TECHNICAL DOCUMENTATION

Commercial Buildings Energy Consumption Survey:

1992 Public Use Data Diskettes

Energy Information Administration

Office of Energy Markets and End Use

Energy End Use and Integrated Statistics Division

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CONTACTS

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TABLE OF CONTENTS

INTRODUCTION

This is the technical documentation for the public use data set based on the 1992 Commercial Buildings Energy Consumption Survey (CBECS), the national sample survey of commercial buildings and their energy suppliers conducted by the Energy Information Administration (EIA) of the U.S. Department of Energy. This is the fifth CBECS; previous surveys were conducted in 1979, 1983 and 1986 under the name Nonresidential Buildings Energy Consumption Survey. In 1989, the survey name was changed to Commercial Buildings Energy Consumption Survey. For case of reference, all the surveys will be referred to as CBECS in this documentation. Public use data on computer tapes from these earlier CBECS surveys and diskettes for the 1986 and 1989 surveys are available from the National Technical Information Service (NTIS).[1] and Office of Scientific and Technical Information (OSTI)[2].

Geographically, the survey covered the 50 States and the District of Columbia. The CBECS provides information on energy-related characteristics of buildings, as well as information on the consumption of, and expenditures for, energy used in commercial buildings. These files contain buildings characteristics data, consumption and expenditures data and unpublished 1992 energy-end use estimates. the buildings covered by 1992 CBECS were roofed and walled structures used predominantly for commercial purposes, with floorspace greater than 1,000 square feet. The word "commercial" in this survey includes essentially any nonresidential, nonindustrial, nonagricultural activity. This definition of commercial buildings includes buildings such as schools, churches, and other buildings occupied by nonprofit establishments, as well as office buildings, and retail stores.

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[1] The full address is U.S. Department of Commerce, National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161, 1-800-553-6847, FAX (703)321-8547. Data from previous surveys are available on tapes and diskettes using the following order numbers:

PB88-245162 (tape) Nonresidential Buildings Energy Consumption Survey 1979 and 1983 Data
PB90-500034 (tape) Nonresidential Buildings Energy Consumption Survey 1986 data
PB91-506808 (diskettes) Nonresidential Buildings Energy Consumption Survey 1986 data.

[2] The address is Office of Scientific and Technical Information (OSTI), P.O. Box 62, Oak Ridge, TN 37831, phone number: (615)576-8401.

The 1992 CBECS was conducted in two stages: the first stage involved collecting data on physical characteristics from building owners and managers, and the second stage involved collecting billing information (usage and costs) from the suppliers of energy to the building. The first stage was voluntary and was conducted by personal interview. The energy suppliers data collection was a mandatory mail survey.

The 1992 CBECS sample included 7,282 buildings eligible for interview, of which 6,751 were successfully interviewed. All data on building characteristics were collected through personal interviews conducted with building representatives between September and December 1992. Although participation by the buildings' owners and managers was not mandatory, a high rate of cooperation was achieved, with 91.1 percent of eligible buildings participating. Energy consumption and expenditures data, collected the energy suppliers to the buildings, were collected by mail. The response rate for the energy suppliers survey was 86.9 percent overall. It was 89.2 percent for electricity and 91.3 percent for natural gas.

Results of the 1992 survey have been reported by the Energy Information Administration in two publications:

1. Commercial Buildings Characteristics 1992, DOE/EIA-0246(92);

2. Commercial Buildings Energy Consumption and Expenditures 1992, DOE/EIA-0318(92) and ERRATA to Commercial Buildings Energy Consumption and Expenditures 1992.

Copies of these reports (and reports from previous CBECS) are available from:

Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402
Tel: (202) 783-3238
FAX: (202) 512-2233

Copies may also be accessed from http://www.eia.doe.gov.

The companion reports should be obtained by persons using these data. The reports provide important information concerning the sample, the survey methodology the data, and the treatment of missing data. Also presented are tabulations of the data collected in the surveys.

This documentation and its appendices provide (1) a description of each of the 15 CBECS data files and (2) the technical notes on confidentiality provisions, survey estimates and weights, and computation of sampling errors, as well as a layout and directory for the data file (Appendix A). **NOTE: Tabulations produced from these public use files will not necessarily coincide with those from the April 1995 publication titled "Commercial Buildings Energy Consumption and Expenditures, 1992". Several cases of unusually high natural gas consumption were discovered after publishing the Commercial Buildings Energy Consumption and Expenditure 1992 report. Data for these buildings have subsequently been imputed. Please see the ERRATA to the April 1995 report, for revised numbers. In addition, some masking of the data was undertaken for confidentiality purposes. (see Technical Note 1)** The tables in Appendix B gives summary results that should be obtained from the data on these diskettes.

FILE SPECIFICATIONS

The 18 Public Use Data files of the 1992 CBECS data were constructed in ASCII and dBASE format. Documentation, that includes the file layout and SAS formats are in CE92TECH.DOS. **Please note all 18 ASCII format data files contain a value signified by the SPACE " " character. Software such as dBASE, LOTUS, QUATTRO PRO do not have the capability to directly handle such a SPACE " " value. All variables are delimited by COMMAs ",".**

The 18 data files (both ASCII and DBASE format) are organized by subject matter, and also contain the following core variables: (1) the building ID (the link between diskettes); (2) the adjusted sampling weight; (3) the variance stratum and pair member; (4) the Census region and division; (5) the square footage category; (6) the principal building activity; (7) the year constructed category; and (8) a set of variables indicating whether electricity, natural gas, fuel oil, district steam or district hot water was used in the building.

It is hoped that the organization of the data among the files will allow many analyses to be conducted using one file.

C920105T.ZIP and C920105D.ZIP contain the following files:

File 1: CE92F01T.TXT General Building Information.
Record Length: 251 bytes

File 2: CE92F02T.TXT Building Activity, Building Ownership and Occupancy.
Record Length: 245 bytes

File 3: CE92F03T.TXT Operating Hours and Weather
Record Length: 229 bytes

File 4: CE92F04T.TXT Heating and Cooling Equipment and Distribution
Record Length: 222 bytes

File 5: CE92F05T.TXT End Uses of Major Energy Sources
Record Length: 175 bytes

C920610T.ZIP and C920610D.ZIP contain the following files:

File 6: CE92F06T.TXT Minor Energy Sources, Refrigeration and Water Heating Equipment, Electricity Generation, and Multibuilding Facilities
Record Length: 143 bytes

File 7: CE92F07T.TXT Lighting Equipment and Conservation Features
Record Length: 247 bytes

File 8: CE92F08T.TXT Imputation Flags for Energy Sources and End Uses
Record Length: 240 bytes

File 9: CE92F09T.TXT Imputation Flags for Heatin-eating, Cooling, Refrigeration and Water Heating Equipment and Electricity Generation
Record Length: 248 bytes

File 10: CE92F10T.TXT Imputation Flags for General Information Building Activity, Operating Hours
Record Length: 252 bytes

C921115T.ZIP and C921115D.ZIP contain the following files:

File 11: CE92F11T.TXT Imputation Flags for Special Technologies, Lighting Equipment, Conservation
Record Length: 246 bytes

File 12: CE92F12T.TXT Electricity and Demand-Side Management
Record Length: 189 bytes

File 13: CE92F13T.TXT Natural Gas
Record Length: 217 bytes

File 14: CE92F14T.TXT Fuel Oil
Record Length: 123 bytes

File 15: CE92F15T.TXT District Heat
Record Length: 197 bytes

C921618T.ZIP and C921618D.ZIP contain the following files:

File 16: EU92F16T.TXT Consumption of Electricity by End Use
Record Length: 187 bytes

File 17: EU92F17T.TXT Consumption of Natural Gas, Fuel Oil, and District Heat by End Use
Record Length: 202 bytes

File 18: EU92F18T.TXT Consumption of Major Fuels by End Use
Record Length: 187 bytes

Appendix A of the this documentation contains a listing of the data items on each of the above files. These files contain the 1992 CBECS basic data including building characteristics, energy consumption, and temperature data. All files contain 6,734 records which represent commercial buildings from the 50 States and the District of Columbia. Each record corresponds to a single, responding, in-scope sampled building. The records are comma-delimited, with fixed column positions, as described in Appendix A.

* To unzip a ZIP file, by using the internet attached unzip software, PKUNZIP.EXE, typing the dos command from C drive (or D drive):

```
C:\>PKUNZIP C:\C920105T.ZIP  C:\  -d
```

It will then unzip five ASCII files on C:\

```
C:\>CE92F01T.TXT
C:\>CE92F02T.TXT
C:\>CE92F03T.TXT
C:\>CE92F04T.TXT
C:\>CE92F05T.TXT
```

TECHNICAL NOTE 1: CONFIDENTIALITY AND MASKING

Several variables have been modified to protect the confidentiality of respondents. This note describes the procedures used.

Square Footage
The numeric square footage (Question A-7) has been modified in two ways, depending on the size of the building. For buildings over one million square feet, the numeric square footage has been replaced with the weighted average square footage of all responding buildings over one million square feet. Separate weighted means were calculated for each of the four Census regions (Northeast, Midwest, South, and West). For buildings one million square feet or less, the numeric square footage has been rounded to within ten percent of the upper limit of the buildings' square footage categories (Question A-8). However, if the rounded value fell below the lower limit of the category, the value was coded at this lower limit. For example, buildings in the range 5,001 to 10,000 square feet were rounded to the nearest 1,000 square feet (except that buildings rounding to 5,000 were coded as 5,001).

Number of Workers
For buildings where the numeric number of workers was between 2,500 and 4,999, the reported number was rounded to the nearest 250. For buildings where the numeric number of workers (Question E-20) was 5,000 or more, the reported numeric number of workers has been replaced with the weighted average number of workers of all responding buildings with 5,000 or more workers. Separate weighted means were calculated for each of the four Census regions (Northeast, Midwest, South, and West).

Number of Floors
The upper range of the number of floors (Question A-9) has been replaced with two categories: 15 to 25 floors (coded as 994 on the file) and over 25 floors (coded as 995 on the file).

Special Measures of Occupancy
Seven special measures of occupancy are included in the 1992 CBECS. They are seating capacity (B-5i) for religious buildings, fixed seating capacity (B-7m) for public assembly buildings, classroom seating capacity (B-5n) for education buildings, seating capacity (B-5o) for food service buildings, licensed bed capacity (B-5p) for in-patient health care buildings, licensed bed capacity (B-5q) for skilled nursing buildings, and number of guest room (B-5r) for lodging buildings. These measures were each rounded in the following fashion:

Fewer than 25 units	no rounding performed
25 to 49 units	rounded to nearest 5
50 to 99 units	rounded to nearest 10
100 to 249 units	rounded to nearest 25
250 to 499 units	rounded to nearest 50
500 to 999 units	rounded to nearest 100
1,000 to 2,499 units	rounded to nearest 250
2,500 to 4,999 units	rounded to nearest 500
5,000 or more units	rounded to nearest 1,000

Masked Building shape
Some buildings have a very recognizable shape, and knowledge of these buildings' shapes could allow data users to reduce the identity of the building. To protect the confidentiality of the respondents, the variable for building shape was masked so that each building's shape was reported as a square, a rectangle, or a shape other than a square or a rectangle. Because squares and rectangles were common shapes for buildings, inclusion of these shapes does not threaten the respondents anonymity.

Weather Variables
Heating and cooling degree-days which have a base 65 degrees Fahrenheit (F) are included on the data files. Also included on the data file are the annual mean and standard deviation of daily average temperatures. These can be used to compute approximate degree-days at any base temperature of interest, using a Gaussian (normal) approximation to the distribution of daily average temperatures. The approximation formulas are given in Technical Note 4.

The heating degree-day variable has been inflated or deflated by a random percentage, normally distributed with mean zero and standard deviation 2.0. As explained in Technical Note 4, the mean and standard deviation of temperature and the base 65 degrees Fahrenheit (F) cooling degree-days have been modified to be consistent with the modified heating degree-days.

TECHNICAL NOTE 2: SURVEY ESTIMATES AND WEIGHTS

The CBECS sample was designed so that survey responses could be used to estimate characteristics of the entire commercial buildings stock in the 50 States and the District of Columbia. This was accomplished by calculating basic sampling weights (base weights) to inflate sample data. Statistically, a base weight is the reciprocal of the probability of a building being selected into the sample. This is equivalent to saying that a base weight is the number of actual buildings represented by a sampled building. Thus, a sample building with a base weight of 1,000 represents itself and 999 similar, but unsampled, buildings in the total building stock.

A "unit nonresponse" is defined as any eligible sample building for which no information was obtained. This was due mostly to a refusal to cooperate or to the unavailability of a building representative. In the 1992 CBECS, about 7.5 percent of the eligible buildings were unit nonrespondents.

To reduce unit nonresponse bias in the survey statistics, an upward adjustment of respondent building base weights was performed so that the respondent buildings also represented nonrespondent buildings in addition to unsampled buildings. Respondent building base weights were multiplied by the adjustment factor, A, defined as follows:

$$A = W/R \ ,$$

where W is the sum of the base weights over all eligible buildings and R is the corresponding sum over all respondent buildings.

Nonrespondents tended to fall into certain categories. Thus, to reduce nonresponse bias to the extent possible, adjustment factors were computed separately within subgroups defined by certain building characteristics (for example, Census region, building activity type, square footage).

The variable ADJWT5 in the data file is the adjusted weight obtained by multiplying the building’s base weight by the adjustment factor, A, for that building’s subgroup.

TECHNICAL NOTE 3: COMPUTING VARIANCES

One component of total survey error that can be estimated is sampling error or variance. The CBECS design is a list-supplemented, multi-stage area sample of such complexity that it is virtually impossible to construct an exact algebraic expression for estimating variance. The method used to estimate sampling variances for this survey was a jackknife replication method[1],[2]. This method is briefly explained below. For more details, see Appendix B in the publication "Commercial Buildings Characteristics 1992".

The jackknife method calls for the formation of several "pseudoreplicates" of the sample by selecting subsets of the full sample. The subsets are selected in such a way that the observed variance of estimates bases on the pseudoreplicates estimates the sampling variance in the overall estimate.

The replication method is based on the assumption that two first-stage sampling units were selected from each stratum. If, as was the case for noncertainty primary sampling units (PSU's), only one PSU was selected per stratum, then the PSU's must be collapsed to form two PSU "pair members." For certainty PSU's, secondary sampling units were segregated into pair members. For the public use file, 22 pairs of first stage sampling units have been formed. The pairs are identified by the variable STRATUM5 and the individual pair members by the variable PAIR5.

The kth jackknife pseudoreplicate data set is obtained by deleting all observations from one of the two members in the kth pair, and multiplying the weights on all cases in the other pair member by two. Observations in all other pairs are unaffected. The pair member deleted is chosen at random. The kth jackknife estimate is then obtained from this pseudoreplicate sample by following all steps used to construct the full-sample estimate.

The variances are estimated from the jackknife estimates in the following way. Let X' be a survey estimate (based on the full sample) of characteristic X for a certain category of buildings. For example, X may be the total square footage of buildings using natural gas in the Midwest. Let X'(k) be the jackknife estimate of X based on the kth pseudoreplicate. Then the variance of the kth pair of first-stage sampling units is estimated as $(X'(k)-X')^2$. The variance estimate of the full-sample estimate X' is given by:

$$S^2_{X'} = \sum_{k=1}^{22} (X'(k) - X')^2).$$

The standard error of X’ is given by the square root of the variance estimate, and the relative standard error (percent) of X’, is given by:

RSE = 100 * (Standard Error of X’) /X’.

This is the error form used in the companion reports. A matrix which can be used to form pseudoreplicates is provided below. This is a 45 by 22 element matrix, the rows of which represent members within pairs (2 x 22 = 44); one additional row represents the "certainty" stratum. The columns represent the 22 pseudoreplicates.

An entry of zero for a particular row and column indicates that the stratum-pair member indicated by that row is not included in the pseudoreplicate represented by that column. A nonzero entry indicates that the pair member is included, with weight multiplied by the value of the entry. Thus, the ith replicate estimate is computed by choosing all buildings in pair members with nonzero weights in column i, and multiplying the sampling weights for those buildings by that weight.

A Jackknife Replication Matrix

STRA-		Pseudoreplicate																				
TUM5	PAIR5	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
00	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
01	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
01	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
02	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
02	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
03	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
03	2	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
04	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
04	2	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
05	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
05	2	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
06	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
06	2	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
07	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
07	2	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
08	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
08	2	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
09	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1
09	2	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1
10	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1
10	2	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1
11	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1
11	2	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1
12	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1
12	2	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1
13	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1
13	2	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1
14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1
14	2	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1
15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1
15	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1
16	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1
16	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1
17	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1
17	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1
18	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1
18	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1
19	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1
19	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1
20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1
20	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1
21	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1
21	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1
22	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
22	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0

TECHNICAL NOTE 4: WEATHER VARIABLES

An error-inoculated annual mean and standard deviation of daily temperatures are included on the data file for each building, in the variables TEMPAVG5 and TEMPSTD5, respectively. Formulas given below allow computation of approximate degree-days at any base temperature of interest, using a Gaussian (normal) approximation to the distribution of daily average temperatures over the year. In addition, the base-65 degrees Fahrenheit (F) heating and cooling degree-days determined by this formula are included on the data file, as variables HDD655 and CDD655, respectively. The errors in the temperature mean and standard deviation are set so that the heating degree-days base 65 degrees F (as derived from the Gaussian approximation) have a percent error normally distributed with mean zero and standard deviation 2.0.

Computing Approximate Degree-Days

The approximate heating degree-days HDD(BASE) at any base temperature of interest can be computed from the mean temperature TEMPAVG5 and the standard deviation of temperature TEMPSTD5 by the formula:

```
HDD(BASE)  =  365*TEMPSTD5*(ZBASE*CUMPHI + INCPHI)
```

where

```
ZBASE    =  (BASE - TEMPAVG5)/TEMPSTD5
INCPHI   =  exp(-.5*ZBASE**2) / sqrt(2*3.141592)
         =  standard normal (Gaussian) probability
            distribution function
CUMPHI   =  cumulative standard normal distribution function
            evaluated at ZBASE.
```

The corresponding approximate cooling degree-days are given by

```
CDD(BASE)  =  HDD(BASE) + 365*(TEMPAVG5 - BASE).
```

This formula expresses an exact relationship between heating and cooling degree-days. Cooling degree-days so computed are only approximate if the heating degree-days are only approximate. The cooling degree-day approximation is not recommended for values of BASE greater than 70 degrees F.

The following steps were taken to error inoculate the degree-days for each building.

1. Compute the average temperature from the heating and cooling degree-days as

$$TEMPAVG5 = 65 + (CDD(65) - HDD(65))/365.$$

2. Compute the approximate base-65 degrees F heating degree-days using the formula above, with the actual mean and standard deviation of daily temperatures.

3. Shift the temperature standard deviation so that the normal approximation matches the actual base-65 degrees F degree-days. A second-order approximation to the Gaussian degree-day formula was solved for the required shift.

4. Draw a random number from a Gaussian distribution with mean zero and standard deviation 0.02.

5. Multiply the actual base-65 degrees F degree-days by this random fraction. The result is the target error in degree-days base 65 degrees F.

6. Using first-order approximations to the Gaussian heating degree-day formula, find the changes in mean and standard deviation of temperature that would change degree-days base 65 degrees F by the target error amount. The target error was allocated so that 90 percent of the error came from changing the temperature, and 10 percent from changing the standard deviation.

7. Add these changes to the actual mean and shifted standard deviation.

Magnitude of Error Inoculation

The magnitude of errors introduced by this overall procedure is summarized below for the four weather variables included on the public use file. This table was run using the 1986 version of the CBECS data. Results for 1992 data would be comparable.

Weather Variable	Error Scale	Error Percentiles 0	25	50	75	100
TEMPAVG5	Degrees F	-1.1	0.1	0.3	0.4	1.6
	Percent	-2.6	0.1	0.4	0.8	3.5
TEMPSTD5	Degrees F	-6.8	-0.9	0.2	0.9	1.7
	Percent	-35.4	-6.9	1.5	6.0	25.4
HDD655	Degree-days	-484.0	-46.7	-0.1	48.8	508.0
	Percent	-7.2	-1.4	-0.0	1.3	7.1
CDD655	Degree-days	-114.2	-11.1	0.1	11.6	119.5
	Percent*	-47.5	-1.1	0.0	1.2	40.6

*Excluding six cases where CDD655 = 0 before masking.

The masking procedure resulted in relatively large shifts in the standard deviation of temperature, primarily at the stage of matching the Gaussian approximation to actual degree-days base 65 degrees F. As a result, this variable is useful primarily as a parameter to use in obtaining reasonable degree-day approximations, rather than as an accurate representation of temperature variability at a building’s location.

TECHNICAL NOTE 5: COMMENTS ON SPECIFIC VARIABLES

Principal Building Activity
The principal building activity (PBA5) was derived from several questions in Section B of the buildings questionnaire. The interviewer chose a building activity (B-1) based on his/her observation, and asked the respondent whether the chosen activity occupied 75 percent of the building's square footage (B-2a). If the respondent agreed with the interviewer's observation, then the building was assigned to the activity chosen by the interviewer. Nearly 85 percent of the buildings were classified based on interviewer observation.

If the respondent disagreed with the interviewer's observation, then the respondent was asked for the percent of the floorspace occupied by each activity taking place in the building (B-3), and the building was assigned to the activity occupying the most square footage. Any ties for the activity occupying the most space were broken randomly.

Operating Hours
Operating hours were elicited using a schedule grid (Question E-13). However, some respondents were unable to provide any regular operating hours. Therefore some buildings have detailed schedules and others with irregular operating hours have only the summary operating hours variable (WKHRS5). For buildings with regular schedules, the summary operating hours variable is equal to the sum of the hours for each individual way.

In the 1992 data file, opening and closing hours are represented as time values, that is, each opening and closing time is an integer representing the number of seconds since midnight. In cases where the operating hours varied the opening and closing times are blank and the total hours open is 96. Total hours open (Monday-Friday, Saturday, Sunday, or Holiday) are given in hours, with two decimal places. If the building was open 24 hours, the opening hour is coded as 0:00 and the closing hour is coded as 24:00. If the building was not open, then both the opening and closing hours are coded as 0:00.

Energy Sources and End Uses
The type of energy supplied and end uses of those energy sources were initially recorded during the Building Survey (Questions C-1 and C-3). Subsequent contacts with the buildings energy suppliers and building respondents during the course of the Energy Supplier Survey resulted in changes to some of the original responses. In some cases the energy source had been misidentified in the Building Survey. For example, the building respondent might have reported propane as "natural gas." Other misreported cases involved multibuilding facilities with central plants. In buildings that received energy from a central plant located in another building, respondents sometimes reported the

central plant's input energy sources (such as fuel oil) rather than the type of energy (such as district steam) actually supplied to the building. On the other hand, a few buildings that contained the facility central plant reported both the central plant's inputs and outputs as energy sources. Since only the inputs were actually brought into the building, the outputs were recoded so that they were no longer treated as energy sources for the building.

The variables for the types of energy supplied and end uses of those energy sources are coded to reflect both the initial response and subsequent revisions. The codes used are:

```
VALUE $XXSUPL
  ' ' = 'Inapplicable'
  '1' = 'Yes'
  '2' = 'No'
  '3' = 'No (revised)'
  '4' = 'Not 1992'
  '5' = 'Yes (revised)'
  '8' = 'Don't know'
  '9' = 'Not ascertained'.
```

Values '1' and '5' should be used to determine whether an energy source was used or an end use was performed in a building. If an energy source was recoded so that it was no longer treated as a building energy source, so too were its energy-specific end uses. For example, if natural gas was dropped (coded '3'), and natural gas had been reported as the water heating energy source, the variable indicating natural gas for water heating was also coded '3.' If an energy source was added (coded as '5'), no associated energy-specific end uses were added.

Please Note: Subsequent to publishing the CBECS Commercial Buildings Energy Consumption and Expenditures 1992 report, EIA discovered several buildings that had unusually high reported natural gas consumption. For these public use files, natural gas consumption for these buildings has been imputed. Therefore, the total natural gas consumption is lower than reported in the publication.

Reporting Period Shifts

For energy consumption and expenditures, EIA requested that energy suppliers provide data covering the period from December 1991'through January 31 1993. However, some suppliers were unable to provide data for this period. Therefore, for electricity, natural gas, and district energy sources (stream, hot water, and chilled water) variables are included in the file to indicate reporting period shifts. A negative value indicates the number of days that the period was shifted back into 1991, and a positive value indicates the number of days shifted forward

into 1993. A zero indicates that the data represent calendar year 1992.

Principal Facility Activity
The building respondent was asked if the building was part of a multibuilding facility, defined as a group of two or more buildings of the same site owned or operated by the single organization, business or individual. If the building was part of such a facility, the respondent was then asked to provide the primary business, commerce or function carried on in the multibuilding facility or complex. Three general categories were provided (Schools, Retail Sales and Services, and Other Functions) with finer breakdowns within each of the three categories.

Demand Side Management Participation
Several questions were asked to obtain information about the building's participation in programs designed to conserve energy or reduce energy costs. The 1992 CBECS included under the definition of Demand-side management programs any programs that were either in-house, utility or third-party sponsored. A third-party sponsor could be an Energy Service Company that advises on the best type of energy-efficient equipment to be installed for a particular building.

The building respondent was asked if they participated in any of the following types of programs: lighting; building envelope or shell; heating, ventilation and air conditioning equipment installation or retrofit; Energy efficient motors including adjustable speed or variable speed motors; water heating; direct electricity load control; thermal storage; standby electricity generation; process heating or cooling such as waste heat recovery. If the respondent answered yes to any of the above, they were then asked if that specific program was sponsored by the electric utility, gas utility in house third party or other. They were also asked whether the assistance they received for that particular program was general information, site-specific information, incentives, alternate rate, fuel switching, or other. This public use file, only includes whether the building participated in a DSM program. Further information such as type of sponsor will be included on the public use diskettes, containing energy consumption expenditure data, released with the Commercial Building Energy Consumption and Expenditures 1992 report.

TECHNICAL NOTE 6: End Use Estimation Methodology

The end-use estimates had two main sources: (1) survey data collected by the Commercial Buildings Energy Consumption Survey (CBECS) and (2) building energy simulations provided by the Facility Energy Decision Screening (FEDS) system. The CBECS provided data on building characteristics and total energy consumption (i.e., for all end uses) for a national sample of commercial buildings. Using data collected by the CBECS, the FEDS engineering modules were used to produce estimates of energy consumption by end use. The FEDS engineering estimates were then statistically adjusted to match the CBECS total energy consumption.

This note briefly describes the FEDS load estimation methodology, the statistical adjustment procedure, and the remaining steps necessary to produce the final end-use estimates. More details are contained in the 1989 CBECS end-use methodology report (Belzer *et al*. 1993).

