State Climate Factor F2=HDD State Ratio + CDD State Ratio HDD and CDD Ratios State HDD Ratio

State HDD Ratio = $\frac{\text{State HDD}}{\text{National Median HDD}}$

State CDD Ratio

State CDD Ratio = $\frac{\text{State CDD}}{\text{National Median CDD}} \times 0.1$

where

 $\frac{\text{Cooling Consumption (.49 Quadrillion Btu)}}{= 0.1}$

Heating Consumption (4.79 Quadrillion Btu)

National heating consumption equals 4.79 quadrillion Btu and air conditioning (cooling) consumption equals .49 quadrillion Btu. Cooling consumption divided by heating consumption rounds to 0.1. The ratio of cooling to heating energy consumption reflects the fact that nationally households use, on average, one tenth as much energy for cooling as for heating. This ratio is reflected in the existing allocation formula. National data are used because of the absence of complete State-specific data.

In order to account for the variation in weather in a simple but equitable manner, DOE compares each State's climate to the national median. Each State's HDD and CDD is divided by the series' median value. Using the median as the denominator ensures that half of the States would fall above 1 and half would fall below 1. A State HDD ratio (HDD divided by the median) greater than 1 indicates a State with relatively cold winters, while a value greater than 1 for a State's CDD ratio indicates a

State with a relatively warmer summer. To find the median of any odd series of numbers, the series is arranged in ascending order and the value that occurs in the middle of the series is chosen. The series relevant to F2 is odd because it consists of the 50 States and the District of Columbia. The median value occurs at the 26th observation (State). The median was chosen, rather than the mean, because of its characteristic of being "insensitive" to extreme values. States like Alaska and Florida tend to skew or pull the average towards one extreme or another. In calculating the heating and cooling ratios the current formula multiplies each State's HDD's by the national space heating consumption and its CDD's by the national air conditioning (cooling) consumption. The proposed formula simplifies this calculation by combining these two numbers into one by dividing cooling consumption by heating consumption (as reported in Table 28 of the Household Energy Consumption and Expenditures 1990). Each State's CDD

TABLE	3.—WEATHER	DATA BY	STATE
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ratio is multiplied by this one number (which rounds to 0.1). The final climate factor for each State is then the sum of the HDD and CDD ratios. Table 3 presents the data used to

calculate the climate factor (F2) for each State.

Table Explanation

Column A—State Name.

Column B—State heating degree days (HDD) as reported by the NOAA. Column C—State HDD Ratio,

Column C—State HDD Ratio, calculated by dividing each State's HDD by the national median (5,429.9—as shown on the bottom of Table 2).

Column D—State cooling degree days (CDD) as reported by the NOAA.

Column E—State CDD divided by the national median (867.3—as shown on the bottom of Table 2).

Column F—State CDD Ratio, calculated by multiplying Column E by the ratio of cooling consumption to heating consumption, which is 0.1.

Column G—State Climate Factor (F2), calculated by summing each State's HDD and CDD ratios.

State A	Heating De- gree Days B	HDD ratio C	Cooling de- gree days D	CDD di- vided by the median E	CDD ratio F	Climate fac- tor (F2) G
Alabama	2,853.8	0.526	1,855.9	2.140	0.214	0.740
Alaska	11,475.2	2.113	1.9	0.002	0.000	2.114
Arizona	2,232.6	0.411	2,695.4	3.108	0.311	0.722
Arkansas	3,365.0	0.620	1,801.2	2.077	0.208	0.827
California	2,663.3	0.490	824.4	0.951	0.095	0.586
Colorado	7,264.0	1.338	280.4	0.323	0.032	1.370
Connecticut	6,122.4	1.128	526.6	0.607	0.061	1.188
Delaware	4,741.7	0.873	1,034.4	1.193	0.119	0.993
District of Columbia	4,785.7	0.881	1,008.5	1.163	0.116	0.998
Florida	715.6	0.132	3,365.1	3.880	0.388	0.520
Georgia	2,842.0	0.523	1,705.7	1.967	0.197	0.720