northeast | 76.4 | 85.0 | 76.8 | 242.6 | 58.4 |
| Midwest | 71.7 | 53.8 | 75.2 | 41.3 | 96.2 |
| South | 41.4 | 52.4 | 57.6 | 76.4 | 58.2 |
| West | 120.0 | 278.1 | 128.9 | NC | 148.9 |
| Energy Inputs | | | | | |
| Fuel Oil | 43.9 | 43.9 | 59.8 | 79.5 | 70.9 |
| Natural Gas | 39.4 | 59.8 | 39.4 | 64.9 | 54.3 |
| Coal | 72.2 | 79.5 | 64.9 | 72.2 | 55.9 |
| Electricity | 44.7 | 70.9 | 54.3 | 55.9 | 44.7 |
| Energy Outputs | | | | | |
| Steam | 33.6 | 44.4 | 41.2 | 81.8 | 52.5 |
| Hot Water | 78.3 | 168.1 | 127.3 | 501.9 | 81.4 |
| Chilled Water | 97.7 | 187.7 | 103.9 | 148.8 | 98.2 |
| Electricity | 50.9 | 61.2 | 73.2 | 76.9 | 101.6 |

Note: "All Sectors" estimates include multibuilding residential facilities.

Source: Energy Information Administration, Office of Energy Markets and End Use, Form EIA-871B, "Facility Form" of the 1989 Commercial Buildings Energy Consumption Survey.

**Table D12. Relative Standard Errors for Central Physical Plant Energy Input Quantities
(Percent)**

| Facility Characteristics | Total Inputs | Fuel Oil | Natural Gas | Coal | Electricity |
|------------------------------------|--------------|----------|-------------|-------|-------------|
| All Sectors | | | | | |
| All Facilities | 42.8 | 79.1 | 24.8 | 96.5 | 63.1 |
| Census Region | | | | | |
| Northeast | 43.3 | 62.3 | 57.8 | 101.8 | 54.6 |
| Midwest | 28.8 | 58.7 | 35.8 | 42.1 | 54.1 |
| South | 60.5 | 92.4 | 42.9 | 172.4 | 92.8 |
| West | 33.3 | 84.5 | 36.2 | 135.0 | 44.8 |
| Energy Inputs | | | | | |
| Fuel Oil | 63.0 | 79.1 | 32.3 | 159.3 | 100.6 |
| Natural Gas | 22.3 | 27.7 | 24.8 | 48.5 | 42.6 |
| Coal | 108.3 | 177.4 | 69.9 | 96.5 | 263.8 |
| Electricity | 37.7 | 42.5 | 27.4 | 77.0 | 63.1 |
| Energy Outputs | | | | | |
| Steam | 44.3 | 79.3 | 26.7 | 97.0 | 68.7 |
| Hot Water | 41.5 | 48.4 | 62.7 | 80.7 | 67.7 |
| Chilled Water | 78.2 | 90.0 | 34.3 | 147.1 | 124.7 |
| Electricity | 70.0 | 92.6 | 39.8 | 113.4 | 185.9 |
| Commercial Sector | | | | | |
| All Facilities | 21.3 | 59.2 | 19.7 | 60.5 | 38.0 |
| Principal Facility Activity | | | | | |
| College and University ... | 39.4 | 148.9 | 37.3 | 65.2 | 67.8 |
| Other School | 36.2 | 80.3 | 46.2 | 82.3 | 85.0 |
| Office | 34.2 | 62.7 | 43.2 | 125.9 | 48.3 |
| Hospital | 34.0 | 29.4 | 39.0 | 147.2 | 55.4 |
| Other | 39.2 | 57.3 | 44.9 | 132.6 | 70.5 |
| Census Region | | | | | |
| Northeast | 35.1 | 81.2 | 45.4 | 98.0 | 40.4 |
| Midwest | 41.8 | 60.5 | 44.0 | 67.4 | 75.8 |
| South | 41.6 | 54.6 | 35.1 | 79.4 | 65.2 |
| West | 32.1 | 84.7 | 40.0 | 106.8 | 57.8 |
| Energy Inputs | | | | | |
| Fuel Oil | 24.0 | 59.2 | 33.2 | 51.9 | 31.6 |
| Natural Gas | 22.7 | 32.0 | 19.7 | 66.9 | 39.1 |
| Coal | 60.5 | 60.3 | 79.3 | 60.5 | 57.0 |
| Electricity | 26.6 | 34.3 | 27.4 | 66.6 | 38.0 |
| Energy Outputs | | | | | |
| Steam | 24.2 | 61.6 | 21.3 | 61.6 | 44.6 |
| Hot Water | 41.3 | 60.5 | 45.2 | 74.0 | 71.0 |
| Chilled Water | 34.6 | 40.1 | 29.7 | 97.4 | 43.6 |
| Electricity | 44.4 | 59.6 | 40.1 | 75.7 | 57.6 |

See footnotes at end of table.