The Facility Energy Dicision Screening Engineering Estimates

The energy consumption data provided by energy suppliers cover all end uses performed within commercial buildings. The total energy consumption can be disaggregated into end-use consumption by several approaches: engineering simulations, statistical modeling, or a hybrid approach known as statistically adjusted engineering (SAE). The CBECS end-use estimates were developed by using the SAE approach, with the FEDS system providing the initial engineering estimates.

The FEDS software was developed for the Department of Energy’s Federal Energy Management Program (FEMP) and the U.S. Army Construction Engineering Research Laboratory as a tool for screening groups of buildings on federal facilities (such as Army bases) for energy efficiency retrofits (Dirks and Wrench 1993). The engineering modules, which estimate the energy load to be subjected to retrofit optimization, are one in a series of well-known building energy simulations, which include DOE-2 and ASEAM. The FEDS uses high-level installation information (number, age, size, and types of buildings and energy systems), an internal data base of typical energy-system configurations and performance data, and sophisticated energy simulation and optimization models to estimate the net present value of potential energy retrofits in federal installations.

The FEDS engineering models are designed to produce estimates for five end uses: space heating, cooling, ventilation, lighting, and water heating. Two other end uses, cooking and refrigeration, are also calculated internally by the model, although they are not part of the normal FEDS output. These seven end uses, plus an "other" end use, represent the FEDS accounting for total building end use. Estimates for office equipment energy use were not provided by the FEDS model. Estimates for the first five end uses are based on detailed building engineering simulations. Estimates for the latter two are more sketchy and rely on parameters developed in the Regional End-Use Monitoring Program (REMP, formerly known as the End-Use Load and Consumer Assessment Program (ELCAP)) study (Taylor and Pratt 1989). REMP was a large end-use monitoring project sponsored by the Bonneville Power Administration. As designed to be used in facilities, only a general description of a building need be input for the building energy loads to be estimated interactively, relying on an extensive series of internal default values. Some of these defaults were based on data from prior CBECS but many were based on REMP study. For use with the current CBECS, the FEDS interface was changed from interactive to batch, with the CBECS survey data supplying as many values as possible.

Besides values relating to the building characteristics, the engineering estimates also required hourly weather profiles. For each calendar month, the average temperature during each hour of the day was calculated and input to the model.

Statistically Adjusted Engineering Estimates

The FEDS estimates were based on building characteristics and weather only. At the statistically adjusted engineering (SAE) stage, the engineering estimates were modified to match the observed CBECS consumption data. The basic idea behind the SAE method is simple. Let eui_{bfu} be the end-use consumption per square foot estimated by the FEDS model for building b, fuel f, and end use u, and let eui_{bf} be the total energy consumption (from the CBECS Energy Suppliers Survey) per square foot for building b and fuel f. Then a set of coefficients a_{fu} can be estimated statistically, i.e., by multiple regression, such that

$$\hat{eui}_{bf} = \sum_{u} a_{fu} eui_{bfu}.$$

The coefficients adjust the FEDS engineering estimates upward or downward to match the reported energy use. The $\hat{eui}_{bf}$ are referred to as SAE estimates. If each estimated value of a_{fu} is equal to one, the EUIs are the same as those calculated in the engineering model. A value other than one can reflect a variety

of factors. The FEDS model assumed values for a number of engineering variables on the basis of a typical or average building. If the characteristics within the sample buildings differ on average from the assumed values, then the actual EUIs will diverge from the engineering EUIs.

The basic SAE equation stated above assumes that there is a constant bias in the engineering estimates. However, the assumption of constant bias may be inappropriate. The bias may vary along a number of dimensions. Building type, building age, occupant density, and the presence of energy-intensive activities within the building were some of the variables examined to explore the patterns of bias. A nonlinear SAE equation was developed to incorporate these items. The nonlinear framework allowed greater flexibility in the way that variables such as building age and employment density could interact with the engineering estimates of end-use consumption.

The SAE equations were estimated separately for (1) electricity end-uses and natural gas space heating and for (2) natural gas end-uses other than space heating. Due to the limited number of cases, fuel oil and district heat SAE estimates were produced by using parameters estimated for natural gas.

The Final End-Use Estimates

Because the SAE procedure calibrated the engineering estimates to the reported data for aggregates of buildings, SAE estimates for individual buildings could still vary from the values on the CBECS Master File. For the final end-use estimates, the value on the CBECS Master File (whether reported or imputed) was prorated in proportion to the SAE estimates.

The office equipment estimate was also made after the SAE by using REMP estimates (Pratt *et al*. 1990). The REMP estimates were used to estimate the office equipment share of the "other" end use energy consumption. Included in office equipment were large computer equipment (if the CBECS data indicated the presence of a computer area with a separate air-conditioning system), personal computer equipment, and general office equipment (typewriters, copiers, cash registers, etc.).

Reference

Belzer, D.B., Wrench, L.E., and Marsh, T. L., 1993, *End-Use Energy Consumption Estimates for U. S. Commercial Buildings, 1989*, PNL-8946 (Pacific Northwest Laboratory, Richland, WA).

Dirks, J. A., and Wrench, L. R., 1993, "Federal Energy Decision Screening (FEDS) System Software," PNL-SA-22780 (Pacific Northwest Laboratory, Richland, WA).

Pratt, R. G.. Williamson, M. A., Richman, E. E., and Miller, N. E., 1990, *Commercial Electric Loads: End-Use Load and Consumer Assessment Program (ELCAP)*, (Pacific Northwest Laboratory, Richland, WA).

Taylor, Z. T. and Pratt, R. G., 1989, *Description of Electric Energy Use in Commercial Buildings in the Pacific Northwest*, DOE/BP-13795-22 (Pacific Northwest Laboratory, Richland, WA).

Appendix A

1992 COMMERCIAL BUILDINGS ENERGY CONSUMPTION SURVEY DATA FILE DOCUMENTATION

The following documentation shows:

Column 1: Questionnaire Item
Column 2: Brief description of the variable
Column 3: Variable Name that is on the files
Column 4: Variable Position on the files
Column 5: Variable Format used to create a SAS library. This format is further explained in Appendix B, which gives the acceptable codes for each variable. Appendix B can be used as a Codebook.
Column 5: Variable width

Appendix A. 1992 CBECS Data File Documentation

File 1: General Building Information
(CE92F01T.TXT)

Questionnaire item	Variable Description	Variable Name	Variable Position	Variable Format and Width
CASEID	Building identifier	BLDGID5	1- 5	$ 5.
	Census region	REGION5	7- 7	$REGION. $ 1.
	Census division	CENDIV5	9- 9	$CENDIV. $ 1.
	Metropolitan statistical area	MSA5	11- 11	$MSA. $ 1.
	Climate zone	CLIMATE5	13- 13	$CLIMAT. $ 1.
A7	Square footage	SQFT5	15- 23	MISS9CH. 9.
A8	Square footage category	SQFTC5	25- 26	$SQFTC. $ 2.
A9	Number of floors	NFLOOR5	28- 30	MISS3CH. 3.
A10	If 1 floor: any portion below ground	PORBLG5	32- 32	$YESNO. $ 1.
A11	If more than 1 flr: number below ground	NUMBLG5	34- 36	MISS3CH. 3.
A12	Year construction was completed	YRCON5	38- 41	YRCON. 4.
A13	Month construction was completed	MONCON5	43- 44	MONCON. 2.
A14	Year of construction category	YRCONC5	46- 47	$YRCONC. $ 2.
A15	Expansion or reduction since 12/31/86	EXPRED5	49- 49	$EXPRED. $ 1.
A16	Number of sq. ft. expansion/reduction	AMTDIF5	51- 59	MISS9CH. 9.
	Principal building activity	PBA5	61- 62	$ACTIVTY. $ 2.
C3A	Main energy used for heating	HT15	64- 64	$XXSUPL. $ 1.
C3B	Secondary energy used for heating	HT25	66- 66	$XXSUPL. $ 1.
C3C	Energy used for cooling	COOL5	68- 68	$XXSUPL. $ 1.
C3D	Energy used for domestic hot water	WATR5	70- 70	$XXSUPL. $ 1.
C3E	Energy used for commercial cooking	COOK5	72- 72	$XXSUPL. $ 1.
C3F	Energy used for manufacturing	MANU5	74- 74	$XXSUPL. $ 1.
C3G	Energy used to generate electricity	GENR5	76- 76	$XXSUPL. $ 1.
D1	Percent heated in 1992	HEATP5	78- 80	HTCLP. 3.
D7	Percent cooled in 1992	COOLP5	82- 84	HTCLP. 3.
E14	Total weekly hours open	WKHRS5	86- 88	MISS3CH. 3.
E15	Total weekly hours open category	WKHRSC5	90- 90	$WKHRSC. $ 1.
E18	Number of workers (all shifts)	TOTWK5	92- 96	MISS5CH. 5.
E19	Number of workers category (all shifts)	TOTWKC5	98- 99	$NWKERC. $ 2.
E20	Number of workers	NWKER5	101- 105	MISS5CH. 5.
E21	Number of workers category	NWKERC5	107- 108	$NWKERC. $ 2.
F1	Wall construction material	WLCNS5	110- 111	$WLCNS. $ 2.
F2	Roof construction material	RFCNS5	113- 114	$RFCNS. $ 2.
F3	Building shape	BLDSHP5	116- 117	$SHAPE. $ 2.
F4A	Building length	BLDLEN5	119- 123	MISS5CH. 5.
F4B	Building width	BLDWID5	125- 129	MISS5CH. 5.
F5	No. ext. walls attached other structure	ATTWLL5	131- 131	$ATTWLL. $ 1.
F6	Percent glass on exterior	GLSSPC5	133- 133	$GLSSPC. $ 1.
G1	Percent lit during operating hours	LTOHRP5	135- 137	LTOHRP. 3.
	Adjusted weight	ADJWT5	139- 146	8.2
	Pair member	PAIR5	148- 148	$ 1.
	Variance stratum	STRATUM5	150- 151	$ 2.
	Electricity supplied	ELSUPL5	153- 153	$XXSUPL. $ 1.
	Natural gas supplied	NGSUPL5	155- 155	$XXSUPL. $ 1.
	Fuel oil supplied	FKSUPL5	157- 157	$XXSUPL. $ 1.
	Steam supplied	STSUPL5	159- 159	$XXSUPL. $ 1.
	Hot water supplied	HWSUPL5	161- 161	$XXSUPL. $ 1.
	Annual electricity consumption (mBtu)	ELBTU5	163- 176	COMMA18. 14.
	Annual natural gas consumption (mBtu)	NGBTU5	178- 191	COMMA18. 14.
	Annual fuel oil deliveries (mBtu)	FKBTU5	193- 206	COMMA18. 14.
	Annual steam consumption (mBtu)	STBTU5	208- 221	COMMA18. 14.
	Annual hot water consumption (mBtu)	HWBTU5	223- 236	COMMA18. 14.
	Annual major fuel consumption (mBtu)	MFBTU5	238- 251	COMMA18. 14.

File 2: Building Activity, Building Ownership and Occupancy
(CE92F02T.TXT)

Questionnaire item	Variable Description	Variable Name	Variable Position	Variable Format and Width
CASEID	Building identifier	BLDGID5	1- 5	$ 5.
	Census region	REGION5	7- 7	$REGION. $ 1.
	Census division	CENDIV5	9- 9	$CENDIV. $ 1.
A7	Square footage	SQFT5	11- 19	MISS9CH. 9.
A8	Square footage category	SQFTC5	21- 22	$SQFTC. $ 2.
A14	Year of construction category	YRCONC5	24- 25	$YRCONC. $ 2.
	Principal building activity	PBA5	27- 28	$ACTIVTY. $ 2.
B4A	Percent vacant	VACP5	30- 32	MISS3CH. 3.
B5A1	First previous/intended activity	VACBA15	34- 35	$ACTIVTY. $ 2.
B5A2	Second previous/intended activity	VACBA25	37- 38	$ACTIVTY. $ 2.
B4B	Percent office	OFCP5	40- 42	MISS3CH. 3.
B4C	Percent retail/service	RETLP5	44- 46	MISS3CH. 3.
B4D	Percent laboratory	LABP5	48- 50	MISS3CH. 3.
B4E	Percent nonrefrigerated warehouse	WRHSNP5	52- 54	MISS3CH. 3.
B4F	Percent food sales	FDSLSP5	56- 58	MISS3CH. 3.
B4G	Percent public order and safety	PORDP5	60- 62	MISS3CH. 3.
B4H	Percent out-patient health care	HCOUTP5	64- 66	MISS3CH. 3.
B4I	Percent industrial	INDUSP5	68- 70	MISS3CH. 3.
B4J	Percent agricultural	AGRICP5	72- 74	MISS3CH. 3.
B4K	Percent refrigerated warehouse	WRHSRP5	76- 78	MISS3CH. 3.
B4L	Percent religious worship	WORSHP5	80- 82	MISS3CH. 3.
B5L	Religious worship seating capacity	RWSEAT5	84- 88	MISS5CH. 5.
B4M	Percent public assembly	PUBLCP5	90- 92	MISS3CH. 3.
B5M	Public assembly seating capacity	PBSEAT5	94- 98	MISS5CH. 5.
B4N	Percent educational	EDUCP5	100- 102	MISS3CH. 3.
B5N	Classroom seating capacity	EDSEAT5	104- 108	MISS5CH. 5.
B4O	Percent food service	FDSVCP5	110- 112	MISS3CH. 3.
B5O	Food service seating capacity	FDSEAT5	114- 118	MISS5CH. 5.
B4P	Percent in-patient health care	HCINP5	120- 122	MISS3CH. 3.
B5P	Licensed bed capacity (hospitals)	HCBED5	124- 128	MISS5CH. 5.
B4Q	Percent skilled residential care	NURSEP5	130- 132	MISS3CH. 3.
B5Q	Licensed bed capacity (skilled care)	NRSBED5	134- 138	MISS5CH. 5.
B4R	Percent lodging	LODGEP5	140- 142	MISS3CH. 3.
B5R	Number of guest rooms	LODGRM5	144- 148	MISS5CH. 5.
B4S	Percent residential	RESP5	150- 152	MISS3CH. 3.
B4T	Percent indoor parking garage	PARKP5	154- 156	MISS3CH. 3.
B4U	Percent other activity	OTHERP5	158- 160	MISS3CH. 3.
B7AA	Space used commercial food preparation	FDRM5	162- 162	$YESNO. $ 1.
B7AB	Pct. floorspace commercial food prep.	FDRMP5	164- 166	MISS3CH. 3.
B7BA	Computer room with separate A/C	COMPRM5	168- 168	$YESNO. $ 1.
B7BB	Pct. floorspace computer rooms	CMPRMP5	170- 172	MISS3CH. 3.
B7CA	Space requiring special vent. equip.	VNTRM5	174- 174	$YESNO. $ 1.
B7CB	Pct. floorspace special vent. equip.	VNTRMP5	176- 178	MISS3CH. 3.
B7DA	Space requiring large amounts hot water	HWTRM5	180- 180	$YESNO. $ 1.
B7DB	Pct. floorspace large amts. of hot water	HWTRMP5	182- 184	MISS3CH. 3.
B7EA	Other space requiring large amts. energy	OTHRM5	186- 186	$YESNO. $ 1.
B7EB	Pct. other floorspace large amts. energy	OTHRMP5	188- 190	MISS3CH. 3.
B7EOTH1	First other use, large amts. energy	OTHRM15	192- 193	$OTHRM. $ 2.
B7EOTH2	Second other use, large amts. energy	OTHRM25	195- 196	$OTHRM. $ 2.
B8	PCs/computer terminals in building	PCTERM5	198- 198	$YESNO. $ 1.
B9	Number of PCs/computer terminals cat.	PCTRMC5	200- 201	$PCTRMC. $ 2.
E1	Building owner	OWNER5	203- 203	$OWNER. $ 1.
E2A	Occupied by federal government agency	FEDOCC5	205- 205	$YESNO. $ 1.
E2B	Occupied by state government agency	STOCC5	207- 207	$YESNO. $ 1.

File 2: Building Activity, Building Ownership and Occupancy
(CE92F02T.TXT) (Continued)

Questionnaire item	Variable Description	Variable Name	Variable Position	Variable Format and Width
E2C	Occupied by local government agency	LOCOCC5	209- 209	$YESNO. $ 1.
E2D	Occupied by utility company	PRVOCC5	211- 211	$YESNO. $ 1.
E2E	Occupied by religious organization	CHUOCC5	213- 213	$YESNO. $ 1.
E2F	Occupied by private business	OTHOCC5	215- 215	$YESNO. $ 1.
E5	Occupant status	OCCTYP5	217- 217	$OCCTYP. $ 1.
E7	Number of establishments/organizations	NOCCAT5	219- 219	$NOCCAT. $ 1.
E8	Space vacant for at least 3 months	PORVAC5	221- 221	$YESNO. $ 1.
	Adjusted weight	ADJWT5	223- 230	8.2
	Pair member	PAIR5	232- 232	$ 1.
	Variance stratum	STRATUM5	234- 235	$ 2.
	Electricity supplied	ELSUPL5	237- 237	$XXSUPL. $ 1.
	Natural gas supplied	NGSUPL5	239- 239	$XXSUPL. $ 1.
	Fuel oil supplied	FKSUPL5	241- 241	$XXSUPL. $ 1.
	Steam supplied	STSUPL5	243- 243	$XXSUPL. $ 1.
	Hot water supplied	HWSUPL5	245- 245	$XXSUPL. $ 1.

File 3: Operating Hours and Weather
(CE92F03T.TXT)

Questionnaire item	Variable Description	Variable Name	Variable Position	Variable Format and Width
CASEID	Building identifier	BLDGID5	1- 5	$ 5.
	Census region	REGION5	7- 7	$REGION. $ 1.
	Census division	CENDIV5	9- 9	$CENDIV. $ 1.
A7	Square footage	SQFT5	11- 19	MISS9CH. 9.
A8	Square footage category	SQFTC5	21- 22	$SQFTC. $ 2.
A14	Year of construction category	YRCONC5	24- 25	$YRCONC. $ 2.
	Principal building activity	PBA5	27- 28	$ACTIVTY. $ 2.
	Percent vacant for at least 3 months	VAC3MP5	30- 32	MISS3CH. 3.
E12	Months in use out of past 12 months	MONUSE5	34- 35	MISS2CH. 2.
E13VARY	Hours vary by season	HRSVARS5	37- 37	$YESNO. $ 1.
E13MONFR	Monday opening hour	MONBGN5	39- 43	TIME5. 5.
E13MONTO	Monday closing hour	MONEND5	45- 49	TIME5. 5.
E13TUEFR	Tuesday opening hour	TUEBGN5	51- 55	TIME5. 5.
E13TUETO	Tuesday closing hour	TUEEND5	57- 61	TIME5. 5.
E13WEDFR	Wednesday opening hour	WEDBGN5	63- 67	TIME5. 5.
E13WEDTO	Wednesday closing hour	WEDEND5	69- 73	TIME5. 5.
E13THUFR	Thursday opening hour	THUBGN5	75- 79	TIME5. 5.
E13THUTO	Thursday closing hour	THUEND5	81- 85	TIME5. 5.
E13FRIFR	Friday opening hour	FRIBGN5	87- 91	TIME5. 5.
E13FRITO	Friday closing hour	FRIEND5	93- 97	TIME5. 5.
E13SATFR	Saturday opening hour	SATBGN5	99- 103	TIME5. 5.
E13SATTO	Saturday closing hour	SATEND5	105- 109	TIME5. 5.
E13SUNFR	Sunday opening hour	SUNBGN5	111- 115	TIME5. 5.
E13SUNTO	Sunday closing hour	SUNEND5	117- 121	TIME5. 5.
	Monday hours open	MONHRS5	123- 127	5.2
	Tuesday hours open	TUEHRS5	129- 133	5.2
	Wednesday hours open	WEDHRS5	135- 139	5.2
	Thursday hours open	THUHRS5	141- 145	5.2
	Friday hours open	FRIHRS5	147- 151	5.2
	Saturday hours open	SATHRS5	153- 157	5.2
	Sunday hours open	SUNHRS5	159- 163	5.2
E14	Total weekly hours open	WKHRS5	165- 167	MISS3CH. 3.
E15	Total weekly hours open category	WKHRSC5	169- 169	$WKHRSC. $ 1.
E16A	Heat/cool equip. in use extra hours	HCUSE5	171- 171	$YESNO. $ 1.
E17A	No. extra hours heat/cool equip. used	HCHRS5	173- 175	MISS3CH. 3.
E16B	Lighting equip. in use extra hours	LTUSE5	177- 177	$YESNO. $ 1.
E17B	No. extra hours lighting equip. used	LTHRS5	179- 181	MISS3CH. 3.
	Adjusted weight	ADJWT5	183- 190	8.2
	Pair member	PAIR5	192- 192	$ 1.
	Variance stratum	STRATUM5	194- 195	$ 2.
	Electricity supplied	ELSUPL5	197- 197	$XXSUPL. $ 1.
	Natural gas supplied	NGSUPL5	199- 199	$XXSUPL. $ 1.
	Fuel oil supplied	FKSUPL5	201- 201	$XXSUPL. $ 1.
	Steam supplied	STSUPL5	203- 203	$XXSUPL. $ 1.
	Hot water supplied	HWSUPL5	205- 205	$XXSUPL. $ 1.
	Heating Degree-Days (Base 65 F)	HDD655	207- 211	COMMA6. 5.
	Cooling Degree-Days (Base 65 F)	CDD655	213- 217	COMMA6. 5.
	Average 1992 temperature (F)	TEMPAVG5	219- 223	5.1
	Std. dev. of 1992 temperature (F)	TEMPSTD5	225- 229	5.1

File 4: Heating and Cooling Equipment and Distribution
(CE92F04T.TXT)

Questionnaire item	Variable Description	Variable Name	Variable Position	Variable Format and Width
CASEID	Building identifier	BLDGID5	1- 5	$ 5.
	Census region	REGION5	7- 7	$REGION. $ 1.
	Census division	CENDIV5	9- 9	$CENDIV. $ 1.
A7	Square footage	SQFT5	11- 19	MISS9CH. 9.
A8	Square footage category	SQFTC5	21- 22	$SQFTC. $ 2.
A14	Year of construction category	YRCONC5	24- 25	$YRCONC. $ 2.
	Principal building activity	PBA5	27- 28	$ACTIVTY. $ 2.
D4A	Heat pump used for heating	HTPMPH5	30- 30	$YESNO. $ 1.
D5A	Pct. heated by the heat pump	HTPHP5	32- 34	MISS3CH. 3.
D6FAA	Heat pump heat distributed by vents	HTPHDC5	36- 36	$YESNO. $ 1.
D6FCA	Heat pump heat dist. by fan-coil units	HTPHFC5	38- 38	$YESNO. $ 1.
D6OTHA	Heat pump heat distributed by other	HTPHOT5	40- 40	$YESNO. $ 1.
D4B	Furnaces that heat air used	FURNAC5	42- 42	$YESNO. $ 1.
D5B	Pct. heated by furnace	FURNP5	44- 46	MISS3CH. 3.
D6FAB	Furnace heat distributed by vents	FURNDC5	48- 48	$YESNO. $ 1.
D6OTHB	Furnace heat distributed by other	FURNOT5	50- 50	$YESNO. $ 1.
D4C	Self-contained units used	SLFCON5	52- 52	$YESNO. $ 1.
D5C	Pct. heated by individual space heaters	SLFCNP5	54- 56	MISS3CH. 3.
D4D	Steam or hot water piped in	STHW5	58- 58	$YESNO. $ 1.
D5D	Pct. heated by steam or hot water	STHWP5	60- 62	MISS3CH. 3.
D6RBD	Steam dist. by radiators/baseboards	STHWBR5	64- 64	$YESNO. $ 1.
D6FAD	Steam distributed by vents	STHWDC5	66- 66	$YESNO. $ 1.
D6FCD	Steam distributed by fan-coil units	STHWFC5	68- 68	$YESNO. $ 1.
D6OTHD	Steam distributed by other	STHWOT5	70- 70	$YESNO. $ 1.
D4E	Boilers used	BOILER5	72- 72	$YESNO. $ 1.
D5E	Pct. heated by boilers	BOILP5	74- 76	MISS3CH. 3.
D6RBE	Boiler heat dist. radiators/baseboards	BOILBR5	78- 78	$YESNO. $ 1.
D6FAE	Boiler heat distributed by vents	BOILDC5	80- 80	$YESNO. $ 1.
D6FCE	Boiler heat dist. by fan-coil units	BOILFC5	82- 82	$YESNO. $ 1.
D6OTHE	Boiler heat distributed by other	BOILOT5	84- 84	$YESNO. $ 1.
D4F	Packaged heating units used	PKGHT5	86- 86	$YESNO. $ 1.
D5F	Pct. heated by packaged heating units	PKGHP5	88- 90	MISS3CH. 3.
D6FAF	Packaged heat distributed by vents	PKGHDC5	92- 92	$YESNO. $ 1.
D6OTHF	Packaged heat distributed by other	PKGHOT5	94- 94	$YESNO. $ 1.
D4G	Other heating equipment used	OTHTEQ5	96- 96	$YESNO. $ 1.
D4GOTH	Type of other heating equipment	OTHTQ15	98- 99	$OTHT. $ 2.
D5G	Pct. heated by other heating equipment	OTHTP5	101- 103	MISS3CH. 3.
D6RBG	Other heat dist. by radiators/baseboards	OTHTBR5	105- 105	$YESNO. $ 1.
D6FAG	Other heat distributed by vents	OTHTDC5	107- 107	$YESNO. $ 1.
D6FCG	Other heat distributed by fan-coil units	OTHTFC5	109- 109	$YESNO. $ 1.
D6OTHG	Other heat distributed by other	OTHTOT5	111- 111	$YESNO. $ 1.
D9A	Residential type central AC used	RCAC5	113- 113	$YESNO. $ 1.
D10A	Pct. cooled by residential central AC	RCACP5	115- 117	MISS3CH. 3.
D11FAA	Central air distributed by vents	RCACDC5	119- 119	$YESNO. $ 1.
D11OTHA	Central air distributed by other	RCACOT5	121- 121	$YESNO. $ 1.
D9B	Heat pump used for cooling	HTPMPC5	123- 123	$YESNO. $ 1.
D10B	Pct. cooled by the heat pump	HTPCP5	125- 127	MISS3CH. 3.
D11FAB	Heat pump cooling distributed by vents	HTPCDC5	129- 129	$YESNO. $ 1.
D11OTHB	Heat pump cooling distributed by other	HTPCOT5	131- 131	$YESNO. $ 1.
D9C	Air conditioners (walls/window) used	ACWNWL5	133- 133	$YESNO. $ 1.
D10C	Pct. cooled by individual room AC	ACWNWP5	135- 137	MISS3CH. 3.
D9D	District chilled water piped in	CHWT5	139- 139	$YESNO. $ 1.
D10D	Pct. cooled by district chilled water	CHWTP5	141- 143	MISS3CH. 3.
D11FCD	Chilled water dist. by fan-coil units	CHWTFC5	145- 145	$YESNO. $ 1.
D11FAD	Chilled water distributed by vents	CHWTDC5	147- 147	$YESNO. $ 1.

File 4: Heating and Cooling Equipment and Distribution
(CE92F04T.TXT) (Continued)

Questionnaire item	Variable Description	Variable Name	Variable Position	Variable Format and Width
D11OTHD	Chilled water distributed by other	CHWTOT5	149- 149	$YESNO. $ 1.
D9E	Central chillers used	CHILLR5	151- 151	$YESNO. $ 1.
D10E	Pct. cooled by central chillers	CHILP5	153- 155	MISS3CH. 3.
D11FCE	Central chiller dist. by fan-coil units	CHILFC5	157- 157	$YESNO. $ 1.
D11FAE	Central chiller distributed by vents	CHILDC5	159- 159	$YESNO. $ 1.
D11OTHE	Central chiller distributed by other	CHILOT5	161- 161	$YESNO. $ 1.
D9F	Packaged cooling units used	PKGCL5	163- 163	$YESNO. $ 1.
D10F	Pct. packaged cooling units	PKGCP5	165- 167	MISS3CH. 3.
D11FAF	Packaged cooling distributed by vents	PKGCDC5	169- 169	$YESNO. $ 1.
D11OTHF	Packaged cooling distributed by other	PKGCOT5	171- 171	$YESNO. $ 1.
D9G	Evaporative coolers used	EVAPCL5	173- 173	$YESNO. $ 1.
D10G	Pct. cooled by the evaporative coolers	EVAPP5	175- 177	MISS3CH. 3.
D11FCG	Evap. coolers dist. by fan-coil units	EVAPFC5	179- 179	$YESNO. $ 1.
D11FAG	Evaporative coolers distributed by vents	EVAPDC5	181- 181	$YESNO. $ 1.
D11OTHG	Evap. coolers distributed by other	EVAPOT5	183- 183	$YESNO. $ 1.
D9H	Other cooling equipment used	OTCLEQ5	185- 185	$YESNO. $ 1.
D9HOTH	Type of other cooling equipment	OTCLQ15	187- 188	$OTCL. $ 2.
D10H	Pct. cooled by other cooling equipment	OTCLP5	190- 192	MISS3CH. 3.
D11FCH	Other cooling distributed by fan-coil	OTCLFC5	194- 194	$YESNO. $ 1.
D11FAH	Other cooling distributed by thru vents	OTCLDC5	196- 196	$YESNO. $ 1.
D11OTHH	Other cooling distributed by other	OTCLOT5	198- 198	$YESNO. $ 1.
	Adjusted weight	ADJWT5	200- 207	8.2
	Pair member	PAIR5	209- 209	$ 1.
	Variance stratum	STRATUM5	211- 212	$ 2.
	Electricity supplied	ELSUPL5	214- 214	$XXSUPL. $ 1.
	Natural gas supplied	NGSUPL5	216- 216	$XXSUPL. $ 1.
	Fuel oil supplied	FKSUPL5	218- 218	$XXSUPL. $ 1.
	Steam supplied	STSUPL5	220- 220	$XXSUPL. $ 1.
	Hot water supplied	HWSUPL5	222- 222	$XXSUPL. $ 1.

File 5: End Uses of Major Energy Sources
(CE92F05T.TXT)

Questionnaire item	Variable Description	Variable Name	Variable Position	Variable Format and Width
CASEID	Building identifier	BLDGID5	1- 5	$ 5.
	Census region	REGION5	7- 7	$REGION. $ 1.
	Census division	CENDIV5	9- 9	$CENDIV. $ 1.
A7	Square footage	SQFT5	11- 19	MISS9CH. 9.
A8	Square footage category	SQFTC5	21- 22	$SQFTC. $ 2.
A14	Year of construction category	YRCONC5	24- 25	$YRCONC. $ 2.
	Principal building activity	PBA5	27- 28	$ACTIVTY. $ 2.
C3AA	Electricity used for main heating	ELHT15	30- 30	$XXSUPL. $ 1.
C3BA	Electricity used for secondary heating	ELHT25	32- 32	$XXSUPL. $ 1.
C3CA	Electricity used for cooling	ELCOOL5	34- 34	$XXSUPL. $ 1.
C3DA	Electricity used for water heating	ELWATR5	36- 36	$XXSUPL. $ 1.
C3EA	Electricity used for commercial cooking	ELCOOK5	38- 38	$XXSUPL. $ 1.
C3FA	Electricity used for manufacturing	ELMANU5	40- 40	$XXSUPL. $ 1.
C3AB	Natural gas used for main heating	NGHT15	42- 42	$XXSUPL. $ 1.
C3BB	Natural gas used for secondary heating	NGHT25	44- 44	$XXSUPL. $ 1.
C3CB	Natural gas used for cooling	NGCOOL5	46- 46	$XXSUPL. $ 1.
C3DB	Natural gas used for water heating	NGWATR5	48- 48	$XXSUPL. $ 1.
C3EB	Natural gas used for commercial cooking	NGCOOK5	50- 50	$XXSUPL. $ 1.
C3FB	Natural gas used for manufacturing	NGMANU5	52- 52	$XXSUPL. $ 1.
C3GB	Natural gas used to generate electricity	NGGENR5	54- 54	$XXSUPL. $ 1.
C3AC	Fuel oil used for main heating	FKHT15	56- 56	$XXSUPL. $ 1.
C3BC	Fuel oil used for secondary heating	FKHT25	58- 58	$XXSUPL. $ 1.
C3CC	Fuel oil used for cooling	FKCOOL5	60- 60	$XXSUPL. $ 1.
C3DC	Fuel oil used for water heating	FKWATR5	62- 62	$XXSUPL. $ 1.
C3EC	Fuel oil used for commercial cooking	FKCOOK5	64- 64	$XXSUPL. $ 1.
C3FC	Fuel oil used for manufacturing	FKMANU5	66- 66	$XXSUPL. $ 1.
C3GC	Fuel oil used to generate electricity	FKGENR5	68- 68	$XXSUPL. $ 1.
C3AE	District steam used for main heating	STHT15	70- 70	$XXSUPL. $ 1.
C3BE	District steam for secondary heating	STHT25	72- 72	$XXSUPL. $ 1.
C3CE	District steam used for cooling	STCOOL5	74- 74	$XXSUPL. $ 1.
C3DE	District steam used for water heating	STWATR5	76- 76	$XXSUPL. $ 1.
C3EE	District steam for commercial cooking	STCOOK5	78- 78	$XXSUPL. $ 1.
C3FE	District steam used for manufacturing	STMANU5	80- 80	$XXSUPL. $ 1.
C3AF	District hot water for main heating	HWHT15	82- 82	$XXSUPL. $ 1.
C3BF	District hot water for secondary heat	HWHT25	84- 84	$XXSUPL. $ 1.
C3CF	District hot water used for cooling	HWCOOL5	86- 86	$XXSUPL. $ 1.
C3DF	District hot water for water heating	HWWATR5	88- 88	$XXSUPL. $ 1.
C3EF	District hot water commercial cooking	HWCOOK5	90- 90	$XXSUPL. $ 1.
C3FF	District hot water for manufacturing	HWMANU5	92- 92	$XXSUPL. $ 1.
C3CG	District chilled water used for cooling	CWCOOL5	94- 94	$XXSUPL. $ 1.
C6	Able to switch main heating fuel	SWITCH5	96- 96	$YESNO. $ 1.
C7A	Able to switch main heat to electricity	SWCHEL5	98- 98	$YESNO. $ 1.
C7B	Able to switch main heat to natural gas	SWCHNG5	100- 100	$YESNO. $ 1.
C7C	Able to switch main heat to fuel oil	SWCHFK5	102- 102	$YESNO. $ 1.
C7D	Able to switch main heat to propane	SWCHPR5	104- 104	$YESNO. $ 1.
C7E	Able to switch main heat to steam	SWCHST5	106- 106	$YESNO. $ 1.
C7F	Able to switch main heat to hot water	SWCHHW5	108- 108	$YESNO. $ 1.
C7G	Able to switch main heat to wood	SWCHWO5	110- 110	$YESNO. $ 1.
C7H	Able to switch main heat to other	SWCHOT5	112- 112	$YESNO. $ 1.
	Type of other alternative heating fuel	SWCHO15	114- 115	$SWCHO. $ 2.
P1	Expenditures for elec in 1992 category	ELEXPC5	117- 118	$EXPCAT. $ 2.
P2	Expend. for natural gas in 1992 category	NGEXPC5	120- 121	$EXPCAT. $ 2.
P3	Interruptible natural gas service	NGINTR5	123- 123	$YESNO. $ 1.
P4	Building uses transportation gas	TRNSGS5	125- 125	$YESNO. $ 1.
P8	Expend. for fuel oil in 1992 category	FKEXPC5	127- 128	$EXPCAT. $ 2.

File 5: End Uses of Major Energy Sources
(CE92F05T.TXT) (Continued)

Questionnaire item	Variable Description	Variable Name	Variable Position	Variable Format and Width	
P9	Total fuel oil tank capacity (gallons)	TOTCAP5	130- 135	MISS6CH.	6.
P10	Consumption of propane in 1992 category	PRAMTC5	137- 138	$PRCCAT.	$ 2.
P10UNIT	Unit of measure for propane amounts	PRAUNT5	140- 140	$PRUNIT.	$ 1.
P11	Expend. for propane in 1992 category	PREXPC5	142- 143	$EXPCAT.	$ 2.
P12	Consumption of wood in 1992 category	WOAMTC5	145- 146	$WOCCAT.	$ 2.
P13	Wood purchased or free of charge	WOSRC5	148- 148	$WOSRC.	$ 1.
P14	Expend. for wood in 1992 category	WOEXPC5	150- 151	$EXPCAT.	$ 2.
	Adjusted weight	ADJWT5	153- 160		8.2
	Pair member	PAIR5	162- 162		$ 1.
	Variance stratum	STRATUM5	164- 165		$ 2.
	Electricity supplied	ELSUPL5	167- 167	$XXSUPL.	$ 1.
	Natural gas supplied	NGSUPL5	169- 169	$XXSUPL.	$ 1.
	Fuel oil supplied	FKSUPL5	171- 171	$XXSUPL.	$ 1.
	Steam supplied	STSUPL5	173- 173	$XXSUPL.	$ 1.
	Hot water supplied	HWSUPL5	175- 175	$XXSUPL.	$ 1.

File 6: Minor Energy Sources, Refrigeration and Water Equipment, Electricity Generation, and Multibuilding Facilities
(CE92F06T.TXT)

Questionnaire item	Variable Description	Variable Name	Variable Position	Variable Format and Width
CASEID	Building identifier	BLDGID5	1- 5	$ 5.
	Census region	REGION5	7- 7	$REGION. $ 1.
	Census division	CENDIV5	9- 9	$CENDIV. $ 1.
A7	Square footage	SQFT5	11- 19	MISS9CH. 9.
A8	Square footage category	SQFTC5	21- 22	$SQFTC. $ 2.
A14	Year of construction category	YRCONC5	24- 25	$YRCONC. $ 2.
	Principal building activity	PBA5	27- 28	$ACTIVTY. $ 2.
C1D	Propane used in 1992	PRUSED5	30- 30	$YESNO. $ 1.
C3AD	Propane used for main heating	PRHT15	32- 32	$YESNO. $ 1.
C3BD	Propane used for secondary heating	PRHT25	34- 34	$YESNO. $ 1.
C3CD	Propane used for cooling	PRCOOL5	36- 36	$YESNO. $ 1.
C3DD	Propane used for water heating	PRWATR5	38- 38	$YESNO. $ 1.
C3ED	Propane used for commercial cooking	PRCOOK5	40- 40	$YESNO. $ 1.
C3FD	Propane used for manufacturing	PRMANU5	42- 42	$YESNO. $ 1.
C3GD	Propane used to generate electricity	PRGENR5	44- 44	$YESNO. $ 1.
C1H	Wood used in 1992	WOUSED5	46- 46	$YESNO. $ 1.
C3AH	Wood used for main heating	WOHT15	48- 48	$YESNO. $ 1.
C3BH	Wood used for secondary heating	WOHT25	50- 50	$YESNO. $ 1.
C3DH	Wood used for water heating	WOWATR5	52- 52	$YESNO. $ 1.
C3EH	Wood used for commercial cooking	WOCOOK5	54- 54	$YESNO. $ 1.
C3FH	Wood used for manufacturing	WOMANU5	56- 56	$YESNO. $ 1.
C3GH	Wood used to generate electricity	WOGENR5	58- 58	$YESNO. $ 1.
C1I	Coal used in 1992	COUSED5	60- 60	$YESNO. $ 1.
C3AI	Coal used for main heating	COHT15	62- 62	$YESNO. $ 1.
C3BI	Coal used for secondary heating	COHT25	64- 64	$YESNO. $ 1.
C3DI	Coal used for water heating	COWATR5	66- 66	$YESNO. $ 1.
C3EI	Coal used for commercial cooking	COCOOK5	68- 68	$YESNO. $ 1.
C3FI	Coal used for manufacturing	COMANU5	70- 70	$YESNO. $ 1.
C3GI	Coal used to generate electricity	COGENR5	72- 72	$YESNO. $ 1.
C1J	Photovoltaic cells used in 1992	PVUSED5	74- 74	$YESNO. $ 1.
C3AJ	Photovoltaic cells used for main heat	PVHT15	76- 76	$YESNO. $ 1.
C3BJ	Photovoltaic cells used for 2nd heat	PVHT25	78- 78	$YESNO. $ 1.
C3CJ	Photovoltaic cells used for cooling	PVCOOL5	80- 80	$YESNO. $ 1.
C3DJ	Photovoltaic cells used for water heat	PVWATR5	82- 82	$YESNO. $ 1.
C3EJ	Photovoltaic cells for commerc. cooking	PVCOOK5	84- 84	$YESNO. $ 1.
C3FJ	Photovoltaic cells used for manufac.	PVMANU5	86- 86	$YESNO. $ 1.
C3GJ	Photovoltaic cells to gen. electricity	PVGENR5	88- 88	$YESNO. $ 1.
C1K	Active solar used in 1992	SOUSED5	90- 90	$YESNO. $ 1.
C3AK	Active solar used for main heating	SOHT15	92- 92	$YESNO. $ 1.
C3BK	Active solar used for secondary heating	SOHT25	94- 94	$YESNO. $ 1.
C3CK	Active solar used for cooling	SOCOOL5	96- 96	$YESNO. $ 1.
C3DK	Active solar used for water heating	SOWATR5	98- 98	$YESNO. $ 1.
C3EK	Active solar for commercial cooking	SOCOOK5	100- 100	$YESNO. $ 1.
C3FK	Active solar used for manufacturing	SOMANU5	102- 102	$YESNO. $ 1.
C3GK	Active solar to generate electricity	SOGENR5	104- 104	$YESNO. $ 1.
C1L	Other energy source in 1992	OTUSED5	106- 106	$YESNO. $ 1.
C3AL	Other energy used for main heating	OTHT15	108- 108	$YESNO. $ 1.
C3BL	Other energy used for secondary heating	OTHT25	110- 110	$YESNO. $ 1.
C3CL	Other energy used for cooling	OTCOOL5	112- 112	$YESNO. $ 1.
C3DL	Other energy used for water heating	OTWATR5	114- 114	$YESNO. $ 1.
C3EL	Other energy used for commercial cooking	OTCOOK5	116- 116	$YESNO. $ 1.
C3FL	Other energy used for manufacturing	OTMANU5	118- 118	$YESNO. $ 1.
C3GL	Other energy to generate electricity	OTGENR5	120- 120	$YESNO. $ 1.
C8A	Building uses TES or pump storage	TESTEC5	122- 122	$YESNO. $ 1.

File 6: Minor Energy Sources, Refrigeration and Water Heating Equipment, Electricity Generation, and Multibuilding Facilities (CE92F06T.TXT) (Continued)

Questionnaire item	Variable Description	Variable Name	Variable Position	Variable Format and Width
C8B	Building uses passive solar features	PASTEC5	124- 124	$YESNO. $ 1.
C8C	Building uses geothermal energy	GEOTEC5	126- 126	$YESNO. $ 1.
C8D	Building uses well water cooling	WELTEC5	128- 128	$YESNO. $ 1.
C8E	Building uses waste incineration	WASTEC5	130- 130	$YESNO. $ 1.
C8F	Building uses wind generation	WNDTEC5	132- 132	$YESNO. $ 1.
C8G	Building uses other special technology	TECOTH5	134- 134	$YESNO. $ 1.
	Type of other special technology	TECOT15	136- 137	$TECOT. $ 2.
D12	Commercial refrig./freezer equip present	RFGEQP5	139- 139	$YESNO. $ 1.
D13	Refrig./freezer walk-in units in bldg.	RFGWI5	141- 141	$YESNO. $ 1.
D14	Number of walk-in units	RFGWIN5	143- 145	MISS3CH. 3.
D15	Refrig./freezer cases/cabinets in bldg.	RFGCAS5	147- 147	$YESNO. $ 1.
D16A	Open refrig./freezer cases/cabinets	RFGOP5	149- 149	$YESNO. $ 1.
D17A	Number of open ref./frzr. cases/cabinets	RFGOPN5	151- 153	MISS3CH. 3.
D18A	Linear ft. open ref./frzr. cases	RFGOPF5	155- 159	MISS5CH. 5.
D16B	Closed refrig./freezer cases/cabinets	RFGCL5	161- 161	$YESNO. $ 1.
D17B	Number closed ref./frzr. cases/cabinets	RFGCLN5	163- 165	MISS3CH. 3.
D18B	Linear ft. closed ref./frzr. cases	RFGCLF5	167- 171	MISS5CH. 5.
D19A1	Centralized storage tank water heater	WCTNK5	173- 173	$YESNO. $ 1.
D19A2	Water heat drawn from space heat equip.	WCSPC5	175- 175	$YESNO. $ 1.
D19A3	Other centralized water heating system	WCOTH5	177- 177	$YESNO. $ 1.
D19B4	Res.-type storage tank water heaters	WDRES5	179- 179	$YESNO. $ 1.
D19B5	Instantaneous water heaters	WDINS5	181- 181	$YESNO. $ 1.
D19B6	Other distributed water heating system	WDOTH5	183- 183	$YESNO. $ 1.
E3	Multibuilding facility or complex	FACIL5	185- 185	$YESNO. $ 1.
E4	Principal facility activity	FACACT5	187- 188	$FACACT. $ 2.
I1	Non-emergency generating capability	GENER5	190- 190	$YESNO. $ 1.
I2	Primary use of generators	GENUSE5	192- 192	$GENUSE. $ 1.
I2OTH	Other primary use of generators	GENUSO5	194- 195	$GENUSO. $ 2.
I3	Cogeneration system	COGEN5	197- 197	$YESNO. $ 1.
I4	Cogeneration system connected to grid	GRID5	199- 199	$YESNO. $ 1.
I5A	Generated elec totally consumed in bldg.	GENBLD5	201- 201	$YESNO. $ 1.
I5B	Generated elec delivered to utility	GENUTL5	203- 203	$YESNO. $ 1.
I5C	Generated elec delivered to other bldg.	GENOTB5	205- 205	$YESNO. $ 1.
I5D	No electricity generated in 1992	GENOFF5	207- 207	$YESNO. $ 1.
J1	Central physical plant on facility	PLANT5	209- 209	$YESNO. $ 1.
J2A	Central plant produces dist. hot water	FACDHW5	211- 211	$YESNO. $ 1.
J2B	Central plant produces district steam	FACDST5	213- 213	$YESNO. $ 1.
J2C	Central plant produces dist. chill water	FACDCW5	215- 215	$YESNO. $ 1.
J2D	Central plant produces electricity	FACELC5	217- 217	$YESNO. $ 1.
J3	Central plant in this building	BLDPLT5	219- 219	$YESNO. $ 1.
	Adjusted weight	ADJWT5	221- 228	8.2
	Pair member	PAIR5	230- 230	$ 1.
	Variance stratum	STRATUM5	232- 233	$ 2.
	Electricity supplied	ELSUPL5	235- 235	$XXSUPL. $ 1.
	Natural gas supplied	NGSUPL5	237- 237	$XXSUPL. $ 1.
	Fuel oil supplied	FKSUPL5	239- 239	$XXSUPL. $ 1.
	Steam supplied	STSUPL5	241- 241	$XXSUPL. $ 1.
	Hot water supplied	HWSUPL5	243- 243	$XXSUPL. $ 1.

File 7: Lighting Equipment and Conservation Features
(CE92F07T.TXT)

Questionnaire item	Variable Description	Variable Name	Variable Position	Variable Format and Width
CASEID	Building identifier	BLDGID5	1- 5	$ 5.
	Census region	REGION5	7- 7	$REGION. $ 1.
	Census division	CENDIV5	9- 9	$CENDIV. $ 1.
A7	Square footage	SQFT5	11- 19	MISS9CH. 9.
A8	Square footage category	SQFTC5	21- 22	$SQFTC. $ 2.
A14	Year of construction category	YRCONC5	24- 25	$YRCONC. $ 2.
	Principal building activity	PBA5	27- 28	$ACTIVTY. $ 2.
G1	Percent lit during operating hours	LTOHRP5	30- 32	LTOHRP. 3.
G3	Percent lit during off-hours	LTNHRP5	34- 36	LTNHRP. 3.
G5A	Incandescent bulbs used	BULB5	38- 38	$YESNO. $ 1.
G6A	Percent lit by incandescent bulbs	BULBP5	40- 42	LTOHRP. 3.
G5B	Fluorescent lights used	FLUOR5	44- 44	$YESNO. $ 1.
G6B	Percent lit by fluorescent lights	FLUORP5	46- 48	LTOHRP. 3.
G5C	Compact fluorescent bulbs used	CFLR5	50- 50	$YESNO. $ 1.
G6C	Pct. lit by compact fluorescent bulbs	CFLRP5	52- 54	LTOHRP. 3.
G5D	High-intensity discharge lights used	HID5	56- 56	$YESNO. $ 1.
G6D	Percent lit by HID lights	HIDP5	58- 60	LTOHRP. 3.
G5E	Any other lighting equipment used	OTLT5	62- 62	$YESNO. $ 1.
G5EOTH	Type of other lighting equipment	OTLT15	64- 65	$OTLIT. $ 2.
G6E	Percent lit by other lighting equipment	OTLTP5	67- 69	LTOHRP. 3.
G8A	Specular reflectors used	SREF5	71- 71	$YESNO. $ 1.
G9A	Percent specular reflectors used	SREFP5	73- 75	LTOHRP. 3.
G8B	Daylighting controls	DAYCTL5	77- 77	$YESNO. $ 1.
G9B	Percent daylighting controls	DCTLP5	79- 81	LTOHRP. 3.
G8C	Occupancy sensors used	OCSN5	83- 83	$YESNO. $ 1.
G9C	Percent occupancy sensors used	OCSNP5	85- 87	LTOHRP. 3.
G8D	Time clocks or timed switches used	TMCK5	89- 89	$YESNO. $ 1.
G9D	Percent time clocks or timed switches	TMCKP5	91- 93	LTOHRP. 3.
G8E	Manual dimmer switches used	MNLD5	95- 95	$YESNO. $ 1.
G9E	Percent manual dimmer switches used	MNLDP5	97- 99	LTOHRP. 3.
G8F	Other lighting conservation equip. used	OLCN5	101- 101	$YESNO. $ 1.
G8FOTH	Type of other light conservation equip.	OLCN15	103- 104	$OTLCN. $ 2.
G9F	Percent other light conservation equip.	OLCNP5	106- 108	LTOHRP. 3.
H1AA	Variable air volume (VAV) system	VAV5	110- 110	$YESNO. $ 1.
H1BA	VAV system installed or added	VAVINS5	112- 112	$INSADD. $ 1.
H1CA	When VAV system added	VAVDT5	114- 114	$YRADD. $ 1.
H1AB	Economizer cycle	ECN5	116- 116	$YESNO. $ 1.
H1BB	Economizer cycle installed or added	ECNINS5	118- 118	$INSADD. $ 1.
H1CB	When economizer cycle added	ECNDT5	120- 120	$YRADD. $ 1.
H1AC	Roof or ceiling insulation	RIN5	122- 122	$YESNO. $ 1.
H1BC	Roof/ceiling insulation installed/added	RININS5	124- 124	$INSADD. $ 1.
H1CC	When roof or ceiling insulation added	RINDT5	126- 126	$YRADD. $ 1.
H1AD	Exterior wall insulation	WIN5	128- 128	$YESNO. $ 1.
H1BD	Wall insulation installed or added	WININS5	130- 130	$INSADD. $ 1.
H1CD	When wall insulation added	WINDT5	132- 132	$YRADD. $ 1.
H1AE	Storm windows or doors	STW5	134- 134	$YESNO. $ 1.
H1BE	Storm windows/doors installed or added	STWINS5	136- 136	$INSADD. $ 1.
H1CE	When storm windows or doors added	STWDT5	138- 138	$YRADD. $ 1.
H1AF	Tinted or reflective glass	TRG5	140- 140	$YESNO. $ 1.
H1BF	Tinted/reflective glass installed/added	TRGINS5	142- 142	$INSADD. $ 1.
H1CF	When tinted or reflective glass added	TRGDT5	144- 144	$YRADD. $ 1.
H1AG	Shadings or awnings	AWN5	146- 146	$YESNO. $ 1.
H1BG	Shadings or awnings installed or added	AWNINS5	148- 148	$INSADD. $ 1.
H1CG	When shadings or awnings added	AWNDT5	150- 150	$YRADD. $ 1.
H2	Most windows can be opened and closed	OPNWIN5	152- 152	$OPNWIN. $ 1.