Table D12. Relative Standard Errors for Central Physical Plant Energy Inputs (Continued)
(Percent)

| Facility Characteristics | Total Inputs | Fuel Oil | Natural Gas | Coal | Electricity |
|-----------------------------|--------------|----------|-------------|-------|-------------|
| Industrial Sector | | | | | |
| All Facilities | 53.5 | 90.2 | 35.0 | 122.4 | 88.1 |
| Census Region | | | | | |
| Northeast | 77.0 | 61.7 | 88.4 | 112.4 | 103.8 |
| Midwest | 39.2 | 89.1 | 70.3 | 50.4 | 65.6 |
| South | 64.7 | 93.5 | 47.2 | 175.4 | 115.7 |
| West | 63.1 | 157.7 | 74.1 | NC | 72.1 |
| Energy Inputs | | | | | |
| Fuel Oil | 75.3 | 90.2 | 54.3 | 188.7 | 116.0 |
| Natural Gas | 31.3 | 52.9 | 35.0 | 60.0 | 58.5 |
| Coal | 133.3 | 178.6 | 110.2 | 122.4 | 286.7 |
| Electricity | 59.0 | 77.0 | 42.3 | 139.5 | 88.1 |
| Energy Outputs | | | | | |
| Steam | 53.9 | 90.1 | 35.6 | 122.6 | 92.5 |
| Hot Water | 122.5 | 171.1 | 211.8 | 173.3 | 129.3 |
| Chilled Water | 219.0 | 274.3 | 162.6 | 417.7 | 246.5 |
| Electricity | 80.6 | 94.4 | 61.2 | 142.5 | 264.7 |

Note: "All Sectors" estimates include multibuilding residential facilities. "Total Inputs" includes inputs of other fuels, not shown separately.

Source: Energy Information Administration, Office of Energy Markets and End Use, Form EIA-871B, "Facility Form" of the 1989 Commercial Buildings Energy Consumption Survey.

**Table D13. Relative Standard Errors for Central Physical Plant Energy Output-Input Ratios
(Percent)**

| Facility Characteristics | Total Outputs | Total Inputs | Output/Input Ratio |
|------------------------------------|---------------|--------------|--------------------|
| All Sectors | | | |
| All Facilities | 36.4 | 42.8 | 19.0 |
| Census Region | | | |
| Northeast | 52.9 | 43.3 | 22.4 |
| Midwest | 30.6 | 28.8 | 12.6 |
| South | 51.8 | 60.5 | 26.4 |
| West | 30.7 | 33.3 | 11.4 |
| Energy Inputs | | | |
| Fuel Oil | 53.9 | 63.0 | 27.7 |
| Natural Gas | 23.2 | 22.3 | 9.9 |
| Coal | 49.7 | 108.3 | 27.2 |
| Electricity | 24.7 | 37.7 | 18.0 |
| Energy Outputs | | | |
| Steam | 37.9 | 44.3 | 20.2 |
| Hot Water | 50.0 | 41.5 | 16.9 |
| Chilled Water | 40.0 | 78.2 | 26.7 |
| Electricity | 54.1 | 70.0 | 28.2 |
| Commercial Sector | | | |
| All Facilities | 18.9 | 21.3 | 11.4 |
| Principal Facility Activity | | | |
| College and University ... | 31.8 | 39.4 | 16.2 |
| Other School | 28.2 | 36.2 | 26.1 |
| Office | 32.6 | 34.2 | 16.4 |
| Hospital | 26.0 | 34.0 | 23.3 |
| Other | 41.7 | 39.2 | 25.7 |
| Census Region | | | |
| Northeast | 36.9 | 35.1 | 28.2 |
| Midwest | 37.3 | 41.8 | 15.3 |
| South | 37.2 | 41.6 | 20.4 |
| West | 31.2 | 32.1 | 13.0 |
| Energy Inputs | | | |
| Fuel Oil | 24.7 | 24.0 | 14.9 |
| Natural Gas | 20.9 | 22.7 | 11.3 |
| Coal | 55.4 | 60.5 | 7.6 |
| Electricity | 23.2 | 26.6 | 12.5 |
| Energy Outputs | | | |
| Steam | 20.7 | 24.2 | 13.4 |
| Hot Water | 38.2 | 41.3 | 16.8 |
| Chilled Water | 28.7 | 34.6 | 13.6 |
| Electricity | 34.3 | 44.4 | 17.9 |

See footnotes at end of table.

**Table D13. Relative Standard Errors for Central Physical Plant Energy Output-Input Ratios
(Continued)
(Percent)**

| Facility Characteristics | Total Outputs | Total Inputs | Output/Input Ratio |
|-----------------------------|---------------|--------------|--------------------|
| Industrial Sector | | | |
| All Facilities | 45.7 | 53.5 | 23.4 |
| Census Region | | | |
| Northeast | 107.8 | 77.0 | 29.5 |
| Midwest | 43.5 | 39.2 | 11.3 |
| South | 55.8 | 64.7 | 27.6 |
| West | 59.0 | 63.1 | 17.3 |
| Energy Inputs | | | |
| Fuel Oil | 65.3 | 75.3 | 32.5 |
| Natural Gas | 35.0 | 31.3 | 15.7 |
| Coal | 56.9 | 133.3 | 29.2 |
| Electricity | 41.2 | 59.0 | 26.2 |
| Energy Outputs | | | |
| Steam | 46.1 | 53.9 | 24.1 |
| Hot Water | 147.0 | 122.5 | 28.3 |
| Chilled Water | 124.1 | 219.0 | 49.4 |
| Electricity | 61.8 | 80.6 | 32.0 |

Note: "All Sectors" estimates include multibuilding residential facilities.

Source: Energy Information Administration, Office of Energy Markets and End Use, Form EIA-871B, "Facility Form" of the 1989 Commercial Buildings Energy Consumption Survey.