File 7: Lighting Equipment and Conservation Features
(CE92F07T.TXT) (Continued)

Questionnaire item	Variable Description	Variable Name	Variable Position	Variable Format and Width
H3	Utility sponsored DSM, past 3 years	UTLDSM5	154- 154	$UTLDSM. $ 1.
H4	Bldg. participated DSM, past 3 years	BLDDSM5	156- 156	$YESNO. $ 1.
H5	Facility participated DSM, past 3 years	FACDSM5	158- 158	$YESNO. $ 1.
H6	Bldg. plans participate in DSM in future	PRTDSM5	160- 160	$YESNO. $ 1.
H10	Energy audit ever performed	AUDIT5	162- 162	$YESNO. $ 1.
H11	Sponsor of most recent energy audit	AUDSPN5	164- 164	$AUDSPN. $ 1.
H11OTH	Other group that sponsored energy audit	AUDOTH5	166- 167	$AUDOTH. $ 2.
H12	Regular preventive maintenance program	MAINT5	169- 169	$YESNO. $ 1.
H13A	Reduction in heat off-hours	RDHTNF5	171- 171	$RDHTCL. $ 1.
H13B	Reduction in cooling off-hours	RDCLNF5	173- 173	$RDHTCL. $ 1.
H13C	Reduction in water heating off-hours	RDHWNF5	175- 175	$RDHTCL. $ 1.
H13D	Reduction in lighting off-hours	RDLTNF5	177- 177	$RDHTCL. $ 1.
H13E	Reduction in other equipment off-hours	RDOTNF5	179- 179	$RDHTCL. $ 1.
H13OTH	First other equipment reduced off-hours	RDOTH15	181- 182	$RDOTH. $ 2.
H13OTHA	Second other equipment reduced off-hours	RDOTH25	184- 185	$RDOTH. $ 2.
H14	Energy management and control system	EMCS5	187- 187	$YESNO. $ 1.
H15A	EMCS controls heating	EMCSHT5	189- 189	$YESNO. $ 1.
H15B	EMCS controls cooling	EMCSCL5	191- 191	$YESNO. $ 1.
H15C	EMCS controls water heating	EMCSHW5	193- 193	$YESNO. $ 1.
H15D	EMCS controls lighting	EMCSLT5	195- 195	$YESNO. $ 1.
H15E	EMCS controls anything else	EMCSOT5	197- 197	$YESNO. $ 1.
H15OTH	First other equip. controlled by EMCS	EMCSO15	199- 200	$EMCSOT. $ 2.
H15OTHA	Second other equip. controlled by EMCS	EMCSO25	202- 203	$EMCSOT. $ 2.
H16	Other features to help conserve energy	CNSVFT5	205- 205	$YESNO. $ 1.
H17	First other energy conservation feature	CNSVF15	207- 208	$CNSVF. $ 2.
H17A	Second other energy conservation feature	CNSVF25	210- 211	$CNSVF. $ 2.
H17B	Third other energy conservation feature	CNSVF35	213- 214	$CNSVF. $ 2.
H18	Person responsible for HVAC equipment	OPHVAC5	216- 216	$OPHVAC. $ 1.
H18OTH	Other person responsible HVAC equipment	OPHCOT5	218- 219	$OPHCOT. $ 2.
H19	Years responsible HVAC equipment	OPHCYR5	221- 221	$OPHCYR. $ 1.
H20	Pct. time/week devoted to HVAC equipment	OPHCTP5	223- 223	$OPHCTP. $ 1.
	Adjusted weight	ADJWT5	225- 232	8.2
	Pair member	PAIR5	234- 234	$ 1.
	Variance stratum	STRATUM5	236- 237	$ 2.
	Electricity supplied	ELSUPL5	239- 239	$XXSUPL. $ 1.
	Natural gas supplied	NGSUPL5	241- 241	$XXSUPL. $ 1.
	Fuel oil supplied	FKSUPL5	243- 243	$XXSUPL. $ 1.
	Steam supplied	STSUPL5	245- 245	$XXSUPL. $ 1.
	Hot water supplied	HWSUPL5	247- 247	$XXSUPL. $ 1.

File 8: Imputation Flags for Energy Sources and End Uses
(CE92F08T.TXT)

Questionnaire item	Variable Description	Variable Name	Variable Position	Variable Format and Width
CASEID	Building identifier	BLDGID5	1- 5	$ 5.
	Census region	REGION5	7- 7	$REGION. $ 1.
	Census division	CENDIV5	9- 9	$CENDIV. $ 1.
A7	Square footage	SQFT5	11- 19	MISS9CH. 9.
A8	Square footage category	SQFTC5	21- 22	$SQFTC. $ 2.
A14	Year of construction category	YRCONC5	24- 25	$YRCONC. $ 2.
	Principal building activity	PBA5	27- 28	$ACTIVTY. $ 2.
	Adjusted weight	ADJWT5	30- 37	8.2
	Pair member	PAIR5	39- 39	$ 1.
	Variance stratum	STRATUM5	41- 42	$ 2.
	Imputed main heating	ZHT15	44- 44	$ZVAR. $ 1.
	Imputed secondary heating	ZHT25	46- 46	$ZVAR. $ 1.
	Imputed cooling	ZCOOL5	48- 48	$ZVAR. $ 1.
	Imputed water heating	ZWATR5	50- 50	$ZVAR. $ 1.
	Imputed commercial cooking	ZCOOK5	52- 52	$ZVAR. $ 1.
	Imputed manufacturing	ZMANU5	54- 54	$ZVAR. $ 1.
	Imputed electricity generation	ZGENR5	56- 56	$ZVAR. $ 1.
	Imputed electricity used	ZELUSED5	58- 58	$ZVAR. $ 1.
	Imputed electricity for main heating	ZELHT15	60- 60	$ZVAR. $ 1.
	Imputed electricity for 2ndary heating	ZELHT25	62- 62	$ZVAR. $ 1.
	Imputed electricity for cooling	ZELCOOL5	64- 64	$ZVAR. $ 1.
	Imputed electricity for water heating	ZELWATR5	66- 66	$ZVAR. $ 1.
	Imputed electricity for cooking	ZELCOOK5	68- 68	$ZVAR. $ 1.
	Imputed electricity for manufacturing	ZELMANU5	70- 70	$ZVAR. $ 1.
	Imputed natgas used	ZNGUSED5	72- 72	$ZVAR. $ 1.
	Imputed natural gas for main heating	ZNGHT15	74- 74	$ZVAR. $ 1.
	Imputed natural gas for 2ndary heating	ZNGHT25	76- 76	$ZVAR. $ 1.
	Imputed natural gas for cooling	ZNGCOOL5	78- 78	$ZVAR. $ 1.
	Imputed natural gas for water heating	ZNGWATR5	80- 80	$ZVAR. $ 1.
	Imputed natural gas for cooking	ZNGCOOK5	82- 82	$ZVAR. $ 1.
	Imputed natural gas for manufacturing	ZNGMANU5	84- 84	$ZVAR. $ 1.
	Imputed natural gas to generate electric	ZNGGENR5	86- 86	$ZVAR. $ 1.
	Imputed fuel oil used	ZFKUSED5	88- 88	$ZVAR. $ 1.
	Imputed fuel oil for main heating	ZFKHT15	90- 90	$ZVAR. $ 1.
	Imputed fuel oil for 2ndary heating	ZFKHT25	92- 92	$ZVAR. $ 1.
	Imputed fuel oil for cooling	ZFKCOOL5	94- 94	$ZVAR. $ 1.
	Imputed fuel oil for water heating	ZFKWATR5	96- 96	$ZVAR. $ 1.
	Imputed fuel oil for cooking	ZFKCOOK5	98- 98	$ZVAR. $ 1.
	Imputed fuel oil for manufacturing	ZFKMANU5	100- 100	$ZVAR. $ 1.
	Imputed fuel oil to generate electricity	ZFKGENR5	102- 102	$ZVAR. $ 1.
	Imputed propane used	ZPRUSED5	104- 104	$ZVAR. $ 1.
	Imputed propane for main heating	ZPRHT15	106- 106	$ZVAR. $ 1.
	Imputed propane for 2ndary heating	ZPRHT25	108- 108	$ZVAR. $ 1.
	Imputed propane for cooling	ZPRCOOL5	110- 110	$ZVAR. $ 1.
	Imputed propane for water heating	ZPRWATR5	112- 112	$ZVAR. $ 1.
	Imputed propane for cooking	ZPRCOOK5	114- 114	$ZVAR. $ 1.
	Imputed propane for manufacturing	ZPRMANU5	116- 116	$ZVAR. $ 1.
	Imputed propane to generate electricity	ZPRGENR5	118- 118	$ZVAR. $ 1.
	Imputed steam used	ZSTUSED5	120- 120	$ZVAR. $ 1.
	Imputed steam for main heating	ZSTHT15	122- 122	$ZVAR. $ 1.
	Imputed steam for 2ndary heating	ZSTHT25	124- 124	$ZVAR. $ 1.
	Imputed steam for cooling	ZSTCOOL5	126- 126	$ZVAR. $ 1.
	Imputed steam for water heating	ZSTWATR5	128- 128	$ZVAR. $ 1.
	Imputed steam for cooking	ZSTCOOK5	130- 130	$ZVAR. $ 1.
	Imputed steam for manufacturing	ZSTMANU5	132- 132	$ZVAR. $ 1.

File 8: Imputation Flags for Energy Sources and End Uses
(CE92F08T.TXT) (Continued)

Questionnaire item	Variable Description	Variable Name	Variable Position	Variable Format and Width
	Imputed hot water used	ZHWUSED5	134- 134	$ZVAR. $ 1.
	Imputed hot water for main heating	ZHWHT15	136- 136	$ZVAR. $ 1.
	Imputed hot water 2ndary heating	ZHWHT25	138- 138	$ZVAR. $ 1.
	Imputed hot water for cooling	ZHWCOOL5	140- 140	$ZVAR. $ 1.
	Imputed hot water for heating water	ZHWWATR5	142- 142	$ZVAR. $ 1.
	Imputed hot water for cooking	ZHWCOOK5	144- 144	$ZVAR. $ 1.
	Imputed hot water for manufacturing	ZHWMANU5	146- 146	$ZVAR. $ 1.
	Imputed chilled water used	ZCWUSED5	148- 148	$ZVAR. $ 1.
	Imputed chilled water for cooling	ZCWCOOL5	150- 150	$ZVAR. $ 1.
	Imputed wood used	ZWOUSED5	152- 152	$ZVAR. $ 1.
	Imputed wood for main heating	ZWOHT15	154- 154	$ZVAR. $ 1.
	Imputed wood for 2ndary heating	ZWOHT25	156- 156	$ZVAR. $ 1.
	Imputed wood for water heating	ZWOWATR5	158- 158	$ZVAR. $ 1.
	Imputed wood for cooking	ZWOCOOK5	160- 160	$ZVAR. $ 1.
	Imputed wood for manufacturing	ZWOMANU5	162- 162	$ZVAR. $ 1.
	Imputed wood to generate electricity	ZWOGENR5	164- 164	$ZVAR. $ 1.
	Imputed coal used	ZCOUSED5	166- 166	$ZVAR. $ 1.
	Imputed coal for main heating	ZCOHT15	168- 168	$ZVAR. $ 1.
	Imputed coal for 2ndary heating	ZCOHT25	170- 170	$ZVAR. $ 1.
	Imputed coal for water heating	ZCOWATR5	172- 172	$ZVAR. $ 1.
	Imputed coal for cooking	ZCOCOOK5	174- 174	$ZVAR. $ 1.
	Imputed coal for manufacturing	ZCOMANU5	176- 176	$ZVAR. $ 1.
	Imputed coal to generate electricity	ZCOGENR5	178- 178	$ZVAR. $ 1.
	Imputed PVCs used in 1992	ZPVUSED5	180- 180	$ZVAR. $ 1.
	Imputed PVCs used for main heat	ZPVHT15	182- 182	$ZVAR. $ 1.
	Imputed PVCs used for 2nd heat	ZPVHT25	184- 184	$ZVAR. $ 1.
	Imputed PVCs used for cooling	ZPVCOOL5	186- 186	$ZVAR. $ 1.
	Imputed PVCs used for water heatin	ZPVWATR5	188- 188	$ZVAR. $ 1.
	Imputed PVCs for commercial cooking	ZPVCOOK5	190- 190	$ZVAR. $ 1.
	Imputed PVCs used for manufacturing	ZPVMANU5	192- 192	$ZVAR. $ 1.
	Imputed PVCs to generate electricity	ZPVGENR5	194- 194	$ZVAR. $ 1.
	Imputed active solar used	ZSOUSED5	196- 196	$ZVAR. $ 1.
	Imputed solar for main heating	ZSOHT15	198- 198	$ZVAR. $ 1.
	Imputed solar for 2ndary heating	ZSOHT25	200- 200	$ZVAR. $ 1.
	Imputed active solar cooling	ZSOCOOL5	202- 202	$ZVAR. $ 1.
	Imputed solar for water heating	ZSOWATR5	204- 204	$ZVAR. $ 1.
	Imputed solar for cooking	ZSOCOOK5	206- 206	$ZVAR. $ 1.
	Imputed solar for manufacturing	ZSOMANU5	208- 208	$ZVAR. $ 1.
	Imputed solar to generate electric	ZSOGENR5	210- 210	$ZVAR. $ 1.
	Imputed other energy source used	ZOTUSED5	212- 212	$ZVAR. $ 1.
	Imputed other energy for main heating	ZOTHT15	214- 214	$ZVAR. $ 1.
	Imputed other energy for 2ndary heating	ZOTHT25	216- 216	$ZVAR. $ 1.
	Imputed other energy for cooling	ZOTCOOL5	218- 218	$ZVAR. $ 1.
	Imputed other energy for water heating	ZOTWATR5	220- 220	$ZVAR. $ 1.
	Imputed other energy for cooking	ZOTCOOK5	222- 222	$ZVAR. $ 1.
	Imputed other energy for manufacturing	ZOTMANU5	224- 224	$ZVAR. $ 1.
	Imputed other energy to generate elec	ZOTGENR5	226- 226	$ZVAR. $ 1.
	Imputed percent heated	ZHEATP5	228- 228	$ZVAR. $ 1.
	Imputed percent cooled	ZCOOLP5	230- 230	$ZVAR. $ 1.
	Electricity supplied	ELSUPL5	232- 232	$XXSUPL. $ 1.
	Natural gas supplied	NGSUPL5	234- 234	$XXSUPL. $ 1.
	Fuel oil supplied	FKSUPL5	236- 236	$XXSUPL. $ 1.
	Steam supplied	STSUPL5	238- 238	$XXSUPL. $ 1.
	Hot water supplied	HWSUPL5	240- 240	$XXSUPL. $ 1.

File 9: Imputation Flags for Heating, Cooling, Refrigeration and Water Heating Equipment and Electricity Generation
(CE92F09T.TXT)

Questionnaire item	Variable Description	Variable Name	Variable Position	Variable Format and Width
CASEID	Building identifier	BLDGID5	1- 5	$ 5.
	Census region	REGION5	7- 7	$REGION. $ 1.
	Census division	CENDIV5	9- 9	$CENDIV. $ 1.
A7	Square footage	SQFT5	11- 19	MISS9CH. 9.
A8	Square footage category	SQFTC5	21- 22	$SQFTC. $ 2.
A14	Year of construction category	YRCONC5	24- 25	$YRCONC. $ 2.
	Principal building activity	PBA5	27- 28	$ACTIVTY. $ 2.
	Adjusted weight	ADJWT5	30- 37	8.2
	Pair member	PAIR5	39- 39	$ 1.
	Variance stratum	STRATUM5	41- 42	$ 2.
	Imputed heat pump for heating	ZHTPMPH5	44- 44	$ZVAR. $ 1.
	Imputed pct. heated by the heat pump	ZHTPHP5	46- 46	$ZVAR. $ 1.
	Imputed heat pump heat dist. by vents	ZHTPHDC5	48- 48	$ZVAR. $ 1.
	Imputed heat pump heat dist. by fan-coil	ZHTPHFC5	50- 50	$ZVAR. $ 1.
	Imputed heat pump heat dist. by other	ZHTPHOT5	52- 52	$ZVAR. $ 1.
	Imputed furnace	ZFURNAC5	54- 54	$ZVAR. $ 1.
	Imputed pct. heated by furnace	ZFURNP5	56- 56	$ZVAR. $ 1.
	Imputed furnace heat dist. by vents	ZFURNDC5	58- 58	$ZVAR. $ 1.
	Imputed furnace heat dist. by other	ZFURNOT5	60- 60	$ZVAR. $ 1.
	Imputed self-contained heating units	ZSLFCON5	62- 62	$ZVAR. $ 1.
	Imputed pct. heated by space heaters	ZSLFCNP5	64- 64	$ZVAR. $ 1.
	Imputed steam or hot water piped in	ZSTHW5	66- 66	$ZVAR. $ 1.
	Imputed pct. heated by steam/hot water	ZSTHWP5	68- 68	$ZVAR. $ 1.
	Imputed steam dist. by radiators/bboards	ZSTHWBR5	70- 70	$ZVAR. $ 1.
	Imputed steam distributed by vents	ZSTHWDC5	72- 72	$ZVAR. $ 1.
	Imputed steam distributed by fan-coil	ZSTHWFC5	74- 74	$ZVAR. $ 1.
	Imputed steam distributed by other	ZSTHWOT5	76- 76	$ZVAR. $ 1.
	Imputed boiler	ZBOILER5	78- 78	$ZVAR. $ 1.
	Imputed pct. heated by boilers	ZBOILP5	80- 80	$ZVAR. $ 1.
	Imputed boiler dist. radiators/bboards	ZBOILBR5	82- 82	$ZVAR. $ 1.
	Imputed boiler heat distributed by vents	ZBOILDC5	84- 84	$ZVAR. $ 1.
	Imputed boiler heat dist. by fan-coil	ZBOILFC5	86- 86	$ZVAR. $ 1.
	Imputed boiler heat distributed by other	ZBOILOT5	88- 88	$ZVAR. $ 1.
	Imputed packaged heating units	ZPKGHT5	90- 90	$ZVAR. $ 1.
	Imputed pct. heated packaged heat units	ZPKGHP5	92- 92	$ZVAR. $ 1.
	Imputed packaged heat dist. by vents	ZPKGHDC5	94- 94	$ZVAR. $ 1.
	Imputed packaged heat dist. by other	ZPKGHOT5	96- 96	$ZVAR. $ 1.
	Imputed other heating equipment	ZOTHTEQ5	98- 98	$ZVAR. $ 1.
	Imputed first other heating equipment	ZOTHTQ15	100- 100	$ZVAR. $ 1.
	Imputed pct. heated by other equipment	ZOTHTP5	102- 102	$ZVAR. $ 1.
	Imputed other heat dist. radtrs/bboards	ZOTHTBR5	104- 104	$ZVAR. $ 1.
	Imputed other heat distributed by vents	ZOTHTDC5	106- 106	$ZVAR. $ 1.
	Imputed other heat dist. by fan-coil	ZOTHTFC5	108- 108	$ZVAR. $ 1.
	Imputed other heat distributed by other	ZOTHTOT5	110- 110	$ZVAR. $ 1.
	Imputed residential type central AC used	ZRCAC5	112- 112	$ZVAR. $ 1.
	Imputed pct. cooled by resid. central AC	ZRCACP5	114- 114	$ZVAR. $ 1.
	Imputed central air distributed by vents	ZRCACDC5	116- 116	$ZVAR. $ 1.
	Imputed central air distributed by other	ZRCACOT5	118- 118	$ZVAR. $ 1.
	Imputed heat pump for cooling	ZHTPMPC5	120- 120	$ZVAR. $ 1.
	Imputed pct. cooled by the heat pump	ZHTPCP5	122- 122	$ZVAR. $ 1.
	Imputed heat pump cooling dist. by vents	ZHTPCDC5	124- 124	$ZVAR. $ 1.
	Imputed heat pump cooling dist. by other	ZHTPCOT5	126- 126	$ZVAR. $ 1.
	Imputed individual air conditioners	ZACWNWL5	128- 128	$ZVAR. $ 1.
	Imputed pct. cooled by individual AC	ZACWNWP5	130- 130	$ZVAR. $ 1.

File 9: Imputation Flags for Heating, Cooling, Refrigeration and Water Heating Equipment and Electricity Generation (CE92F09T.TXT) (Continued)

Questionnaire item	Variable Description	Variable Name	Variable Position	Variable Format and Width
	Imputed district chilled water piped in	ZCHWT5	132- 132	$ZVAR. $ 1.
	Imputed pct. cooled dist. chilled water	ZCHWTP5	134- 134	$ZVAR. $ 1.
	Imputed chilled water dist. by fan-coil	ZCHWTFC5	136- 136	$ZVAR. $ 1.
	Imputed chilled water dist. vents	ZCHWTDC5	138- 138	$ZVAR. $ 1.
	Imputed chilled water dist. by other	ZCHWTOT5	140- 140	$ZVAR. $ 1.
	Imputed central chiller	ZCHILLR5	142- 142	$ZVAR. $ 1.
	Imputed pct. cooled by central chillers	ZCHILP5	144- 144	$ZVAR. $ 1.
	Imputed cent. chiller dist. by fan-coil	ZCHILFC5	146- 146	$ZVAR. $ 1.
	Imputed central chiller dist. by vents	ZCHILDC5	148- 148	$ZVAR. $ 1.
	Imputed central chiller dist. by other	ZCHILOT5	150- 150	$ZVAR. $ 1.
	Imputed packaged cooling units	ZPKGCL5	152- 152	$ZVAR. $ 1.
	Imputed pct. packaged cooling units	ZPKGCP5	154- 154	$ZVAR. $ 1.
	Imputed packaged cooling dist. by vents	ZPKGCDC5	156- 156	$ZVAR. $ 1.
	Imputed packaged cooling dist. by other	ZPKGCOT5	158- 158	$ZVAR. $ 1.
	Imputed evaporative coolers	ZEVAPCL5	160- 160	$ZVAR. $ 1.
	Imputed pct. cooled by the evap. coolers	ZEVAPP5	162- 162	$ZVAR. $ 1.
	Imputed evap. coolers dist. by fan-coil	ZEVAPFC5	164- 164	$ZVAR. $ 1.
	Imputed evap. coolers dist. by vents	ZEVAPDC5	166- 166	$ZVAR. $ 1.
	Imputed evap. coolers dist. by other	ZEVAPOT5	168- 168	$ZVAR. $ 1.
	Imputed other cooling equipment	ZOTCLEQ5	170- 170	$ZVAR. $ 1.
	Imputed first other cooling equipment	ZOTCLQ15	172- 172	$ZVAR. $ 1.
	Imputed pct. cooled by other cooling	ZOTCLP5	174- 174	$ZVAR. $ 1.
	Imputed other cooling dist. by fan-coil	ZOTCLFC5	176- 176	$ZVAR. $ 1.
	Imputed other cooling dist. by vents	ZOTCLDC5	178- 178	$ZVAR. $ 1.
	Imputed other cooling dist. by other	ZOTCLOT5	180- 180	$ZVAR. $ 1.
	Imputed refrig./freezer equip present	ZRFGEQP5	182- 182	$ZVAR. $ 1.
	Imputed refrig/freezer walk-in units	ZRFGWI5	184- 184	$ZVAR. $ 1.
	Imputed number of walk-in units	ZRFGWIN5	186- 186	$ZVAR. $ 1.
	Imputed refrig./freezer cases/cabinets	ZRFGCAS5	188- 188	$ZVAR. $ 1.
	Imputed open refrig./frzr. cases/cbnets.	ZRFGOP5	190- 190	$ZVAR. $ 1.
	Imputed no. opn ref./frzr. cases/cbnets.	ZRFGOPN5	192- 192	$ZVAR. $ 1.
	Imputed linear ft. open ref./frzr. cases	ZRFGOPF5	194- 194	$ZVAR. $ 1.
	Imputed closed refrig./frzr. cases	ZRFGCL5	196- 196	$ZVAR. $ 1.
	Imputed no. closed ref./frzr. cases	ZRFGCLN5	198- 198	$ZVAR. $ 1.
	Imputed ft. closed ref./frzr. cases	ZRFGCLF5	200- 200	$ZVAR. $ 1.
	Imputed cent. storage tank water heater	ZWCTNK5	202- 202	$ZVAR. $ 1.
	Imputed water heat drawn from space heat	ZWCSPC5	204- 204	$ZVAR. $ 1.
	Imputed other cent. water heating system	ZWCOTH5	206- 206	$ZVAR. $ 1.
	Imputed res.-type st. tank water heaters	ZWDRES5	208- 208	$ZVAR. $ 1.
	Imputed instantaneous water heaters	ZWDINS5	210- 210	$ZVAR. $ 1.
	Imputed other dist. water heating system	ZWDOTH5	212- 212	$ZVAR. $ 1.
	Imputed person responsible HVAC equip.	ZOPHVAC5	214- 214	$ZVAR. $ 1.
	Imputed oth. person respons. HVAC equip.	ZOPHCOT5	216- 216	$ZVAR. $ 1.
	Imputed years responsible HVAC equipment	ZOPHCYR5	218- 218	$ZVAR. $ 1.
	Imputed pct. time/week HVAC equipment	ZOPHCTP5	220- 220	$ZVAR. $ 1.
	Imputed electric generating capability	ZGENER5	222- 222	$ZVAR. $ 1.
	Imputed primary use of generators	ZGENUSE5	224- 224	$ZVAR. $ 1.
	Imputed other primary use of generators	ZGENUSO5	226- 226	$ZVAR. $ 1.
	Imputed cogeneration system	ZCOGEN5	228- 228	$ZVAR. $ 1.
	Imputed connected to grid	ZGRID5	230- 230	$ZVAR. $ 1.
	Imputed generated elec consumed in bldg.	ZGENBLD5	232- 232	$ZVAR. $ 1.
	Imputed generated elec deliv. utility	ZGENUTL5	234- 234	$ZVAR. $ 1.
	Imputed generated elec deliv. other bldg	ZGENOTB5	236- 236	$ZVAR. $ 1.
	Imputed no electricity generated in 1992	ZGENOFF5	238- 238	$ZVAR. $ 1.
	Electricity supplied	ELSUPL5	240- 240	$XXSUPL. $ 1.
	Natural gas supplied	NGSUPL5	242- 242	$XXSUPL. $ 1.
	Fuel oil supplied	FKSUPL5	244- 244	$XXSUPL. $ 1.
	Steam supplied	STSUPL5	246- 246	$XXSUPL. $ 1.
	Hot water supplied	HWSUPL5	248- 248	$XXSUPL. $ 1.

File 10: Imputation Flags for General Information
Building Activity, Operation Hours
(CE92F10T.TXT)

Questionnaire item	Variable Description	Variable Name	Variable Position	Variable Format and Width
CASEID	Building identifier	BLDGID5	1- 5	$ 5.
	Census region	REGION5	7- 7	$REGION. $ 1.
	Census division	CENDIV5	9- 9	$CENDIV. $ 1.
A7	Square footage	SQFT5	11- 19	MISS9CH. 9.
A8	Square footage category	SQFTC5	21- 22	$SQFTC. $ 2.
A14	Year of construction category	YRCONC5	24- 25	$YRCONC. $ 2.
	Principal building activity	PBA5	27- 28	$ACTIVTY. $ 2.
	Adjusted weight	ADJWT5	30- 37	8.2
	Pair member	PAIR5	39- 39	$ 1.
	Variance stratum	STRATUM5	41- 42	$ 2.
	Imputed square footage	ZSQFT5	44- 44	$ZVAR. $ 1.
	Imputed square footage category	ZSQFTC5	46- 46	$ZVAR. $ 1.
	Imputed number of floors	ZNFLOOR5	48- 48	$ZVAR. $ 1.
	Imputed any portion of flr below ground	ZPORBLG5	50- 50	$ZVAR. $ 1.
	Imputed number of floors below ground	ZNUMBLG5	52- 52	$ZVAR. $ 1.
	Imputed year constructed	ZYRCON5	54- 54	$ZVAR. $ 1.
	Imputed month construction completed	ZMONCON5	56- 56	$ZVAR. $ 1.
	Imputed year constructed category	ZYRCONC5	58- 58	$ZVAR. $ 1.
	Imputed expans./reduct. since 12/31/86	ZEXPRED5	60- 60	$ZVAR. $ 1.
	Imputed no. sq. ft. expansion/reduction	ZAMTDIF5	62- 62	$ZVAR. $ 1.
	Imputed 1st previous/intended use	ZVACBA15	64- 64	$ZVAR. $ 1.
	Imputed 2nd previous/intended use	ZVACBA25	66- 66	$ZVAR. $ 1.
	Imputed religious worship seating	ZRWSEAT5	68- 68	$ZVAR. $ 1.
	Imputed public assembly seating	ZPBSEAT5	70- 70	$ZVAR. $ 1.
	Imputed classroom seating	ZEDSEAT5	72- 72	$ZVAR. $ 1.
	Imputed food service seating	ZFDSEAT5	74- 74	$ZVAR. $ 1.
	Imputed licensed beds (hospitals)	ZHCBED5	76- 76	$ZVAR. $ 1.
	Imputed licensed beds (nursing)	ZNRSBED5	78- 78	$ZVAR. $ 1.
	Imputed number of guest rooms	ZLODGRM5	80- 80	$ZVAR. $ 1.
	Imputed space used food preparation	ZFDRM5	82- 82	$ZVAR. $ 1.
	Imputed pct. floorspace food prep.	ZFDRMP5	84- 84	$ZVAR. $ 1.
	Imputed computer room	ZCOMPRM5	86- 86	$ZVAR. $ 1.
	Imputed pct. floorspace computer rooms	ZCMPRMP5	88- 88	$ZVAR. $ 1.
	Imputed space requiring vent. equip.	ZVNTRM5	90- 90	$ZVAR. $ 1.
	Imputed Pct. floorspace vent. equip.	ZVNTRMP5	92- 92	$ZVAR. $ 1.
	Imputed space requiring hot water	ZHWTRM5	94- 94	$ZVAR. $ 1.
	Imputed pct. floorspace hot water	ZHWTRMP5	96- 96	$ZVAR. $ 1.
	Imputed other space requiring energy	ZOTHRM5	98- 98	$ZVAR. $ 1.
	Imputed pct. other floorspace energy	ZOTHRMP5	100- 100	$ZVAR. $ 1.
	Imputed 1st other use large amts. energy	ZOTHRM15	102- 102	$ZVAR. $ 1.
	Imputed 2nd other use large amts. energy	ZOTHRM25	104- 104	$ZVAR. $ 1.
	Imputed PCs/comp. terminals in building	ZPCTERM5	106- 106	$ZVAR. $ 1.
	Imputed no. PCs/comp. terminals cat.	ZPCTRMC5	108- 108	$ZVAR. $ 1.
	Imputed building owner	ZOWNER5	110- 110	$ZVAR. $ 1.
	Imputed occupied by federal government	ZFEDOCC5	112- 112	$ZVAR. $ 1.
	Imputed occupied by state government	ZSTOCC5	114- 114	$ZVAR. $ 1.
	Imputed occupied by local government	ZLOCOCC5	116- 116	$ZVAR. $ 1.
	Imputed occupied by utility company	ZPRVOCC5	118- 118	$ZVAR. $ 1.
	Imputed occupied by religious org.	ZCHUOCC5	120- 120	$ZVAR. $ 1.
	Imputed occupied by private business	ZOTHOCC5	122- 122	$ZVAR. $ 1.
	Imputed building is completely vacant	ZVACOCC5	124- 124	$ZVAR. $ 1.
	Imputed facility	ZFACIL5	126- 126	$ZVAR. $ 1.
	Imputed principal facility activity	ZFACACT5	128- 128	$ZVAR. $ 1.
	Imputed occupancy status	ZOCCTYP5	130- 130	$ZVAR. $ 1.

File 10: Imputation Flags for General Information
Building Activity, Operating Hours
(CE92F10T.TXT) (Continued)

Questionnaire item	Variable Description	Variable Name	Variable Position	Variable Format and Width
	Imputed number of occupants	ZNOCC5	132- 132	$ZVAR. $ 1.
	Imputed number of occupants category	ZNOCCAT5	134- 134	$ZVAR. $ 1.
	Imputed space vacant 3 or more months	ZPORVAC5	136- 136	$ZVAR. $ 1.
	Imputed months in use out of past 12	ZMONUSE5	138- 138	$ZVAR. $ 1.
	Imputed Monday opening hour	ZMONBGN5	140- 140	$ZVAR. $ 1.
	Imputed Monday closing hour	ZMONEND5	142- 142	$ZVAR. $ 1.
	Imputed Tuesday opening hour	ZTUEBGN5	144- 144	$ZVAR. $ 1.
	Imputed Tuesday closing hour	ZTUEEND5	146- 146	$ZVAR. $ 1.
	Imputed Wednesday opening hour	ZWEDBGN5	148- 148	$ZVAR. $ 1.
	Imputed Wednesday closing hour	ZWEDEND5	150- 150	$ZVAR. $ 1.
	Imputed Thursday opening hour	ZTHUBGN5	152- 152	$ZVAR. $ 1.
	Imputed Thursday closing hour	ZTHUEND5	154- 154	$ZVAR. $ 1.
	Imputed Friday opening hour	ZFRIBGN5	156- 156	$ZVAR. $ 1.
	Imputed Friday closing hour	ZFRIEND5	158- 158	$ZVAR. $ 1.
	Imputed Saturday opening hour	ZSATBGN5	160- 160	$ZVAR. $ 1.
	Imputed Saturday closing hour	ZSATEND5	162- 162	$ZVAR. $ 1.
	Imputed Sunday opening hour	ZSUNBGN5	164- 164	$ZVAR. $ 1.
	Imputed Sunday closing hour	ZSUNEND5	166- 166	$ZVAR. $ 1.
	Imputed Monday hours open	ZMONHRS5	168- 168	$ZVAR. $ 1.
	Imputed Tuesday hours open	ZTUEHRS5	170- 170	$ZVAR. $ 1.
	Imputed Wednesday hours open	ZWEDHRS5	172- 172	$ZVAR. $ 1.
	Imputed Thursday hours open	ZTHUHRS5	174- 174	$ZVAR. $ 1.
	Imputed Friday hours open	ZFRIHRS5	176- 176	$ZVAR. $ 1.
	Imputed Saturday operating hours	ZSATHRS5	178- 178	$ZVAR. $ 1.
	Imputed Sunday operating hours	ZSUNHRS5	180- 180	$ZVAR. $ 1.
	Imputed weekly operating hours	ZWKHRS5	182- 182	$ZVAR. $ 1.
	Imputed weekly operating hours category	ZWKHRSC5	184- 184	$ZVAR. $ 1.
	Imputed number of workers (all shifts)	ZTOTWK5	186- 186	$ZVAR. $ 1.
	Imputed no. of workers cat. (all shifts)	ZTOTWKC5	188- 188	$ZVAR. $ 1.
	Imputed number of workers	ZNWKER5	190- 190	$ZVAR. $ 1.
	Imputed number of workers category	ZNWKERC5	192- 192	$ZVAR. $ 1.
	Imputed wall construction material	ZWLCNS5	194- 194	$ZVAR. $ 1.
	Imputed roof construction material	ZRFCNS5	196- 196	$ZVAR. $ 1.
	Imputed building shape	ZBLDSHP5	198- 198	$ZVAR. $ 1.
	Imputed building length	ZBLDLEN5	200- 200	$ZVAR. $ 1.
	Imputed building width	ZBLDWID5	202- 202	$ZVAR. $ 1.
	Imputed no. walls attached oth. struct.	ZATTWLL5	204- 204	$ZVAR. $ 1.
	Imputed percent glass on exterior	ZGLSSPC5	206- 206	$ZVAR. $ 1.
	Imputed facility with central plant	ZPLANT5	208- 208	$ZVAR. $ 1.
	Imputed physical plant produce hot water	ZFACDHW5	210- 210	$ZVAR. $ 1.
	Imputed central plant produces steam	ZFACDST5	212- 212	$ZVAR. $ 1.
	Imputed central plant produces chill wtr	ZFACDCW5	214- 214	$ZVAR. $ 1.
	Imputed central plant produces elec	ZFACELC5	216- 216	$ZVAR. $ 1.
	Imputed central plant in building	ZBLDPLT5	218- 218	$ZVAR. $ 1.
	Imputed expend. for elec category	ZELEXPC5	220- 220	$ZVAR. $ 1.
	Imputed expend. for natural gas category	ZNGEXPC5	222- 222	$ZVAR. $ 1.
	Imputed interruptible service (nat. gas)	ZNGINTR5	224- 224	$ZVAR. $ 1.
	Imputed building uses transportation gas	ZTRNSGS5	226- 226	$ZVAR. $ 1.
	Imputed expend. for fuel oil category	ZFKEXPC5	228- 228	$ZVAR. $ 1.
	Imputed total tank capacity (gallons)	ZTOTCAP5	230- 230	$ZVAR. $ 1.
	Imputed consumption of propane category	ZPRAMTC5	232- 232	$ZVAR. $ 1.
	Imputed unit for propane amounts	ZPRAUNT5	234- 234	$ZVAR. $ 1.
	Imputed expend. for propane category	ZPREXPC5	236- 236	$ZVAR. $ 1.
	Imputed consumption of wood category	ZWOAMTC5	238- 238	$ZVAR. $ 1.
	Imputed wood purchased or free of charge	ZWOSRC5	240- 240	$ZVAR. $ 1.
	Imputed expend. for wood category	ZWOEXPC5	242- 242	$ZVAR. $ 1.
	Electricity supplied	ELSUPL5	244- 244	$XXSUPL. $ 1.
	Natural gas supplied	NGSUPL5	246- 246	$XXSUPL. $ 1.
	Fuel oil supplied	FKSUPL5	248- 248	$XXSUPL. $ 1.
	Steam supplied	STSUPL5	250- 250	$XXSUPL. $ 1.
	Hot water supplied	HWSUPL5	252- 252	$XXSUPL. $ 1.

File 11: Imputation Flags for Special Technologies,
Lighting Equipment, Conservation
(CE92F11T.TXT)

Questionnaire item	Variable Description	Variable Name	Variable Position	Variable Format and Width
CASEID	Building identifier	BLDGID5	1- 5	$ 5.
	Census region	REGION5	7- 7	$REGION. $ 1.
	Census division	CENDIV5	9- 9	$CENDIV. $ 1.
A7	Square footage	SQFT5	11- 19	MISS9CH. 9.
A8	Square footage category	SQFTC5	21- 22	$SQFTC. $ 2.
A14	Year of construction category	YRCONC5	24- 25	$YRCONC. $ 2.
	Principal building activity	PBA5	27- 28	$ACTIVTY. $ 2.
	Adjusted weight	ADJWT5	30- 37	8.2
	Pair member	PAIR5	39- 39	$ 1.
	Variance stratum	STRATUM5	41- 42	$ 2.
	Imputed ability to switch main heating	ZSWITCH5	44- 44	$ZVAR. $ 1.
	Imputed able to switch heat to elec.	ZSWCHEL5	46- 46	$ZVAR. $ 1.
	Imputed able to switch heat to nat. gas	ZSWCHNG5	48- 48	$ZVAR. $ 1.
	Imputed able to switch heat to fuel oil	ZSWCHFK5	50- 50	$ZVAR. $ 1.
	Imputed able to switch heat to propane	ZSWCHPR5	52- 52	$ZVAR. $ 1.
	Imputed able to switch heat to steam	ZSWCHST5	54- 54	$ZVAR. $ 1.
	Imputed able to switch heat to hot wtr.	ZSWCHHW5	56- 56	$ZVAR. $ 1.
	Imputed able to switch heat to wood	ZSWCHWO5	58- 58	$ZVAR. $ 1.
	Imputed able to switch heat to other	ZSWCHOT5	60- 60	$ZVAR. $ 1.
	Imputed type other alternative heat fuel	ZSWCHO15	62- 62	$ZVAR. $ 1.
	Imputed bldg. uses TES or pump storage	ZTESTEC5	64- 64	$ZVAR. $ 1.
	Imputed bldg. uses passive solar	ZPASTEC5	66- 66	$ZVAR. $ 1.
	Imputed bldg. uses geothermal energy	ZGEOTEC5	68- 68	$ZVAR. $ 1.
	Imputed bldg. uses well water cooling	ZWELTEC5	70- 70	$ZVAR. $ 1.
	Imputed bldg. uses waste incineration	ZWASTEC5	72- 72	$ZVAR. $ 1.
	Imputed bldg. uses wind generation	ZWNDTEC5	74- 74	$ZVAR. $ 1.
	Imputed bldg. uses other technology	ZTECOTH5	76- 76	$ZVAR. $ 1.
	Imputed type of other special technology	ZTECOT15	78- 78	$ZVAR. $ 1.
	Imputed heat/cool equip. used extra hrs	ZHCUSE5	80- 80	$ZVAR. $ 1.
	Imputed no. hrs heat/cool equip. used	ZHCHRS5	82- 82	$ZVAR. $ 1.
	Imputed lighting equip. in use extra hrs	ZLTUSE5	84- 84	$ZVAR. $ 1.
	Imputed no. hrs lighting equip. used	ZLTHRS5	86- 86	$ZVAR. $ 1.
	Imputed percent lit	ZLTOHRP5	88- 88	$ZVAR. $ 1.
	Imputed percent lit off-hours	ZLTNHRP5	90- 90	$ZVAR. $ 1.
	Imputed incandescent bulbs	ZBULB5	92- 92	$ZVAR. $ 1.
	Imputed percent lit by incandescent bulb	ZBULBP5	94- 94	$ZVAR. $ 1.
	Imputed fluorescent lights	ZFLUOR5	96- 96	$ZVAR. $ 1.
	Imputed percent lit by fluorescent lites	ZFLUORP5	98- 98	$ZVAR. $ 1.
	Imputed compact fluorescent bulbs used	ZCFLR5	100- 100	$ZVAR. $ 1.
	Imputed pct. lit by compact fluorescents	ZCFLRP5	102- 102	$ZVAR. $ 1.
	Imputed high-intensity discharge lights	ZHID5	104- 104	$ZVAR. $ 1.
	Imputed percent lit by HID lights	ZHIDP5	106- 106	$ZVAR. $ 1.
	Imputed any other lighting equipment	ZOTLT5	108- 108	$ZVAR. $ 1.
	Imputed type other lighting equip	ZOTLT15	110- 110	$ZVAR. $ 1.
	Imputed percent other lighting equipment	ZOTLTP5	112- 112	$ZVAR. $ 1.
	Imputed specular reflectors used	ZSREF5	114- 114	$ZVAR. $ 1.
	Imputed percent specular reflectors used	ZSREFP5	116- 116	$ZVAR. $ 1.
	Imputed daylighting controls	ZDAYCTL5	118- 118	$ZVAR. $ 1.
	Imputed percent daylighting controls	ZDCTLP5	120- 120	$ZVAR. $ 1.
	Imputed occupancy sensors used	ZOCSN5	122- 122	$ZVAR. $ 1.
	Imputed pct. occupancy sensors used	ZOCSNP5	124- 124	$ZVAR. $ 1.
	Imputed time clocks/timed switches used	ZTMCK5	126- 126	$ZVAR. $ 1.
	Imputed pct. time clocks/timed switches	ZTMCKP5	128- 128	$ZVAR. $ 1.
	Imputed manual dimmer switches used	ZMNLD5	130- 130	$ZVAR. $ 1.

File 11: Imputation Flags for Special Technologies,
Lighting Equipment, Conservation
(CE92F11T.TXT) (Continued)

Questionnaire item	Variable Description	Variable Name	Variable Position	Variable Format and Width
	Imputed pct. manual dimmer switches used	ZMNLDP5	132- 132	$ZVAR. $ 1.
	Imputed other light conserv. equip. used	ZOLCN5	134- 134	$ZVAR. $ 1.
	Imputed type other light conserv. equip.	ZOLCN15	136- 136	$ZVAR. $ 1.
	Imputed pct. other light conserv. equip.	ZOLCNP5	138- 138	$ZVAR. $ 1.
	Imputed VAV system	ZVAV5	140- 140	$ZVAR. $ 1.
	Imputed VAV system install/add	ZVAVINS5	142- 142	$ZVAR. $ 1.
	Imputed when VAV system added	ZVAVDT5	144- 144	$ZVAR. $ 1.
	Imputed economizer cycle	ZECN5	146- 146	$ZVAR. $ 1.
	Imputed economizer cycle installed/added	ZECNINS5	148- 148	$ZVAR. $ 1.
	Imputed when economizer cycle added	ZECNDT5	150- 150	$ZVAR. $ 1.
	Imputed roof or ceiling insulation	ZRIN5	152- 152	$ZVAR. $ 1.
	Imputed roof/ceil insulation inst/add	ZRININS5	154- 154	$ZVAR. $ 1.
	Imputed when roof/ceil insulation added	ZRINDT5	156- 156	$ZVAR. $ 1.
	Imputed exterior wall insulation	ZWIN5	158- 158	$ZVAR. $ 1.
	Imputed wall insulation installed/added	ZWININS5	160- 160	$ZVAR. $ 1.
	Imputed when wall insulation added	ZWINDT5	162- 162	$ZVAR. $ 1.
	Imputed storm windows/doors	ZSTW5	164- 164	$ZVAR. $ 1.
	Imputed storm windows installed/added	ZSTWINS5	166- 166	$ZVAR. $ 1.
	Imputed when storm windows added	ZSTWDT5	168- 168	$ZVAR. $ 1.
	Imputed tinted/reflective glass	ZTRG5	170- 170	$ZVAR. $ 1.
	Imputed tinted/reflec installed/added	ZTRGINS5	172- 172	$ZVAR. $ 1.
	Imputed when tint/reflec glass added	ZTRGDT5	174- 174	$ZVAR. $ 1.
	Imputed shadings or awnings	ZAWN5	176- 176	$ZVAR. $ 1.
	Imputed shadings/awnings install/add	ZAWNINS5	178- 178	$ZVAR. $ 1.
	Imputed when shadings/awnings added	ZAWNDT5	180- 180	$ZVAR. $ 1.
	Imputed windows can be opened/closed	ZOPNWIN5	182- 182	$ZVAR. $ 1.
	Imputed utility sponsored DSM past 3 yrs	ZUTLDSM5	184- 184	$ZVAR. $ 1.
	Imputed bldg. partic. DSM past 3 years	ZBLDDSM5	186- 186	$ZVAR. $ 1.
	Imputed facility partic. DSM past 3 yrs	ZFACDSM5	188- 188	$ZVAR. $ 1.
	Imputed bldg. plans participate in DSM	ZPRTDSM5	190- 190	$ZVAR. $ 1.
	Imputed energy audit performed	ZAUDIT5	192- 192	$ZVAR. $ 1.
	Imputed sponsor of energy audit	ZAUDSPN5	194- 194	$ZVAR. $ 1.
	Imputed other group that sponsored audit	ZAUDOTH5	196- 196	$ZVAR. $ 1.
	Imputed regular maintenance program	ZMAINT5	198- 198	$ZVAR. $ 1.
	Imputed reduced heating off-hours	ZRDHTNF5	200- 200	$ZVAR. $ 1.
	Imputed reduced cooling off-hours	ZRDCLNF5	202- 202	$ZVAR. $ 1.
	Imputed reduced water heating off-hours	ZRDHWNF5	204- 204	$ZVAR. $ 1.
	Imputed reduced lighting off-hours	ZRDLTNF5	206- 206	$ZVAR. $ 1.
	Imputed reduced other equip. off-hours	ZRDOTNF5	208- 208	$ZVAR. $ 1.
	Imputed 1st oth. equip. reduce off-hours	ZRDOTH15	210- 210	$ZVAR. $ 1.
	Imputed 2nd oth. equip. reduce off-hours	ZRDOTH25	212- 212	$ZVAR. $ 1.
	Imputed EMCS	ZEMCS5	214- 214	$ZVAR. $ 1.
	Imputed EMCS controls heating	ZEMCSHT5	216- 216	$ZVAR. $ 1.
	Imputed EMCS controls cooling	ZEMCSCL5	218- 218	$ZVAR. $ 1.
	Imputed EMCS controls water heating	ZEMCSHW5	220- 220	$ZVAR. $ 1.
	Imputed EMCS controls lighting	ZEMCSLT5	222- 222	$ZVAR. $ 1.
	Imputed EMCS controls anything else	ZEMCSOT5	224- 224	$ZVAR. $ 1.
	Imputed 1st other equip. controlled EMCS	ZEMCSO15	226- 226	$ZVAR. $ 1.
	Imputed 2nd other equip. controlled EMCS	ZEMCSO25	228- 228	$ZVAR. $ 1.
	Imputed other feat. to conserve energy	ZCNSVFT5	230- 230	$ZVAR. $ 1.
	Imputed 1st other conservation feature	ZCNSVF15	232- 232	$ZVAR. $ 1.
	Imputed 2nd other conservation feature	ZCNSVF25	234- 234	$ZVAR. $ 1.
	Imputed 3rd other conservation feature	ZCNSVF35	236- 236	$ZVAR. $ 1.
	Electricity supplied	ELSUPL5	238- 238	$XXSUPL. $ 1.
	Natural gas supplied	NGSUPL5	240- 240	$XXSUPL. $ 1.
	Fuel oil supplied	FKSUPL5	242- 242	$XXSUPL. $ 1.
	Steam supplied	STSUPL5	244- 244	$XXSUPL. $ 1.
	Hot water supplied	HWSUPL5	246- 246	$XXSUPL. $ 1.

File 12: Electricity and Demand-Side Management
(CE92F12T.TXT)

Questionnaire item	Variable Description	Variable Name	Variable Position	Variable Format and Width
CASEID	Building identifier	BLDGID5	1- 5	$ 5.
	Census region	REGION5	7- 7	$REGION. $ 1.
	Census division	CENDIV5	9- 9	$CENDIV. $ 1.
A7	Square footage	SQFT5	11- 19	MISS9CH. 9.
A8	Square footage category	SQFTC5	21- 22	$SQFTC. $ 2.
A14	Year of construction category	YRCONC5	24- 25	$YRCONC. $ 2.
	Principal building activity	PBA5	27- 28	$ACTIVTY. $ 2.
	Adjusted weight	ADJWT5	30- 37	8.2
	Pair member	PAIR5	39- 39	$ 1.
	Variance stratum	STRATUM5	41- 42	$ 2.
	Electricity supplied	ELSUPL5	44- 44	$XXSUPL. $ 1.
	Natural gas supplied	NGSUPL5	46- 46	$XXSUPL. $ 1.
	Fuel oil supplied	FKSUPL5	48- 48	$XXSUPL. $ 1.
	Steam supplied	STSUPL5	50- 50	$XXSUPL. $ 1.
	Hot water supplied	HWSUPL5	52- 52	$XXSUPL. $ 1.
	Annual electricity consumption (kWh)	ELCNS5	54- 65	COMMA15. 12.
	Annual electricity consumption (mBtu)	ELBTU5	67- 80	COMMA18. 14.
	Annual electricity expenditures	ELEXP5	82- 90	COMMA11. 9.
	Electricity demand-metering	DEMMTR5	92- 92	$YESNO. $ 1.
	Season of peak electric load	SEASON5	94- 94	$SEASON. $ 1.
	Peak annual electric load	PEAK5	96- 101	6.
	Annual electric load factor	LOADFAC5	103- 108	6.4
	Peak summer electric load	PEAKS5	110- 115	6.
	Average summer peak electric load	AVGPKS5	117- 122	6.
	Average summer electric load factor	AVGLFS5	124- 128	5.3
	Peak winter electric load	PEAKW5	130- 135	6.
	Average winter peak electric load	AVGPKW5	137- 142	6.
	Average winter electric load factor	AVGLFW5	144- 148	5.3
K-2	How electricity is billed	ELBLTYP5	150- 150	$BILTYP. $ 1.
K-4	Electricty bill coverage	ELCOVER5	152- 152	$COVER. $ 1.
	Electricity account classification	ELACCL5	154- 155	$BLDGCL. $ 2.
	Electricity aggregated/disaggregated	ELDSAG5	157- 157	$DISAGG. $ 1.
	Electricity supplier form	ELFORM5	159- 160	$FORM. $ 2.
	Days of electricity shifted from CY92	ELSHFT5	162- 165	4.
	Electricity consumption imputation	ZELCNS5	167- 167	$ZCNSEXP. $ 1.
	Electricity expenditures imputation	ZELEXP5	169- 169	$ZCNSEXP. $ 1.
	Imputed demand-metering	ZDEMMTR5	171- 171	$ZVAR. $ 1.
	Imputed season of peak load	ZSEASON5	173- 173	$ZVAR. $ 1.
	Imputed peak load (and load factor)	ZPEAK5	175- 175	$ZVAR. $ 1.
	Imputed electricity acct. classification	ZELACCL5	177- 177	$ZVAR. $ 1.
	Utility currently sponsors DSM	DSMUTL5	179- 179	$YESNO. $ 1.
	Utility indicates DSM in building	ELDSMU5	181- 181	$YESNO. $ 1.
	Building indicates electric DSM in bldg.	ELDSMB5	183- 183	$YESNO. $ 1.
	Imputed utility currently sponsors DSM	ZDSMUTL5	185- 185	$ZVAR. $ 1.
	Imputed utility indicates DSM in bldg.	ZELDSMU5	187- 187	$ZVAR. $ 1.
	Imputed bldg. claims elec. DSM in bldg.	ZELDSMB5	189- 189	$ZVAR. $ 1.

File 13: Natural Gas
(CE92F13T.TXT)

Questionnaire item	Variable Description	Variable Name	Variable Position	Variable Format and Width
CASEID	Building identifier	BLDGID5	1- 5	$ 5.
	Census region	REGION5	7- 7	$REGION. $ 1.
	Census division	CENDIV5	9- 9	$CENDIV. $ 1.
A7	Square footage	SQFT5	11- 19	MISS9CH. 9.
A8	Square footage category	SQFTC5	21- 22	$SQFTC. $ 2.
A14	Year of construction category	YRCONC5	24- 25	$YRCONC. $ 2.
	Principal building activity	PBA5	27- 28	$ACTIVTY. $ 2.
	Adjusted weight	ADJWT5	30- 37	8.2
	Pair member	PAIR5	39- 39	$ 1.
	Variance stratum	STRATUM5	41- 42	$ 2.
	Electricity supplied	ELSUPL5	44- 44	$XXSUPL. $ 1.
	Natural gas supplied	NGSUPL5	46- 46	$XXSUPL. $ 1.
	Fuel oil supplied	FKSUPL5	48- 48	$XXSUPL. $ 1.
	Steam supplied	STSUPL5	50- 50	$XXSUPL. $ 1.
	Hot water supplied	HWSUPL5	52- 52	$XXSUPL. $ 1.
	Annual natural gas consumption (ccf)	NGCNS5	54- 65	COMMA15. 12.
	Annual natural gas consumption (mBtu)	NGBTU5	67- 80	COMMA18. 14.
	Utility gas customer	UGCUST5	82- 82	$YESNO. $ 1.
	Annual utility gas consumption (ccf)	UGCNS5	84- 95	COMMA15. 12.
	Annual utility gas consumption (mBtu)	UGBTU5	97- 110	COMMA18. 14.
	Transportation gas customer	TGCUST5	112- 112	$YESNO. $ 1.
	Annual transportation gas consmp. (ccf)	TGCNS5	114- 125	COMMA15. 12.
	Annual transportation gas consmp. (mBtu)	TGBTU5	127- 140	COMMA18. 14.
	Annual natural gas expenditures	NGEXP5	142- 150	COMMA11. 9.
	Annual utility gas expenditures	UGEXP5	152- 160	COMMA11. 9.
	Annual trans. gas expenditures	TGEXP5	162- 170	COMMA11. 9.
	Annual trans. gas delivery expenditures	TGFEE5	172- 180	COMMA11. 9.
L-2	How natural gas is billed	NGBLTYP5	182- 182	$BILTYP. $ 1.
L-4	Natural gas bill coverage	NGCOVER5	184- 184	$COVER. $ 1.
	Natural gas account classification	NGACCL5	186- 187	$BLDGCL. $ 2.
	Natural gas aggregated/disaggregated	NGDSAG5	189- 189	$DISAGG. $ 1.
	Natural gas supplier form	NGFORM5	191- 192	$FORM. $ 2.
	Days of natural gas shifted from CY92	NGSHFT5	194- 197	4.
	Natural gas consumption imputation	ZNGCNS5	199- 199	$ZCNSEXP. $ 1.
	Imputed utility gas customer	ZUGCUST5	201- 201	$ZVAR. $ 1.
	Utility gas consumption imputation	ZUGCNS5	203- 203	$ZCNSEXP. $ 1.
	Imputed transportation gas customer	ZTGCUST5	205- 205	$ZVAR. $ 1.
	Transportation gas consmp. imputation	ZTGCNS5	207- 207	$ZCNSEXP. $ 1.
	Natural gas expenditures imputation	ZNGEXP5	209- 209	$ZCNSEXP. $ 1.
	Utility gas expenditures imputation	ZUGEXP5	211- 211	$ZCNSEXP. $ 1.
	Trans. gas expenditures imputation	ZTGEXP5	213- 213	$ZCNSEXP. $ 1.
	Trans. gas delivery exp. imputation	ZTGFEE5	215- 215	$ZCNSEXP. $ 1.
	Imputed natural gas acct. classification	ZNGACCL5	217- 217	$ZVAR. $ 1.

File 14: Fuel Oil
(CE92F14T.TXT)

Questionnaire item	Variable Description	Variable Name	Variable Position	Variable Format and Width
CASEID	Building identifier	BLDGID5	1- 5	$ 5.
	Census region	REGION5	7- 7	$REGION. $ 1.
	Census division	CENDIV5	9- 9	$CENDIV. $ 1.
A7	Square footage	SQFT5	11- 19	MISS9CH. 9.
A8	Square footage category	SQFTC5	21- 22	$SQFTC. $ 2.
A14	Year of construction category	YRCONC5	24- 25	$YRCONC. $ 2.
	Principal building activity	PBA5	27- 28	$ACTIVTY. $ 2.
	Adjusted weight	ADJWT5	30- 37	8.2
	Pair member	PAIR5	39- 39	$ 1.
	Variance stratum	STRATUM5	41- 42	$ 2.
	Electricity supplied	ELSUPL5	44- 44	$XXSUPL. $ 1.
	Natural gas supplied	NGSUPL5	46- 46	$XXSUPL. $ 1.
	Fuel oil supplied	FKSUPL5	48- 48	$XXSUPL. $ 1.
	Steam supplied	STSUPL5	50- 50	$XXSUPL. $ 1.
	Hot water supplied	HWSUPL5	52- 52	$XXSUPL. $ 1.
	Annual fuel oil deliveries (gals.)	FKCNS5	54- 65	COMMA15. 12.
	Annual fuel oil deliveries (mBtu)	FKBTU5	67- 80	COMMA18. 14.
	Annual fuel oil expenditures	FKEXP5	82- 90	COMMA11. 9.
M-2	How fuel oil is billed	FKBLTYP5	92- 92	$BILTYP. $ 1.
M-4	Fuel oil bill coverage	FKCOVER5	94- 94	$COVER. $ 1.
	Fuel oil account classification	FKACCL5	96- 97	$BLDGCL. $ 2.
	Fuel oil aggregated/disaggregated	FKDSAG5	99- 99	$DISAGG. $ 1.
	Distillate fuel oil supplied	DISTIL5	101- 101	$YESNO. $ 1.
	Residual fuel oil supplied	RESID5	103- 103	$YESNO. $ 1.
	Kerosene supplied	KERO5	105- 105	$YESNO. $ 1.
	Other fuel oil supplied	OTFK5	107- 107	$YESNO. $ 1.
	Includes some fuel oil data from 1990	FKTRNS5	109- 109	$YESNO. $ 1.
	Fuel oil deliveries imputation	ZFKCNS5	111- 111	$ZCNSEXP. $ 1.
	Imputed distillate fuel oil supplied	ZDISTIL5	113- 113	$ZVAR. $ 1.
	Imputed residual fuel oil supplied	ZRESID5	115- 115	$ZVAR. $ 1.
	Imputed kerosene supplied	ZKERO5	117- 117	$ZVAR. $ 1.
	Imputed other fuel oil supplied	ZOTFK5	119- 119	$ZVAR. $ 1.
	Fuel oil expenditures imputation	ZFKEXP5	121- 121	$ZCNSEXP. $ 1.
	Imputed fuel oil account classification	ZFKACCL5	123- 123	$ZVAR. $ 1.

File 15: District Heat
(CE92F15T.TXT)

Questionnaire item	Variable Description	Variable Name	Variable Position	Variable Format and Width
CASEID	Building identifier	BLDGID5	1- 5	$ 5.
	Census region	REGION5	7- 7	$REGION. $ 1.
	Census division	CENDIV5	9- 9	$CENDIV. $ 1.
A7	Square footage	SQFT5	11- 19	MISS9CH. 9.
A8	Square footage category	SQFTC5	21- 22	$SQFTC. $ 2.
A14	Year of construction category	YRCONC5	24- 25	$YRCONC. $ 2.
	Principal building activity	PBA5	27- 28	$ACTIVTY. $ 2.
	Adjusted weight	ADJWT5	30- 37	8.2
	Pair member	PAIR5	39- 39	$ 1.
	Variance stratum	STRATUM5	41- 42	$ 2.
	Electricity supplied	ELSUPL5	44- 44	$XXSUPL. $ 1.
	Natural gas supplied	NGSUPL5	46- 46	$XXSUPL. $ 1.
	Fuel oil supplied	FKSUPL5	48- 48	$XXSUPL. $ 1.
	Steam supplied	STSUPL5	50- 50	$XXSUPL. $ 1.
	Hot water supplied	HWSUPL5	52- 52	$XXSUPL. $ 1.
	Chilled water supplied	CWSUPL5	54- 54	$XXSUPL. $ 1.
	Annual steam consumption (mlbs.)	STCNS5	56- 67	COMMA15. 12.
	Annual steam consumption (mBtu)	STBTU5	69- 82	COMMA18. 14.
	Annual steam expenditures	STEXP5	84- 92	COMMA11. 9.
N-2	How district steam is billed	STBLTYP5	94- 94	$BILTYP. $ 1.
N-4	District steam bill coverage	STCOVER5	96- 96	$COVER. $ 1.
	Steam aggregated/disaggregated	STDSAG5	98- 98	$DISAGG. $ 1.
	Billed for district steam	STBILD5	100- 100	$YESNO. $ 1.
	Heat/cool plant in bldg. using steam	STPLNT5	102- 102	$YESNO. $ 1.
	Days of steam shifted from CY92	STSHFT5	104- 107	4.
	Annual hot water consumption (mlbs.)	HWCNS5	109- 120	COMMA15. 12.
	Annual hot water consumption (mBtu)	HWBTU5	122- 135	COMMA18. 14.
	Annual hot water expenditures	HWEXP5	137- 145	COMMA11. 9.
N-2	How district hot water is billed	HWBLTYP5	147- 147	$BILTYP. $ 1.
N-4	District hot water bill coverage	HWCOVER5	149- 149	$COVER. $ 1.
	Hot water aggregated/disaggregated	HWDSAG5	151- 151	$DISAGG. $ 1.
	Billed for district hot water	HWBILD5	153- 153	$YESNO. $ 1.
	Heat/cool plant in bldg. using hot water	HWPLNT5	155- 155	$YESNO. $ 1.
	Days of hot water shifted from CY92	HWSHFT5	157- 160	4.
	Annual major fuel consumption (mBtu)	MFBTU5	162- 175	COMMA18. 14.
	Annual major fuel expenditures	MFEXP5	177- 185	COMMA11. 9.
	Steam consumption imputation	ZSTCNS5	187- 187	$ZCNSEXP. $ 1.
	Steam expenditures imputation	ZSTEXP5	189- 189	$ZCNSEXP. $ 1.
	Hot water consumption imputation	ZHWCNS5	191- 191	$ZCNSEXP. $ 1.
	Hot water expenditures imputation	ZHWEXP5	193- 193	$ZCNSEXP. $ 1.
	<50% major fuel consumption imputed	ZMFBTU5	195- 195	$YESNO. $ 1.
	<50% major fuel expenditures imputed	ZMFEXP5	197- 197	$YESNO. $ 1.

File 16: Consumption of Electricity by End Use
(EU92F16T.TXT)

Questionnaire item	Variable Description	Variable Name	Variable Position	Variable Format and Width
CASEID	Building identifier	BLDGID5	1- 5	$ 5.
	Census region	REGION5	7- 7	$REGION. $ 1.
	Census division	CENDIV5	9- 9	$CENDIV. $ 1.
A7	Square footage	SQFT5	11- 19	MISS9CH. 9.
A8	Square footage category	SQFTC5	21- 22	$SQFTC. $ 2.
A14	Year of construction category	YRCONC5	24- 25	$YRCONC. $ 2.
	Principal building activity	PBA5	27- 28	$ACTIVTY. $ 2.
	Adjusted weight	ADJWT5	30- 37	8.2
	Pair member	PAIR5	39- 39	$ 1.
	Variance stratum	STRATUM5	41- 42	$ 2.
	Electricity supplied	ELSUPL5	44- 44	$XXSUPL. $ 1.
	Natural gas supplied	NGSUPL5	46- 46	$XXSUPL. $ 1.
	Fuel oil supplied	FKSUPL5	48- 48	$XXSUPL. $ 1.
	Steam supplied	STSUPL5	50- 50	$XXSUPL. $ 1.
	Hot water supplied	HWSUPL5	52- 52	$XXSUPL. $ 1.
	Electric heating use (mBtu)	ELHTBTU5	54- 67	COMMA18. 14.
	Electric cooling use (mBtu)	ELCLBTU5	69- 82	COMMA18. 14.
	Electric ventilation use (mBtu)	ELVNBTU5	84- 97	COMMA18. 14.
	Electric water heating use (mBtu)	ELWTBTU5	99- 112	COMMA18. 14.
	Electric lighting use (mBtu)	ELLTBTU5	114- 127	COMMA18. 14.
	Electric cooking use (mBtu)	ELCKBTU5	129- 142	COMMA18. 14.
	Electric refrigeration use (mBtu)	ELRFBTU5	144- 157	COMMA18. 14.
	Elec. office equipment use (mBtu)	ELOFBTU5	159- 172	COMMA18. 14.
	Electric miscellaneous use (mBtu)	ELMSBTU5	174- 187	COMMA18. 14.

File 17: Consumption of Natural Gas, Fuel Oil, and District Heat by End Use
(EU92F17T.TXT)

Questionnaire item	Variable Description	Variable Name	Variable Position	Variable Format and Width
CASEID	Building identifier	BLDGID5	1- 5	$ 5.
	Census region	REGION5	7- 7	$REGION. $ 1.
	Census division	CENDIV5	9- 9	$CENDIV. $ 1.
A7	Square footage	SQFT5	11- 19	MISS9CH. 9.
A8	Square footage category	SQFTC5	21- 22	$SQFTC. $ 2.
A14	Year of construction category	YRCONC5	24- 25	$YRCONC. $ 2.
	Principal building activity	PBA5	27- 28	$ACTIVTY. $ 2.
	Adjusted weight	ADJWT5	30- 37	8.2
	Pair member	PAIR5	39- 39	$ 1.
	Variance stratum	STRATUM5	41- 42	$ 2.
	Electricity supplied	ELSUPL5	44- 44	$XXSUPL. $ 1.
	Natural gas supplied	NGSUPL5	46- 46	$XXSUPL. $ 1.
	Fuel oil supplied	FKSUPL5	48- 48	$XXSUPL. $ 1.
	Steam supplied	STSUPL5	50- 50	$XXSUPL. $ 1.
	Hot water supplied	HWSUPL5	52- 52	$XXSUPL. $ 1.
	Natural gas heating use (mBtu)	NGHTBTU5	54- 67	COMMA18. 14.
	Natural gas water heating use (mBtu)	NGWTBTU5	69- 82	COMMA18. 14.
	Natural gas cooking use (mBtu)	NGCKBTU5	84- 97	COMMA18. 14.
	Natural gas miscellaneous use (mBtu)	NGMSBTU5	99- 112	COMMA18. 14.
	Fuel oil heating use (mBtu)	FKHTBTU5	114- 127	COMMA18. 14.
	Fuel oil water heating use (mBtu)	FKWTBTU5	129- 142	COMMA18. 14.
	Fuel oil miscellaneous use (mBtu)	FKMSBTU5	144- 157	COMMA18. 14.
	District heat heating use (mBtu)	DHHTBTU5	159- 172	COMMA18. 14.
	District heat water heating use (mBtu)	DHWTBTU5	174- 187	COMMA18. 14.
	District heat miscellaneous use (mBtu)	DHMSBTU5	189- 202	COMMA18. 14.

File 18: Consumption of Major Fuels by End Use
(EU92F18T.TXT)

Questionnaire item	Variable Description	Variable Name	Variable Position	Variable Format and Width
CASEID	Building identifier	BLDGID5	1- 5	$ 5.
	Census region	REGION5	7- 7	$REGION. $ 1.
	Census division	CENDIV5	9- 9	$CENDIV. $ 1.
A7	Square footage	SQFT5	11- 19	MISS9CH. 9.
A8	Square footage category	SQFTC5	21- 22	$SQFTC. $ 2.
A14	Year of construction category	YRCONC5	24- 25	$YRCONC. $ 2.
	Principal building activity	PBA5	27- 28	$ACTIVTY. $ 2.
	Adjusted weight	ADJWT5	30- 37	8.2
	Pair member	PAIR5	39- 39	$ 1.
	Variance stratum	STRATUM5	41- 42	$ 2.
	Electricity supplied	ELSUPL5	44- 44	$XXSUPL. $ 1.
	Natural gas supplied	NGSUPL5	46- 46	$XXSUPL. $ 1.
	Fuel oil supplied	FKSUPL5	48- 48	$XXSUPL. $ 1.
	Steam supplied	STSUPL5	50- 50	$XXSUPL. $ 1.
	Hot water supplied	HWSUPL5	52- 52	$XXSUPL. $ 1.
	Major fuel heating use (mBtu)	MFHTBTU5	54- 67	COMMA18. 14.
	Major fuel cooling use (mBtu)	MFCLBTU5	69- 82	COMMA18. 14.
	Major fuel ventilation use (mBtu)	MFVNBTU5	84- 97	COMMA18. 14.
	Major fuel water heating use (mBtu)	MFWTBTU5	99- 112	COMMA18. 14.
	Major fuel lighting use (mBtu)	MFLTBTU5	114- 127	COMMA18. 14.
	Major fuel cooking use (mBtu)	MFCKBTU5	129- 142	COMMA18. 14.
	Major fuel refrigeration use (mBtu)	MFRFBTU5	144- 157	COMMA18. 14.
	Major fuel office equip. use (mBtu)	MFOFBTU5	159- 172	COMMA18. 14.
	Major fuel miscellaneous use (mBtu)	MFMSBTU5	174- 187	COMMA18. 14.

Appendix B

SAS FORMAT LIBRARY CREATION PROGRAM

The following is a list of the programs used to create a SAS format library for the 1992 CBECS data file. This listing may be used as a codebook for the values of the data file variables. This is to be used in conjunction with the Variable Format found in the last column in Appendix A.

Appendix B. SAS Format Library Creation Program

```
PROC FORMAT LIBRARY = LIBRARY;

  *** "CE" FORMATS ***;

  ********************  NUMERIC FORMATS  ********************;

  PICTURE ADJRAT
                    .                    ="Inapplicable"
      (NOEDIT MULT=1 )
                    1                    ="Adjustment not needed"
      (NOEDIT MULT=1 )
                0.001 -            0.999 ="09.999"
    /*(MULT=1000 )*/
                1.001 -           99.998 ="09.999"
    /*(MULT=1000 )*/
               99.999                    ="Unable to calculate"
      (NOEDIT MULT=1 )
      ;
  PICTURE EXPEND
                    0 -         999999994 ="000,000,009"
      (MULT=1 )
            999999995                    ="Building not billed"
      (NOEDIT MULT=1 )
            999999998                    ="Don't know"
      (NOEDIT MULT=1 )
            999999999                    ="Not ascertained"
      (NOEDIT MULT=1 )
      ;
  PICTURE HTCLP
                    0 -               100 ="009"
      (MULT=1 )
                  995                    ="32 < heated < 50"
      (NOEDIT MULT=1 )
                  996                    ="Less than one half"
      (NOEDIT MULT=1 )
                  998                    ="Don't know"
      (NOEDIT MULT=1 )
                  999                    ="Not ascertained"
      (NOEDIT MULT=1 )
      ;
  PICTURE LTNHRP
                    0 -               100 ="009"
      (MULT=1 )
                  995                    ="Less than one half"
      (NOEDIT MULT=1 )
                  997                    ="No off-hours"
      (NOEDIT MULT=1 )
                  998                    ="Don't know"
      (NOEDIT MULT=1 )
                  999                    ="Not ascertained"
      (NOEDIT MULT=1 )
      ;
```

Appendix B. SAS Format Library Creation Program


```
PICTURE LTOHRP
                    0 -             100 ="009"
      (MULT=1 )
                  995                   ="Less than one half"
      (NOEDIT MULT=1 )
                  997                   ="Not in use"
      (NOEDIT MULT=1 )
                  998                   ="Don't know"
      (NOEDIT MULT=1 )
                  999                   ="Not ascertained"
      (NOEDIT MULT=1 )
      ;
PICTURE MISS1CH
                    0 -               7 ="9"
      (MULT=1 )
                    8                   ="Don't know"
      (NOEDIT MULT=1 )
                    9                   ="Not ascertained"
      (NOEDIT MULT=1 )
      ;
PICTURE MISS2CH
                    0 -              97 ="09"
      (MULT=1 )
                   98                   ="Don't know"
      (NOEDIT MULT=1 )
                   99                   ="Not ascertained"
      (NOEDIT MULT=1 )
      ;
PICTURE MISS3CH
                    0 -             997 ="009"
      (MULT=1 )
                  998                   ="Don't know"
      (NOEDIT MULT=1 )
                  999                   ="Not ascertained"
      (NOEDIT MULT=1 )
      ;
PICTURE MISS4CH
                    0 -            9997 ="0,009"
      (MULT=1 )
                 9998                   ="Don't know"
      (NOEDIT MULT=1 )
                 9999                   ="Not ascertained"
      (NOEDIT MULT=1 )
      ;
PICTURE MISS5CH
                    0 -           99997 ="00,009"
      (MULT=1 )
                99998                   ="Don't know"
      (NOEDIT MULT=1 )
                99999                   ="Not ascertained"
      (NOEDIT MULT=1 )
      ;

PICTURE MISS6CH
                    0 -          999997 ="000,009"
      (MULT=1 )
              999998                    ="Don't know"
```

```
      (NOEDIT MULT=1 )
                999999                    ="Not ascertained"
      (NOEDIT MULT=1 )
      ;
PICTURE MISS8CH
                     0 -         99999996 ="00,000,009"
      (MULT=1 )
               99999997                   ="Refused"
      (NOEDIT MULT=1 )
               99999998                   ="Don't know"
      (NOEDIT MULT=1 )
               99999999                   ="Not ascertained"
      (NOEDIT MULT=1 )
      ;
PICTURE MISS9CH
  0-999999997 = '000,000,009'
    999999998 = 'Don''t know'
    999999999 = 'Not ascertained'
      ;
PICTURE MISS11CH
                     0 -      99999999997 ="00,000,000,009"
      (MULT=1 )
            99999999998                   ="Don't know"
      (NOEDIT MULT=1 )
            99999999999                   ="Not ascertained"
      (NOEDIT MULT=1 )
      ;
PICTURE MISS15CH
                     0 -  999999999999997 ="000,000,000,000,009"
      (MULT=1 )
              999999999999998             ="Don't know"
      (NOEDIT MULT=1 )
              999999999999999             ="Not ascertained"
      (NOEDIT MULT=1 )
      ;
PICTURE MONCON
                      1                   ="January-March"
      (NOEDIT MULT=1 )
                      2                   ="April-June"
      (NOEDIT MULT=1 )
                      3                   ="July-September"
      (NOEDIT MULT=1 )
                      4                   ="October-December"
      (NOEDIT MULT=1 )
                     98                   ="Don't know"
      (NOEDIT MULT=1 )
                     99                   ="Not ascertained"
      (NOEDIT MULT=1 )
      ;

PICTURE NFLOOR
                     0 -               14 ="009"
      (MULT=1 )
                   994                    ="15 to 25"
      (NOEDIT MULT=1 )
                   995                    ="Over 25"
      (NOEDIT MULT=1 )
                   998                    ="Don't know"
      (NOEDIT MULT=1 )
                   999                    ="Not ascertained"
```

```
      (NOEDIT MULT=1 )
      ;
PICTURE OK98_2CH
                     0 -                9 ="09"
      (MULT=1 )
                    99                   ="Not ascertained"
      (NOEDIT MULT=1 )
      ;
PICTURE PERIOD
                     0                   ="009"
      (MULT=1 )
                     1                   ="009"
      (MULT=1 )
                     2                   ="009"
      (MULT=1 )
                     3                   ="009"
      (MULT=1 )
                     4                   ="009"
      (MULT=1 )
                     5                   ="009"
      (MULT=1 )
                     6                   ="009"
      (MULT=1 )
                     7                   ="009"
      (MULT=1 )
                     8                   ="009"
      (MULT=1 )
                     9                   ="009"
      (MULT=1 )
                    10                   ="009"
      (MULT=1 )
                    11                   ="009"
      (MULT=1 )
                    12                   ="009"
      (MULT=1 )
                    13                   ="009"
      (MULT=1 )
                    14                   ="009"
      (MULT=1 )
                    15                   ="009"
      (MULT=1 )
                    16                   ="009"
      (MULT=1 )
                    17                   ="009"
      (MULT=1 )

                   18                   ="009"
      (MULT=1 )
                    19                   ="009"
      (MULT=1 )
                    20                   ="009"
      (MULT=1 )
                    21 -               997 ="009"
      (MULT=1 )
                   998                   ="Don't know"
      (NOEDIT MULT=1 )
                   999                   ="Not ascertained"
      (NOEDIT MULT=1 )
       OTHER                             ="009.0"
    /*(MULT=10 )*/
```

```
      ;
PICTURE YRCON
                    0 -             1491 ="*9999*"
      (MULT=1 )
                 1492 -             1992 ="9999"
      (MULT=1 )
                 1993 -             9996 ="*9999*"
      (MULT=1 )
                 9997                    ="Refused"
      (NOEDIT MULT=1 )
                 9998                    ="Don't know"
      (NOEDIT MULT=1 )
                 9999                    ="Not ascertained"
      (NOEDIT MULT=1 )
      ;

******************** CHARACTER FORMATS ********************;

VALUE $ACCT
      " "                        ="Inapplicable"
      "1"                        ="Yes"
      "2"                        ="No"
      "3"                        ="Source not used"
      ;
VALUE $ACTEST
      " "                        ="Inapplicable"
      "1"                        ="Actual"
      "2"                        ="Estimated"
      "7"                        ="Refused"
      "8"                        ="Don't know"
      "9"                        ="Not ascertained"
      ;
VALUE $ACTIVTY
      '  '                       = 'Inapplicable'
      '01'                       = 'Vacant'
      '02'                       = 'Office'
      '03'                       = 'Mercantile/services'
      '04'                       = 'Laboratory'
      '05'                       = 'Warehouse (nonrefrig.)'
      '06'                       = 'Food sales'

      '07'                       = 'Public order/safety'
      '08'                       = 'Health care (outpatient)'
      '09'                       = 'Industrial'
      '10'                       = 'Agricultural'
      '11'                       = 'Warehouse (refrig.)'
      '12'                       = 'Religious worship'
      '13'                       = 'Public assembly'
      '14'                       = 'Education'
      '15'                       = 'Food service'
      '16'                       = 'Health care (inpatient)'
      '17'                       = 'Skilled nursing'
      '18'                       = 'Lodging'
      '19'                       = 'Residential'
      '20'                       = 'Parking garage'
      '21'                       = 'Other'
      '98'                       = 'Don''t know'
      '99'                       = 'Not ascertained'
      ;
VALUE $ADR
```

```
      " "                       ="Inapplicable"
      "1"                       ="Complete address"
      "2"                       ="Partial address"
      "6"                       ="No one knows"
      "7"                       ="Refused"
      "8"                       ="Don't know"
      "9"                       ="Not ascertained"
      ;
VALUE $AGDSAG
      " "                       ="No problem"
      "1"                       ="Aggreg./supplier"
      "2"                       ="Disagg./supplier"
      "3"                       ="Disagg./building"
      "4"                       ="Disagg./supl. & bldg."
      ;
VALUE $AMPM
      " "                       ="Inapplicable"
      "1"                       ="AM"
      "2"                       ="PM"
      "8"                       ="Don't know"
      "9"                       ="Not ascertained"
      ;
VALUE $AREADMG

      '1'                       = 'Heavy damage'
      '2'                       = 'Moderate damage'
      '3'                       = 'No damage or slight damage'
      '9'                       = 'Not ascertained'
      ;

VALUE $ASINSP
      " "                       ="Inapplicable"
      "1"                       ="Yes"
      "2"                       ="No"
      "3"                       ="Not sure if certified"
      "7"                       ="Refused"
      "8"                       ="Don't know"
      "9"                       ="Not ascertained"
      ;
VALUE $ASOTX
      " "                       ="Inapplicable"
      "95"                      ="Other"
      "97"                      ="Refused"
      "98"                      ="Don't know"
      "99"                      ="Not ascertained"
      ;
VALUE $ATTOBS
      " "                       ="Shopping center or mall"
      "1"                       ="Free standing"
      "2"                       ="Attached"
      "9"                       ="Not ascertained"
      ;
VALUE $ATTWLL
      ' '                       = 'Inapplicable'
      '0'                       = 'None (free standing building)'
      '1'                       = 'One'
      '2'                       = 'Two'
      '3'                       = 'Three'
      '4'                       = 'Four'
      '8'                       = 'Don''t know'
```

```
      '9'                       = 'Not ascertained'
      ;
VALUE $AUDOTH
      '  '                      = 'Inapplicable'
      '01'                      = 'Private company'
      '95'                      = 'Other'
      '98'                      = 'Don''t know'
      '99'                      = 'Not ascertained'
      ;
VALUE $AUDSPN
      ' '                       = 'Inapplicable'
      '1'                       = 'Local utility'
      '2'                       = 'Government (federal, state, or local)'
      '3'                       = 'In-house'
      '4'                       = 'Other sponsor'
      '8'                       = 'Don''t know'
      '9'                       = 'Not ascertained'
      ;

VALUE $BILTYP
      " "                       ="Inapplicable"
      "1"                       ="One bill"
      "2"                       ="More than one bill"
      "3"                       ="No bills"
      "7"                       ="Refused"
      "8"                       ="Don't know"
      "9"                       ="Missing"
      ;
VALUE $BLDGCL
      " "                       ="Inapplicable"
      "01"                      ="Residential"
      "02"                      ="Commercial"
      "03"                      ="Industrial"
      "04"                      ="Commercial/Industrial"
      "05"                      ="Commercial/Residential"
      "06"                      ="School"
      "07"                      ="Government"
      "08"                      ="Institutional,Non Profit"
      "09"                      ="General Service"
      "55"                      ="Combination of multiple suppliers"
      "95"                      ="Other"
      "98"                      ="Don't know"
      "99"                      ="Not Ascertained"
      ;
VALUE $CENDIV
      "1"                       ="New England"
      "2"                       ="Middle Atlantic"
      "3"                       ="East North Central"
      "4"                       ="West North Central"
      "5"                       ="South Atlantic"
      "6"                       ="East South Central"
      "7"                       ="West South Central"
      "8"                       ="Mountain"
      "9"                       ="Pacific"
      ;
VALUE $CLIMAT
      "1"                       ="<2000 CDD,>7000 HDD"
      "2"                       ="<2000 CDD,5500-7000 HDD"
      "3"                       ="<2000 CDD,4000-5499 HDD"
      "4"                       ="<2000 CDD,<4000 HDD"
```

```
      "5"                       =">=2000 CDD,<4000 HDD"
      ;
VALUE $CNSVF
      '  '                      = 'Inapplicable'
      '01'                      = 'Temperature setback'
      '02'                      = 'Timer on thermostat''
      '03'                      = 'Programmable thermostat
      '04'                      = 'Off peak usage of energy'
      '05'                      = 'Computer monitoring'
      '06'                      = 'Architectural design of building'
      '07'                      = 'Reclaimed heat/ heat recovery'


      '08'                      = 'Ceiling fans'
      '09'                      = 'Exterior lights (time clocks on, etc.)'
      '10'                      = 'Zoned heating and/or cooling'
      '95'                      = 'Other'
      '98'                      = 'Don''t know'
      '99'                      = 'Not ascertained'
      ;
VALUE $COVER
      " "                       ="Inapplicable"
      "1"                       ="Just sampled building"
      "2"                       ="Covers other building(s)"
      "7"                       ="No bill"
      "8"                       ="Don't know"
      "9"                       ="Missing"
      ;

VALUE $DEMFLAG
      "0"                       ="No warnings"
      "1"                       ="*Demand>Consumption"
      "2"                       ="*Load factor>1"
      "3"                       ="*Load fctr<.01"
      "4"                       ="Deviant bill"
      "5"                       ="Changed by analyst"
      "6"                       ="*Peak for part of bill"
      ;
VALUE $DISAGG
      " "                       ="Inapplicable"
      "1"                       ="No aggreg./disagg. required"
      "2"                       ="Aggregation performed"
      "3"                       ="Disaggregation performed"
      "4"                       ="Ratio < .1"
      "5"                       ="Unable to calculate"
      "9"                       ="Not ascertained"
      ;

VALUE $DISPBC
      '11'-'18'                 = 'Respondent'
      '20','30','40','65'       = 'Nonrespondent'
      '50'-'59','61'-'64',
      '81'-'85','87'            = 'Ineligible'
      '66','71'                 = 'Ineligible, residential building'
      '67','72'                 = 'Ineligible, industrial building'
      '68','73'                 = 'Ineligible, agricultural building'
      '69','74'                 = 'Ineligible, < 1,000 square feet'
      '86'                      = 'Hurricane area'
      ;
VALUE $DISPSPL
```

Appendix B. SAS Format Library Creation Program

```
          ' '                       = 'Inapplicable'
          '1'                       = 'Responded'
          '2'                       = 'Refused'
          '3'                       = 'Respondent not located'
          '5'                       = 'R2 answered, R1 don''t know/not
ascertained'
          '6'                       = 'R1 answered, R2 don''t know/not
ascertained'
          '7'                       = 'Out of scope'
          '8'                       = 'Don''t know'
          '9'                       = 'Not ascertained (telephone interview)'
          ;
    VALUE $EDIT
          " "                       ="Passed or inapplicable"
          "1"                       ="Failure unresolved"
          "2"                       ="Overridden/questionnaire"
          "3"                       ="Overridden/recontact"
          "4"                       ="Overridden/EIA decision"
          "5"                       ="Missing data for edit"
          ;
    VALUE $EMCSOT
          '  '                      = 'Inapplicable'
          '01'                      = 'Elevators'
          '02'                      = 'Security lights and alarms'
          '03'                      = 'Refrigeration'
          '04'                      = 'Exhaust fans'
          '95'                      = 'Other'
          '98'                      = 'Don''t know'
          '99'                      = 'Not ascertained'
          ;
    VALUE $EMCSX
          " "                       ="Inapplicable"
          "01"                      ="Load management"
          "02"                      ="Refrigeration"
          "03"                      ="Water heating"
          "04"                      ="Cooling equipment"
          "05"                      ="Process equipment"
          "95"                      ="Other"
          "97"                      ="Refused"
          "98"                      ="Don't know"
          "99"                      ="Not ascertained"
          ;


    VALUE $ENERGY
          "0"                       ="Electricity"
          "1"                       ="Natural Gas"
          "2"                       ="Fuel Oil"
          "3"                       ="Transportation Gas"
          "4"                       ="District Steam"
          "6"                       ="District Hot Water"
          "8"                       ="District Chilled Water"
          ;
    VALUE $EXP
          '  '                      = 'Inapplicable'
          '01'                      = 'Wrong building in 1986'
          '02'                      = 'Changed definition of 1986 building'
          '03'                      = '1986 respondent wrong: 1992 respondent'
          '04'                      = 'Addition/deletion'
          '05'                      = 'Area updated 1986 -1992 linkage problem'
```

```
      '98'                    = 'Don''t know'
      ;
VALUE $EXPCAT
      '  '                    = 'Inapplicable'
      '01'                    = '$100 or less'
      '02'                    = '$101 to $500'
      '03'                    = '$501 to $1,000'
      '04'                    = '$1,001 to $2,000'
      '05'                    = '$2,001 to $5,000'
      '06'                    = '$5,001 to $10,000'
      '07'                    = '$10,001 to $20,000'
      '08'                    = '$20,001 to $50,000'
      '09'                    = '$50,001 to $100,000'
      '10'                    = '$100,001 to $200,000'
      '11'                    = '$200,001 to $500,000'
      '12'                    = '$500,001 to $1,000,000'
      '13'                    = 'Over $1,000,000'
      '97'                    = 'Refused'
      '98'                    = 'Don''t know'
      '99'                    = 'Not ascertained'
      ;
VALUE $EXPRED
      '1'                     = 'Yes, an expansion'
      '2'                     = 'Yes, a reduction'
      '3'                     = 'No'
      '8'                     = 'Don''t know'
      '9'                     = 'Not ascertained'
      ;
VALUE $FACACT
      '  '                    = 'Inapplicable'
      '01'                    = 'Primary or secondary school'
      '02'                    = 'College or university'
      '03'                    = 'Other schools'
      '04'                    = 'Shopping center/mall'
      '05'                    = 'Auto service/sales'
      '06'                    = 'Other retail sales/service'
      '07'                    = 'Office'
      '08'                    = 'Warehouse'
      '09'                    = 'Industrial/Manufacturing'
      '10'                    = 'Hospital/other inpatient health center'
      '11'                    = 'Religious activities'
      '12'                    = 'Hotel/motel'
      '13'                    = 'Amusement/recreation'
      '14'                    = 'Transportation (airport, terminal, etc.)'
      '15'                    = 'Residential'
      '16'                    = 'Agricultural'
      '17','95'               = 'Other'
      '18'                    = 'Postal'
      '19'                    = 'Research'
      '20'                    = 'Prison/jail/reformatory'
      '21'                    = 'Public service'
      '98'                    = 'Don''t know'
      '99'                    = 'Not ascertained'
      ;
VALUE $FACACTP
      " "                     ="Inapplicable"
      "01"                    ="College or university"
      "02"                    ="Secondary school"
      "03"                    ="Elementary school"
      "04"                    ="Office"
```

```
      "05"                    ="Shopping center/mall"
      "06"                    ="Hospital/other inpatient health center"
      "07"                    ="Industrial/Manufacturing"
      "08"                    ="Agricultural"
      "09"                    ="Hotel/motel"
      "10"                    ="Prison/jail/reformatory"
      "11"                    ="Entertainment/sports complex"
      "12"                    ="Other (warehouse, lab, etc.)"
      "95"                    ="Other"
      ;
VALUE $FACRES
      " "                     ="Record not finalized"
      "C1"                    ="Full 1989"
      "C2"                    ="Full, not 1989"
      "C9"                    ="Complete/Not CP"
      "I2"                    ="Missing items"
      "N1"                    ="Refuses to cooperate"
      "N2"                    ="Records not kept"
      "N3"                    ="Waiver inadequate"
      "N5"                    ="Facility not found"
      "N8"                    ="Survey ended"
      "P3"                    ="Not final, problem case"
      "P4"                    ="Not final, blank form"
      "P5"                    ="Not final, awaiting scan"
      "X0"                    ="Not a facility"
      ;
VALUE $FACTSRC
      "1"                     ="Facility Form"
      "2"                     ="Coded by EIA staff"
      "3"                     ="Coded by contractor staff"
      ;

VALUE $FACTYP
      "1"                     ="Hospital"
      "2"                     ="College/university"
      "3"                     ="Non-college school"
      "4"                     ="Post office"
      "5"                     ="Other"
      "8"                     ="Don't know"
      "9"                     ="Not ascertained"
      ;
VALUE $FACUNIT
      " "                     ="Inapplicable"
      "01"                    ="Million Btu's"
      "02"                    ="Thousand pounds"
      "03"                    ="Pounds"
      "04"                    ="Ton-hours"
      "05"                    ="Kilowatt hours"
      "06"                    ="Therms"
      "07"                    ="Day tons"
      "08"                    ="Thousand Btu's"
      "09"                    ="Thousand kWh"
      "10"                    ="Gallons"
      "11"                    ="Barrels"
      "12"                    ="Other unit"
      "20"                    ="100 cubic feet"
      "21"                    ="1,000 cubic feet"
      "22"                    ="Therms"
      "23"                    ="Decatherms"
      "24"                    ="Other unit"
```

```
      "25"                    ="Cubic feet"
      "30"                    ="Tons"
      "31"                    ="Other unit"
      "32"                    ="Cords"
      "40"                    ="Million kWh"
      "41"                    ="Thousand kWh"
      "42"                    ="Kilowatt hours"
      "43"                    ="Other unit"
      "50"                    ="Other unit"
      "60"                    ="Thousand pounds"
      "61"                    ="Million Btu's"
      "95"                    ="Other"
      "98"                    ="Don't know"
      "99"                    ="Not ascertained"
      ;
VALUE $FORM
      " "                     ="Inapplicable"
      "DC"                    ="District Chilled Water"
      "DH"                    ="District Hot Water"
      "DS"                    ="District Steam"
      "EL"                    ="Electricity"
      "FO"                    ="Fuel Oil"
      "NG"                    ="Natural Gas"
      "TG"                    ="Transportation Gas"
      "WE"                    ="Electricity (worksheet)"
      "WN"                    ="Natural Gas (worksheet)"
      "WT"                    ="Trans.Gas (worksheet)"
      ;
VALUE $FOTYPE
      " "                     ="Inapplicable"
      "1"                     ="Distillate"
      "2"                     ="Residual"
      "3"                     ="Kerosene"
      "4"                     ="Other"
      "8"                     ="Don't know"
      "9"                     ="Not ascertained"
      ;

VALUE $FRESTA
      "1"                     ="Free standing"
      "2"                     ="Attached"
      "8"                     ="Don't know"
      "9"                     ="Not ascertained"
      ;
VALUE $GENUSE
      ' '                     = 'Inapplicable'
      '1'                     ='Emergency back-up'
      '2'                     = 'Periods of peak demand'
      '3'                     = 'Operate continuously'
      '4'                     = 'Other'
      '8'                     = 'Don''t know'
      '9'                     = 'Not ascertained'
      ;
VALUE $GENUSO
      '  '                    = 'Inapplicable'
      '01'                    = 'Portable welders'
      '98'                    = 'Don''t know'
      '99'                    = 'Not ascertained'
      ;
VALUE $GLSSPC
```

```
      '1'                       = '10 percent or less'
      '2'                       = '11 to 25 percent'
      '3'                       = '26 to 50 percent'
      '4'                       = '51 to 75 percent'
      '5'                       = '76 to 100 percent'
      '8'                       = 'Don''t know'
      '9'                       = 'Not ascertained'
      ;

VALUE $GOVTYP
      " "                       ="Inapplicable"
      "1"                       ="Federal agency"
      "2"                       ="State agency"
      "3"                       ="Local agency"
      "8"                       ="Don't know"
      "9"                       ="Not ascertained"
      ;
VALUE $HTCOOL
      '  '                      = 'Inapplicable'
      '95'                      = 'Description given'
      '98'                      = 'Don''t know'
      '99'                      = 'Not ascertained'
      ;
VALUE $IMPDT
      " "                       ="Not yet imputed"
      "1"                       ="Fully reported"
      "2"                       ="Days only, 16/15"
      "3"                       ="Days and months, 16/15"
      "4"                       ="Forward/backward medians"
      "5"                       ="Medians, changed month"
      "6"                       ="Fixed by analyst"
      "7"                       ="Collapsed periods"
      "8"                       ="Interpolated from adjacent periods"
      ;
VALUE $INFUEL
      "01"                      ="Fuel Oil"
      "02"                      ="Natural Gas"
      "03"                      ="Coal"
      "04"                      ="Electricity (input)"
      "05"                      ="Wood"
      "06"                      ="Steam (input)"
      "07"                      ="Solar"
      "08"                      ="Propane"
      "09"                      ="Black liquor"
      "95"                      ="Other"
      "96"                      ="Unknown"
      ;
VALUE $INSADD
      " "                       ="Inapplicable"
      "1"                       ="Installed"
      "2"                       ="Added"
      "8"                       ="Don't know"
      "9"                       ="Not ascertained"
      ;
VALUE $INTSCP
      '1'                       = 'Sampled listed building'
      '2'                       = 'Each separate free standing structure'
      '3'                       = 'Separately owned structure on listing'
      '4'                       = 'Structure and attached structures'
      '5'                       = 'All parts considered to be one building'
```

```
      '6'                       = 'Each separately owned/separate structure'
      ;

VALUE $INTYPE
      " "                       ="Inapplicable"
      "01"                      ="Distillate"
      "02"                      ="Residual"
      "03"                      ="Anthracite"
      "04"                      ="Bituminous"
      "05"                      ="Subbituminous"
      "06"                      ="Distillate/residual"
      "11"                      ="Propane"
      "12"                      ="Wood"
      "13"                      ="Solar"
      "14"                      ="Steam (input)"
      "15"                      ="Black liquor"
      "95"                      ="Other"
      "98"                      ="Don't know"
      "99"                      ="Not ascertained"
      ;
VALUE $LABMSG
      '01'                      = 'AREA NOT UPDATED-C/C'
      '02'                      = 'AREA NOT UPDATED-BLD'
      '03'                      = 'AREA UPDATED -C/C'
      '04'                      = 'AREA UPDATED -BLD'
      '05'                      = 'LIST:DO NOT UPDT LSTG'
      '06'                      = 'LIST:LSTG UPDATE REQ'
      '07'                      = 'LIST:SP LSTG REQUIRED'
      '08'                      = 'LIST:SPECIAL LISTING?'
      '09'                      = 'LIST:2 BUILDINGS?'
      '10'                      = 'LIST:3 BUILDINGS?'
      '11'                      = 'LIST:50K SP LSTG REQ'
      ;
VALUE $LISTCK
      " "                       ="Inapplicable"
      "1"                       ="Correct (one bldg.)"
      "2"                       ="Incorrect (2+ bldgs.)"
      "3"                       ="Incorrect (part bldg.)"
      "9"                       ="Not ascertained"
      ;
VALUE $LSTOBS
      ' '                       = 'Inapplicable'
      '1'                       = 'Attached to listed structure(s)'
      '2'                       = 'Attached to unlisted structure(s)'
      '3'                       = 'Two or more attached structures'
      '4'                       = 'Three or fewer freestanding structures'
      '9'                       = 'Not ascertained'
      ;
VALUE $MALL
      " "                       ="Inapplicable"
      "1"                       ="Strip shopping center"
      "2"                       ="Enclosed mall"
      "3"                       ="Not strip center/mall"
      "9"                       ="Don't know"
      ;

VALUE $MEASURE
      " "                       ="Inapplicable"
      "01"                      ="Kilowatt hours"
      "02"                      ="Therms"
```

```
      "03"                    ="Decitherms"
      "04"                    ="Decatherms"
      "05"                    ="Cubic feet"
      "06"                    ="100 cubic feet"
      "07"                    ="1,000 cubic feet"
      "08"                    ="Gallons"
      "09"                    ="Btu's"
      "10"                    ="Million Btu's"
      "11"                    ="Ton hours"
      "12"                    ="Pounds"
      "13"                    ="Thousand pounds"
      "14"                    ="Barrels"
      "15"                    ="Day tons"
      "16"                    ="Thousand BTU's"
      "95"                    ="Code pending"
      "98"                    ="Don't know"
      "99"                    ="Not ascertained"
      ;
VALUE $MSA
      "1"                     ="Non-Metropolitan"
      "2"                     ="Metropolitan"
      ;
VALUE $NOCCAT
      " "                     ="Inapplicable"
      "1"                     ="2 to 5"
      "2"                     ="6 to 10"
      "3"                     ="11 to 20"
      "4"                     ="21 to 49"
      "5"                     ="50 to 99"
      "6"                     ="100 or more"
      "8"                     ="Don't know"
      "9"                     ="Not ascertained"
      ;
VALUE $NWKERC
      " "                     ="Building not in use"
      "00"                    ="None"
      "01"                    ="1 to 4"
      "02"                    ="5 to 9"
      "03"                    ="10 to 19"
      "04"                    ="20 to 49"
      "05"                    ="50 to 99"
      "06"                    ="100 to 249"
      "07"                    ="250 to 499"
      "08"                    ="500 to 999"
      "09"                    ="1,000 to 2,499"
      "10"                    ="2,500 to 4,999"
      "11"                    ="5,000 or more"
      "98"                    ="Don't know"
      "99"                    ="Not ascertained"
      ;

VALUE $OCCTYP
      "1"                     ="One, the owner"
      "2"                     ="One, not owner"
      "3"                     ="More than 1, incl owner"
      "4"                     ="More than 1, excl owner"
      "5"                     ="Currently unoccupied"
      "8"                     ="Don't know"
      "9"                     ="Not ascertained"
      ;
```

Appendix B. SAS Format Library Creation Program

```
VALUE $ONOFF
      "’"                       ="Inapplicable"
      "1"                       ="Initiated"
      "2"                       ="Terminated"
      "9"                       ="Not ascertained"
      ;
VALUE $OPHCOT
      ’  ’                      = ’Inapplicable’
      ’01’                      = ’Organizational volunteer’
      ’02’                      = ’Tenants’
      ’95’                      = ’Other’
      ’98’                      = ’Don’’t know’
      ’99’                      = ’Not ascertained’
      ;
VALUE $OPHCTP
      ’1’                       = ’10 percent or less’
      ’2’                       = ’11 to 25 percent’
      ’3’                       = ’26 to 50 percent’
      ’4’                       = ’51 to 75 percent’
      ’5’                       = ’76 to 100 percent’
      ’8’                       = ’Don’’t know’
      ’9’                       = ’Not ascertained’
      ;
VALUE $OPHCYR
      ’ ’                       = ’Inapplicable’
      ’1’                       = ’Less than 1 year’
      ’2’                       = ’1 to 3 years’
      ’3’                       = ’4 to 6 years’
      ’4’                       = ’Over 6 years’
      ’8’                       = ’Don’’t know’
      ’9’                       = ’Not ascertained’
      ;
VALUE $OPHVAC
      ’1’                       = ’Owner/manager’
      ’2’                       = ’Custodian/maintenance engineer’
      ’3’                       = ’Dedicated energy manager’
      ’4’                       = ’Cleaning/maintenance contractor’
      ’5’                       = ’Other’
      ’6’                       = ’No one’
      ’7’                       = ’Building not heated or cooled’
      ’8’                       = ’Don’’t know’
      ’9’                       = ’Not ascertained’
      ;

VALUE $OPNWIN
      ’ ’                       = ’Inapplicable’
      ’1’                       = ’Yes’
      ’2’                       = ’No’
      ’3’                       = ’No windows’
      ’7’                       = ’Refused’
      ’8’                       = ’Don’’t know’
      ’9’                       = ’Not ascertained’
      ;
VALUE $OTAS
      " "                       ="Inapplicable"
      "01"                      ="Wall panels"
      "95"                      ="Other"
      "98"                      ="Don’t know"
      "99"                      ="Not ascertained"
      ;
```

Appendix B. SAS Format Library Creation Program

```
VALUE $OTCL
      " "                       ="Inapplicable"
      "01"                      ="Evaporative coolers"
      "95"                      ="Other"
      "98"                      ="Don't know"
      "99"                      ="Not ascertained"
      ;
VALUE $OTEE
      '  '                      = 'Inapplicable'
      '01'                      = 'Lab/bunsen burners'
      '02'                      = 'Dryers'
      '03'                      = 'Lighting (gas)'
      '04'                      = 'Trucks and forklifts (lpg)'
      '05'                      = 'Pilot lights to light boilers'
      '06'                      = 'Non - commercial cooking'
      '95'                      = 'Other'
      '98'                      = 'Don''t know'
      '99'                      = 'Not ascertained'
      ;
VALUE $OTFUEL
      ""                        ="Inapplicable"
      "01"                      ="Gasoline"
      "95"                      ="Code pending"
      "98"                      ="Don't know"
      "99"                      ="Not ascertained"
      ;
VALUE $OTHRM
      '  '                      = 'Inapplicable'
      '01'                      = 'Refrigerator'
      '02'                      = 'Medical equipment'
      '03'                      = 'Air compressors'
      '04'                      = 'Tanning beds'
      '05'                      = 'Elevators'
      '06'                      = 'Swimming pool pumps'
      '07'                      = 'Welding'
      '08'                      = 'Boiler/furnace'
      '09'                      = 'Repair machinery'
      '10'                      = 'Electronic equipment'
      '11'                      = 'Research/ educational lab'
      '95'                      = 'Other'
      '97'                      = 'Refused'
      '98'                      = 'Don''t know'
      '99'                      = 'Not ascertained'
      ;
VALUE $OTHT
      " "                       ="Inapplicable"
      "01"                      ="Heating panels"
      "02"                      ="Dist'n for boilers"
      "03"                      ="Induction units"
      "95"                      ="Other"
      "98"                      ="Don't know"
      "99"                      ="Not ascertained"
      ;
VALUE $OTLCN
      '  '                      = 'Inapplicable'
      '01'                      = 'Delamping'
      '02'                      = 'Energy effic. lights (not comp. fluor.)'
      '03'                      = 'Electronic ballast'
      '04'                      = 'Parabolic lens'
      '05'                      = 'Nightlights'
```

```
      '95'                    = 'Other'
      '98'                    = 'Don''t know'
      '99'                    = 'Not ascertained'
      ;
VALUE $OTLIT
      ' '                     = 'Inapplicable'
      '01'                    = 'Skylights'
      '02'                    = 'Spotlights, floodlights, stage lights'
      '03'                    = 'Decorative lights (neons, police lights)'
      '95'                    = 'Other'
      '98'                    = 'Don''t know'
      '99'                    = 'Not ascertained'
      ;
VALUE $OTLTX
      " "                     ="Inapplicable"
      "95"                    ="Other"
      "98"                    ="Don't know"
      "99"                    ="Not ascertained"
      ;
VALUE $OTPGX
      '1'                     = 'Interruptable gas rate'
      '2'                     = 'Time of day use'
      '3'                     = 'EMS'
      '5'                     = 'Other'
      '8'                     = 'Don''t know'
      '9'                     = 'Not ascertained'
      ;

VALUE $OTR
      " "                     ="Inapplicable"
      "95"                    ="Other"
      "98"                    ="Don't know"
      "99"                    ="Not ascertained"
      ;
VALUE $OTREF
      " "                     ="Inapplicable"
      "01"                    ="Frozen drink/food maker"
      "02"                    ="Dehumidifier"
      "03"                    ="Lab refrigeration"
      "04"                    ="Compressors for refrig."
      "95"                    ="Other"
      "98"                    ="Don't know"
      "99"                    ="Not ascertained"
      ;
VALUE $OTSRC
      ' '                     = 'Inapplicable'
      '01'                    = 'Electricity'
      '02'                    = 'Natural gas'
      '03'                    = 'Fuel oil/kerosene'
      '04'                    = 'Propane'
      '05'                    = 'District steam'
      '06'                    = 'District hot water'
      '07'                    = 'District chilled water'
      '08'                    = 'Wood'
      '09'                    = 'Coal'
      '10'                    = 'Elec. from solar PVCs'
      '11'                    = 'Active solar'
      '12'                    = 'Other'
      '98'                    = 'Don''t know'
      '99'                    = 'Not ascertained'
```

```
      ;
VALUE $OTUSEDX
      ' '                       = 'Inapplicable'
      '01'                      = 'Gasoline (electricity generation)'
      '02'                      = 'Passive solar'
      '05'                      = 'Waste incineration (trash)'
      '11'                      = 'Waste oil'
      '95'                      = 'Other'
      '98'                      = 'Don''t know'
      '99'                      = 'Not ascertained'
      ;
VALUE $OUTFUEL
      "01"                      ="Steam"
      "02"                      ="Hot water"
      "03"                      ="Chilled water"
      "04"                      ="Electricity-total"
      "05"                      ="Electricity-cogenerated"
      "95"                      ="Other"
      "96"                      ="Unknown"
      ;

VALUE $OWNER
      '1'                       = 'Federal government'
      '2'                       = 'State government'
      '3'                       = 'Local government'
      '4'                       = 'Private utility'
      '5'                       = 'Church/synagogue/religious organization'
      '6'                       = 'Other'
      '8'                       = 'Don''t know'
      '9'                       = 'Not ascertained'
      ;
VALUE $OWNWALL
      ' '                       = 'Inapplicable'
      '1'                       = 'All yes'
      '2'                       = 'All no'
      '3'                       = 'Some yes; some no'
      '9'                       = 'Not ascertained'
      ;
VALUE $OWTN
      " "                       ="Inapplicable"
      "1"                       ="Currently unoccupied"
      "2"                       ="One: the owner"
      "3"                       ="One: a tenant"
      "4"                       ="Two: including owner"
      "5"                       ="Other"
      "9"                       ="Not ascertained"
      ;
VALUE $PCDISP
      "1"                       ="Complete"
      "2"                       ="Refusal/breakoff"
      "3"                       ="Unable to locate"
      "4"                       ="Amount(s) not provided"
      "9"                       ="Telephone interview"
      ;
VALUE $PCTCAT
      '1'                       = 'Less than 25 percent'
      '2'                       = '26 to 50 percent'
      '3'                       = '51 to 75 percent'
      '4'                       = '76 percent or more'
      '8'                       = 'Don''t know'
```

```
      '9'                       = 'Not ascertained'
      ;
VALUE $PCTRMC
      '  '                      = 'Inapplicable'
      '00'                      = 'None'
      '01'                      = '1 to 4'
      '02'                      = '5 to 9'
      '03'                      = '10 to 19'
      '04'                      = '20 to 49'
      '05'                      = '50 to 99'
      '06'                      = '100 to 249'
      '07'                      = '250 to 499'
      '08'                      = '500 to 999'
      '09'                      = '1,000 to 2,499'
      '10'                      = '2,500 to 4,999'
      '11'                      = '5,000 or more'
      '97'                      = 'Refused'
      '98'                      = 'Don''t know'
      '99'                      = 'Not ascertained'
      ;
VALUE $PDISAG
      " "                       ="No supplier information"
      "1"                       ="Yes"
      "2"                       ="No"
      "8"                       ="Don't know"
      "9"                       ="Missing"
      ;
VALUE $PRCCAT
      '  '                      = 'Inapplicable'
      '01'                      = 'Less than 100'
      '02'                      = '100 to 499'
      '03'                      = '500 to 999'
      '04'                      = '1,000 or more'
      '98'                      = 'Don''t know'
      '99'                      = 'Not ascertained';
      ;
VALUE $PRUNIT
      ' '                       = 'Inapplicable'
      '1'                       = 'Gallons'
      '2'                       = 'Pounds'
      '8'                       = 'Don''t know'
      '9'                       = 'Not ascertained'
      ;
VALUE $QCGDEF
      "1"                       ="Cogen not reported"
      "2"                       ="Cogen meets strict definition"
      "3"                       ="Cogen w/o district heat"
      "4"                       ="Cogen w/o elec/cogen elec"
      "5"                       ="Cogen but neither heat nor elec"
      "9"                       ="Missing"
      ;
VALUE $RACCT
      " "                       ="Inapplicable"
      "1"                       ="Respondent"
      "2"                       ="Signer of authorization"
      "3"                       ="Other"
      "4"                       ="Respondent & Other"
      "7"                       ="Refused"
      "8"                       ="Don't know"
      "9"                       ="Not ascertained"
```

```
      ;
VALUE $RATSRC
      " "                       ="Inapplicable"
      "1"                       ="Manual, exact building sizes"
      "2"                       ="Manual, size class averages"
      "3"                       ="Factor cannot be calculated"
      "4"                       ="Computer, district form exact sizes"
      "5"                       ="Computer, facility form exact sizes"
      "6"                       ="Computer, BC exact sizes"
      "7"                       ="Computer, size class averages"
      "8"                       ="Manual review, disagg. not needed"
      "9"                       ="Factor reset by EIA analyst"
      ;
VALUE $RAUTH
      ' '                       = 'Inapplicable'
      '1'                       = 'Yes'
      '2'                       = 'No'
      '3'                       = 'No elec./natural gas used'
      '7'                       = 'Refused'
      '8'                       = 'Don''t know'
      '9'                       = 'Not ascertained'
      ;
VALUE $RDHTCL
      " "                       ="Inapplicable"
      "1"                       ="Yes"
      "2"                       ="No"
      "7"                       ="Always in full use"
      "8"                       ="Don't know"
      "9"                       ="Not ascertained"
      ;
VALUE $RDOTH
      '  '                      = 'Inapplicable'
      '01'                      = 'Computers are turned off'
      '02'                      = 'Elevators/escalators'
      '03'                      = 'Fans/ventilation/air handlers'
      '95'                      = 'Other equipment'
      '98'                      = 'Don''t know'
      '99'                      = 'Not ascertained'
      ;
VALUE $REGION
      "1"                       ="Northeast"
      "2"                       ="Midwest"
      "3"                       ="South"
      "4"                       ="West"
      ;
VALUE $RFCNS
      '01'                      = 'Wooden materials'
      '02'                      = 'Slate or tile'
      '03'                      = 'Shingles (not wood)'
      '04'                      = 'Built-up'
      '05'                      = 'Metal surfacing'
      '06'                      = 'Single/multiple ply'
      '07'                      = 'Concrete roof'
      '08'                      = 'Other (specify)'
      '09'                      = 'Shingles & metal'
      '10'                      = 'Shingles & built-up'
      '11'                      = 'Built-up & s/m ply'
      '12'                      = 'Slate & shingles'
      '13'                      = 'Shingles & s/m ply'
      '14'                      = 'Built-up & metal'
```

```
      '15'                    = 'Metal & rubber'
      '16'                    = 'Cement & asphalt'
      '17'                    = 'Composite'
      '18'                    = 'Glass'
      '19'                    = 'Concrete & s/m ply'
      '20'                    = 'Foam/ styrofoam'
      '95'                    = 'Other'
      '97'                    = 'Refused'
      '98'                    = 'Don''t know'
      '99'                    = 'Not ascertained'
      ;
VALUE $RIMPRPR
      " "                     ="Inapplicable"
      "1"                     ="Owner"
      "2"                     ="Owner's rep"
      "3"                     ="Tenant"
      "4"                     ="Tenant's rep"
      "5"                     ="Other"
      "7"                     ="Refused"
      "8"                     ="Don't know"
      "9"                     ="Not ascertained"
      ;
VALUE $SAMPLE
      "1"                     ="Area, nonupdated segment"
      "2"                     ="Area, updated segment"
      "9"                     ="List sample"
      ;
VALUE $SEASON
      " "                     ="Inapplicable"
      "1"                     ="Summer"
      "2"                     ="Winter"
      "3"                     ="Summer & winter"
      "8"                     ="Unknown"
      "9"                     ="Missing"
      ;
VALUE $SFOBS

      '01'                    = '500 or less'
      '02'                    = '501 to 1,000'
      '03'                    = '1,001 to 2,000'
      '04'                    = '2,001 to 5,000'
      '05'                    = '5,001 to 10,000'
      '06'                    = '10,001 to 25,000'
      '07'                    = '25,001 to 50,000'
      '08'                    = '50,001 to 100,000'
      '09'                    = 'Over 100,000'
      '99'                    = 'Not ascertained'
      ;
VALUE $SHAPE
      '01'                    = 'Square'
      '02'                    = 'Rectangle'
      '03'                    = 'Rect./square w/courtyard'
      '04'                    = '"H" shaped'
      '05'                    = '"U" shaped'
      '06'                    = '"E" shaped'
      '07'                    = '"T" shaped'
      '08'                    = '"L" or right angle shaped'
      '09'                    = '"+" or "cross" shaped'
      '10'                    = 'Other'
      '11'                    = 'Circle or round'
```

```
      '12'                    = 'Oval'
      '13'                    = 'Polygon'
      '99'                    = 'Not ascertained'
      ;
VALUE $SQFTC
      "01"                    ="1,000 or less"
      "02"                    ="1,001 to 5,000"
      "03"                    ="5,001 to 10,000"
      "04"                    ="10,001 to 25,000"
      "05"                    ="25,001 to 50,000"
      "06"                    ="50,001 to 100,000"
      "07"                    ="100,001 to 200,000"
      "08"                    ="200,001 to 500,000"
      "09"                    ="500,001 to 1 million"
      "10"                    ="Over 1 million"
      "97"                    ="Refused"
      "98"                    ="Don't know"
      "99"                    ="Not ascertained"
      ;
VALUE $SQFTCL
      " "                     ="Not subsampled"
      "01"                    ="Under 10,000"
      "02"                    ="10,000 to 24,999"
      "03"                    ="25,000 to 49,999"
      "04"                    ="50,000 to 99,999"
      "05"                    ="100,000 to 249,999"
      "06"                    ="250,000 to 399,999"
      "07"                    ="400,000 to 999,999"
      "08"                    ="1,000,000 to 4,999,999"
      "09"                    ="5,000,000 and over"
      "1"                     ="Under 10,000"
      "10"                    ="50,000 and over"
      "11"                    ="50,000 to 249,999"
      "2"                     ="10,000 to 24,999"
      "3"                     ="25,000 to 49,999"
      "4"                     ="50,000 to 99,999"
      "5"                     ="100,000 to 249,999"
      "6"                     ="250,000 to 399,999"
      "7"                     ="400,000 to 999,999"
      "8"                     ="1,000,000 to 4,999,999"
      "9"                     ="5,000,000 and over"
      ;
VALUE $SRCEE
      " "                     ="Inapplicable"
      "95"                    ="Other"
      "97"                    ="Refused"
      "98"                    ="Don't know"
      "99"                    ="Not ascertained"
      ;


VALUE $SRCRPT
      " "                     ="Inapplicable"
      "1"                     ="Yes"
      "2"                     ="No"
      "3"                     ="Int. error fixed"
      "9"                     ="Not ascertained"
      ;
VALUE $STATUS
      " "                     ="Record not finalized"
```

```
      "C1"                    ="Full 1992"
      "C2"                    ="Full year, not 1992"
      "C4"                    ="Disaggregation complete"
      "C5"                    ="Aggregation complete"
      "C6"                    ="Complete 1992,energy source not reported"
      "C9"                    ="Possible duplicate data"
      "D1"                    ="Full 1992 - diskette"
      "D2"                    ="Full year (not 1992) - diskette"
      "D4"                    ="Information not provided - diskette"
      "D5"                    ="Miss. periods - diskette"
      "D6"                    ="Data retrieval missing - diskette"
      "D7"                    ="Partial/disaggregation needed-diskette"
      "D8"                    ="Partial/aggregation needed - diskette"
      "D9"                    ="Dupl. trans.gas & n.gas - diskette"
      "I1"                    ="Missing periods"
      "I2"                    ="Missing items"
      "I6"                    ="One or more other rec.,together<12 mo."
      "I7"                    ="Partial, disaggregation needed"
      "I8"                    ="Partial, aggregation needed"
      "I9"                    ="Possible diskette duplicate data"
      "N1"                    ="Refused"
      "N2"                    ="Records not kept"
      "N3"                    ="Waiver inadequate"
      "N4"                    ="Records not found"
      "N5"                    ="Supplier not found"
      "N6"                    ="Supplier unknown"
      "N7"                    ="No waiver"
      "N8"                    ="Survey ended"
      "N9"                    ="No waiver, worksheet"
      "P1"                    ="Not finalized/building DR"
      "P2"                    ="Not finalized/supplier DR"
      "P3"                    ="Not finalized/problem case"
      "P4"                    ="Not finalized/blank form"
      "P5"                    ="Not finalized/awaiting scan"
      "P6"                    ="Not finalized/account no. problem"
      "P7"                    ="Remailed, no return"
      "P8"                    ="Req. info. not returned"
      "P9"                    ="Auth. prob. -wksht/mult cust"
      "X1"                    ="Energy record linked incorrectly"
      "X3"                    ="Not used in building"
      "X4"                    ="Not supplied in 1992"
      "X5"                    ="Energy record deleted"
      "X6"                    ="Incorrect supplier"
      "X7"                    ="Energy record incorrect"
      "X8"                    ="Building removed from data file"
      "X9"                    ="FK used but not delivered"
      ;
VALUE $SUBREC
      "99"                    ="Aggregated forms"
      ;
VALUE $SWCHO
      ' '                     = 'Inapplicable'
      '09'                    = 'Solar'
      '10'                    = 'Coal'
      '11'                    = 'Waste oil'
      '98'                    = 'Don''t know'
      '99'                    = 'Not ascertained'
      ;
VALUE $SWTCH
      " "                     ="Inapplicable"
```

```
      "01"                      ="Electricity"
      "02"                      ="Natural gas"
      "03"                      ="Fuel oil/kerosene"
      "04"                      ="District steam"
      "05"                      ="District hot water"
      "06"                      ="Other"
      "07"                      ="Propane"
      "08"                      ="Wood"
      "09"                      ="Coal"
      "98"                      ="Don't know"
      "99"                      ="Not ascertained"
      ;
VALUE $TECOT
      ' '                       = 'Inapplicable'
      '98'                      = 'Don''t know'
      '99'                      = 'Not ascertained'
      ;
VALUE $TGSUNT
      ' '                       = 'Inapplicable'
      '1'                       = 'Therm'
      '2'                       = 'Cubic foot (cf)'
      '3'                       = '100 cu.  ft.  (ccf)'
      '4'                       = '1000 cu.  ft.  (mcf)'
      '5'                       = 'Other'
      '8'                       = 'Don''t know'
      '9'                       = 'Not ascertained'
      ;
VALUE $TGUNTO
      ' '                       = 'Inapplicable'
      '95'                      = 'Other'
      '98'                      = 'Don''t know'
      ;

VALUE $USEL
      " "                       ="Not subsampled"
      "1"                       ="Retail"
      "2"                       ="Office"
      "3"                       ="Open space"
      "4"                       ="Other"
      "8"                       ="Unknown"
      ;

VALUE $UTLDSM
      ' '                       = 'Inapplicable'
      '1'                       = 'Yes'
      '2'                       = 'No'
      '3'                       = 'No elec./natural gas purchased'
      '7'                       = 'Refused'
      '8'                       = 'Don''t know'
      '9'                       = 'Not ascertained'
      ;
VALUE $WAIVER
      "11"                      ="Waiver obtained"
      "12"            -"14"     ="Waiver not obtained"
      "15"                      ="No energy used"
      "16"                      ="Waiver not obtained"
      "17"                      ="Waiver not obtained"
      "18"                      ="Waiver obtained"
      "21"                      ="Waiver obtained"
      "22"                      ="Waiver not obtained"
```

```
      "31"                    ="Waiver obtained"
      "32"                    ="Waiver not obtained"
      "41"                    ="Waiver obtained"
      "42"                    ="Waiver not obtained"
      "43"                    ="No energy used"
      ;
VALUE $WKHRSC
      ' '                     = 'Inapplicable'
      '0'                     = 'Never open'
      '1'                     = '1 to 39'
      '2'                     = '40 to 48'
      '3'                     = '49 to 60'
      '4'                     = '61 to 84'
      '5'                     = '85 to 167'
      '6'                     = 'Always open'
      '7'                     = 'Refused'
      '8'                     = 'Don''t know'
      '9'                     = 'Not ascertained'
      ;

VALUE $WLCNS
      '01'                    = 'Window/vision glass'
      '02'                    = 'Decor./construction glass'
      '03'                    = 'Sheet metal panels'
      '04'                    = 'Pre - cast concrete panels'
      '05'                    = 'Masonry'
      '06'                    = 'Siding/shingles/shakes'
      '07'                    = 'Other'
      '08'                    = 'Masonry & metal'
      '09'                    = 'Masonry & siding'
      '10'                    = 'Window glass & masonry'
      '11'                    = 'Window glass & concrete'
      '12'                    = 'Window & construction glass'
      '13'                    = 'Steel frame & masonry'
      '14'                    = 'Window glass & metal'
      '15'                    = 'Window,constr.glass & concrete'
      '16'                    = 'Concrete & siding'
      '95'                    = 'Other'
      '98'                    = 'Don''t know'
      '99'                    = 'Not ascertained'
      ;
VALUE $WOCCAT
      '  '                    = 'Inapplicable'
      '01'                    = 'Less than 1 cord'
      '02'                    = '1 to 9 cords'
      '03'                    = '10 to 20 cords'
      '04'                    = 'More than 20 cords'
      '98'                    = 'Don''t know'
      '99'                    = 'Not ascertained'
      ;
VALUE $WOSRC
      ' '                     =  'Inapplicable'
      '1'                     =  'Purchased'
      '2'                     =  'Provided free of charge'
      '8'                     =  'Don''t know'
      '9'                     =  'Not ascertained'
      ;
VALUE $XXSUPL
      " "                     ="Inapplicable"
      "1"                     ="Yes"
```

```
      "2"                       ="No"
      "3"                       ="No (revised)"
      "4"                       ="Not 1992"
      "5"                       ="Yes (revised)"
      "8"                       ="Don't know"
      "9"                       ="Not ascertained"
      ;
VALUE $YESNO
      " "                       ="Inapplicable"
      "1"                       ="Yes"
      "2"                       ="No"
      "7"                       ="Refused"
      "8"                       ="Don't know"
      "9"                       ="Not ascertained"
      ;

VALUE $YRADD
      " "                       ="Inapplicable"
      "1"                       ="1992"
      "2"                       ="1987 to 1991"
      "3"                       ="Before 1987"
      "8"                       ="Don't know"
      "9"                       ="Not ascertained"
      ;
VALUE $YRC
      " "                       ="Inapplicable"
      "1"                       ="1959 or before"
      "2"                       ="1960 to 1969"
      "3"                       ="1970 to 1979"
      "4"                       ="1980 to 1986"
      "5"                       ="1987 to 1989"
      "8"                       ="Don't know"
      "9"                       ="Not ascertained"
      ;
VALUE $YRCONC
      '01'                      = '1899 or before'
      '02'                      = '1900 to 1919'
      '03'                      = '1920 to 1945'
      '04'                      = '1946 to 1959'
      '05'                      = '1960 to 1969'
      '06'                      = '1970 to 1979'
      '07'                      = '1980 to 1986'
      '08'                      = '1987 to 1989'
      '09'                      = '1990 to 1992'
      '97'                      = 'Refused'
      '98'                      = 'Don''t know'
      '99'                      = 'Not ascertained'
      ;
VALUE $YROBS

      '1'                       = '1980 to present'
      '2'                       = '1970 to 1979'
      '3'                       = '1946 to 1969'
      '4'                       = 'Before 1946'
      '9'                       = 'Not ascertained'
      ;
VALUE $ZCNSEXP
      " "                       ="Not supplied"
      "0"                       ="Reported"
      "1"                       ="Prorated from adjacent periods"
```

```
      "2"                       ="Hot-decked"
      "3"                       ="Regression estimate"
      "4"                       ="Derived from hot-decked trans gas pct."
      "8"                       ="Worksheet procedure"
      "9"                       ="Missing"
      ;
      ;
VALUE $ZVAR
      " "                       ="Inapplicable"
      "1"                       ="Imputed"
      "2"                       ="Reported"
      "9"                       ="Missing"
      ;
```

Appendix C

SUMMARY TABLES

The 3 tables in this Appendix give summary results that should be obtained using the data on the 1992 CBECS public use diskettes. Due to some masking for confidentiality (see Technical Note 1), tabulations from these diskettes will not necessarily match those in the 1992 CBECS reports.

The following SAS statements were used to produce the 3 Appendix C Summary Tables:

```
DATA PUB92;
   SET PUB92.CBECS92; /* permanent SAS file with all items */
   RETAIN NBLDG 1;
   LABEL
     NBLDG = 'Number of Buildings'
     DHBTU5 = 'Annual District Heat Consumption (mBtu)';
     DHBTU5 = SUM(STBTU5,HWBTU5);

PROC TABULATE DATA=PUB92 NOSEPS FORMAT=COMMA18.0;
   VAR NBLDG SQFT5 ELBTU5 NGBTU5 FKBTU5 DHBTU5;
   CLASS PBA5 SQFTC5 REGION5;
   WEIGHT ADJWT5;
   TABLES ALL PBA5 SQFTC5 REGION5,NBLDG SQFT5;
   TABLES ALL PBA5 SQFTC5 REGION5,ELBTU5 NGBTU5;
   TABLES ALL PBA5 SQFTC5 REGION5,FKBTU5 DHBTU5;
   KEYLABEL ALL = 'All buildings';
```

Appendix C. Summary Tables

TABLE 1

	Number of Buildings	Square footage
	SUM	SUM
All buildings	4,805,659	68,097,830,476
Principal building activity		
Vacant	318,954	4,395,896,326
Office	748,931	12,373,919,045
Mercantile/services	1,272,080	12,479,445,721
Laboratory	18,884	509,890,785
Warehouse (nonrefrig.)	733,184	11,074,458,204
Food sales	130,425	767,389,547
Public order/safety	59,973	830,738,534
Health care (outpatient)	43,852	485,598,033
Warehouse (refrig.)	28,048	429,826,257
Religious worship	365,822	3,790,252,950
Public assembly	278,045	4,546,803,197
Education	300,643	8,493,636,046
Food service	259,844	1,493,648,808
Health care (inpatient)	19,434	1,300,581,393
Skilled nursing	22,683	712,245,264
Lodging	131,213	2,170,209,310
Parking garage	23,623	1,629,759,700
Other	50,020	613,531,354
Square footage category		
1,001 to 5,000	2,681,481	7,367,372,450
5,001 to 10,000	974,652	7,238,664,713
10,001 to 25,000	647,331	10,400,129,045
25,001 to 50,000	280,481	10,105,124,181
50,001 to 100,000	115,569	8,146,127,156
100,001 to 200,000	70,649	9,728,037,818
200,001 to 500,000	26,051	7,896,576,494
500,001 to 1 million	8,029	5,168,620,619
Over 1 million	1,417	2,047,178,000
Census region		
Northeast	770,749	13,494,101,883
Midwest	1,201,930	17,328,004,209
South	1,962,743	24,602,021,890
West	870,237	12,673,702,495

Appendix C. Summary Tables (Continued)

TABLE 2

	Annual electricity consumption (mBtu)	Annual natural gas consumption (mBtu)
	SUM	SUM
All buildings	2,608,688,471,458	2,174,301,040,694
Principal building activity		
Vacant	46,641,862,483	61,168,110,301
Office	703,577,434,293	387,583,705,093
Mercantile/services	444,422,069,804	380,658,427,090
Laboratory	45,481,003,445	38,144,002,507
Warehouse (nonrefrig.)	231,006,325,426	187,928,577,439
Food sales	112,566,783,266	24,039,947,419
Public order/safety	27,903,870,167	37,213,391,858
Health care (outpatient)	22,361,400,273	35,107,611,270
Warehouse (refrig.)	22,395,987,450	7,940,960,109
Religious worship	31,621,223,479	64,915,989,956
Public assembly	172,953,785,319	99,515,124,287
Education	234,553,606,549	291,297,645,412
Food service	137,625,490,876	156,611,875,940
Health care (inpatient)	115,383,605,593	154,254,200,233
Skilled nursing	36,508,902,124	66,754,751,023
Lodging	152,565,520,689	125,863,725,813
Parking garage	38,677,658,737	9,236,463,460
Other	32,441,941,486	46,066,531,483
Square footage category		
1,001 to 5,000	334,302,001,182	320,592,109,196
5,001 to 10,000	251,284,452,126	251,098,030,588
10,001 to 25,000	334,970,665,155	438,271,854,995
25,001 to 50,000	347,419,182,385	323,584,990,764
50,001 to 100,000	308,163,078,253	254,827,015,541
100,001 to 200,000	346,959,797,485	206,155,736,209
200,001 to 500,000	360,845,068,137	214,952,730,606
500,001 to 1 million	230,567,477,547	121,786,379,367
Over 1 million	94,176,749,190	43,032,193,429
Census region		
Northeast	418,840,507,429	354,208,816,633
Midwest	621,535,242,317	747,348,311,672
South	1,001,840,332,731	697,139,966,634
West	566,472,388,983	375,603,945,755

Appendix C. Summary Tables (Continued)

TABLE 3

	Annual fuel oil deliveries (mBtu)	Annual District Heat Consumption (mBtu)
	SUM	SUM
All buildings	272,477,981,833	434,776,915,450
Principal building activity		
Vacant	8,962,757,897	14,636,807,200
Office	47,137,169,633	108,864,238,160
Mercantile/services	54,797,325,112	12,330,102,750
Laboratory	2,021,624,434	16,843,673,360
Warehouse (nonrefrig.)	18,287,252,014	53,717,457,000
Food sales	760,782,818	.
Public order/safety	2,392,206,816	23,142,501,080
Health care (outpatient)	942,143,798	1,740,999,760
Warehouse (refrig.)	5,607,925,633	30,322,300
Religious worship	11,982,038,639	299,666,360
Public assembly	14,871,332,663	22,558,390,980
Education	61,528,717,998	49,431,371,720
Food service	4,664,931,163	8,459,044,020
Health care (inpatient)	19,963,003,008	53,055,631,430
Skilled nursing	1,844,977,397	13,414,333,870
Lodging	13,755,269,868	52,080,907,780
Parking garage	954,949,293	2,779,393,290
Other	2,003,573,647	1,392,074,390
Square footage category		
1,001 to 5,000	40,338,944,479	7,325,396,830
5,001 to 10,000	45,847,336,953	6,929,359,920
10,001 to 25,000	26,723,487,598	64,844,653,310
25,001 to 50,000	54,948,763,918	67,868,877,780
50,001 to 100,000	29,612,789,271	49,686,371,210
100,001 to 200,000	28,146,090,361	59,151,976,660
200,001 to 500,000	25,510,093,423	109,221,776,150
500,001 to 1 million	11,634,280,199	39,753,199,230
Over 1 million	9,716,195,630	29,995,304,360
Census region		
Northeast	193,528,061,339	123,045,820,670
Midwest	26,080,545,542	182,772,737,610
South	47,675,279,236	78,300,958,320
West	5,194,095,716	50,657,398,850