REGIONAL RENTAL SURVEY

COVERING GOVERNMENT-FURNISHED HOUSING LOCATED IN THE

NORTHEAST SURVEY REGION

(NORTHEAST SURVEY DATE: JUNE 2007)
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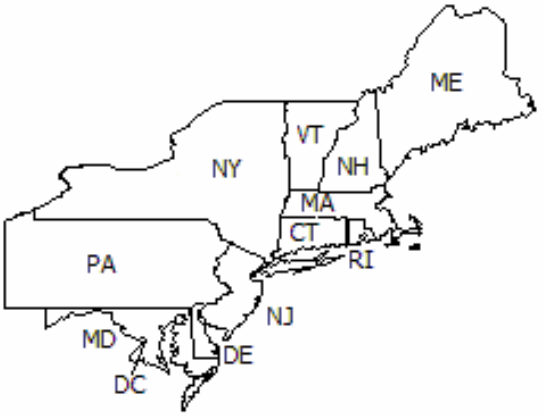

Prepared By:
U.S. Department of the Interior
Office of the Secretary
National Business Center
Budget and Finance Directorate
Finance and Procurement Systems Division
Implementation and Production Support Branch
Quarters Management Information System (QMIS) Office

Approved By: 9/20/07
U.S. Department of the Interior
Office of the Secretary
Office of Acquisition and Property Management
Michael Keegan, Associate Director
Facility and Property Management

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I. SURVEY BACKGROUND

The Quarters Management Information System (QMIS) Office coordinated a contractor-conducted field survey of the private rental housing market in the states of Connecticut, Delaware, District of Columbia, Maine, Massachusetts, Maryland, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont, from May 2007 through July 2007. This survey was undertaken as specified in the Office of Management and Budget (OMB) Circular No. A-45 and in the U.S. Department of the Interior Quarters Handbook (400 DM.) OMB Circular A-45 provides for reconfirmation of the market-based rental rates at least once every five years, or sooner, if conditions warrant. The last field survey of the Northeast region was conducted in April 2003.

The collection and analysis of rental housing data were accomplished employing methods similar to those used in previous surveys. Automated and manual analytical procedures were used to establish base rental rates for houses (including plexes), apartments, mobile homes, and trailer pads. Rental rates for cabins were based upon their comparability with 1-bedroom houses. Rental rates for temporary housing and travel trailers were based upon their comparability with mobile homes. Rental rates for dormitories, bunkhouses and transient units were established by extending the principle of comparability, as provided for in OMB Circular A-45.

The objective of regional surveys, as set forth in OMB Circular No. A-45, is to develop reasonable rental rates based upon the "…typical rental rates for comparable private housing in the general area in which the government quarters are located…." The policy set forth in OMB Circular A-45 is as follows:

> Rental rates and charges for government quarters and related facilities will be based upon their "reasonable value...to the employee...in the circumstances under which the quarters and facilities are provided, occupied, or made available."...Reasonable value to the employee or other occupant is determined by the rule of equivalence; namely, that charges for rent and related facilities should be set at levels equal to those prevailing for comparable private housing located in the same area, when practicable...

The regional survey method uses regression analysis techniques to establish a base rental rate for a given type of housing unit that reflects the typical rate for that type of housing in the survey area. Regression analysis allows the QMIS Office to establish adjustments that reflect: (1) the contributory value (+ or -) of housing features that the private rental market indicates are significant; and (2) relevant social and economic factors that are manifested in the rent levels of individual communities.

Because regression analysis permits assessment of (and adjustment for) different locations, as measured by market rents, several localities or states can be surveyed at a time to minimize data collection costs, and the rates can be individualized for communities that are significantly at variance with the regional rent pattern.

The resulting product (finalized rental rates), when derived from carefully applied automated statistical analysis, provides a logical and equitable base rental rate structure supported by the market rental rate pattern of the region and the community.

II. INVENTORY OF GOVERNMENT-FURNISHED HOUSING

This survey was initiated with an inventory of government-furnished housing managed by the agencies and bureaus that participate in the Quarters Management Information System (QMIS) program.

Agencies and bureaus use the QMIS software to manage their inventories. The QMIS Office in Denver developed this software. QMIS allows an installation or region to maintain its own housing inventory. Rents can be calculated in just minutes, even for hundreds of units. This decentralized system provides local control of the housing inventory. As always, the key to accurate rents is accurate, up-to-date inventory information.

Software with the results of this survey and the updated Consumer Price Index (CPI) is distributed from Denver in January each year. If you do not receive new CPI software, or do not receive procedures for downloading the software by January each year, please contact the QMIS Office (Help Desk at 303-969-5696 or Rental Program Manager at 303-969-5050). This is important because, by regulation, new rents (based on the survey and CPI) must be implemented in early March, and tenants must be notified in writing 30 days prior, by early February.

It is also important that all agencies and bureaus submit a copy of their updated housing inventories to the QMIS Office by May 15 of each year. This information is used to determine the communities and characteristics to be sampled in new Regional Surveys. The information is also used for various general management reports.

III. CONTRACTING FOR THE PRIVATE RENTAL SURVEY

A. DETERMINATION OF THE COMMUNITIES TO BE SURVEYED

Selection of the communities to be surveyed in this region was initiated with a review of the nearest established communities identified in the government housing inventory. Their geographic locations and populations were determined to enable selection of established communities nearest to concentrations of government housing.

Inclusion of these communities enables a comparison of the community rental rate structure with that of the survey region. This permits a ready determination of whether the local or the regional rental rate structure should be utilized to establish the government-furnished housing base rents. A complete discussion of this process is contained in Section IV of this report.

The communities surveyed represented broad geographic and population ranges. The largest community surveyed – Brooklyn Borough, New York City, New York – had a 2000 population of 2,465,326. The smallest community – Fort Kent, Maine – had a 2000 population of 1,978. A list of the surveyed

communities appears as Table 1. In accordance with OMB Circular A-45, communities with 2000 census populations below 1,500 were not surveyed.

TABLE 1 COMMUNITIES SURVEYED

STATE AND COMMUNITY	2000 CENSUS POP.
CONNECTICUT	
Danbury, CT	74,848
Newington, CT	29,306
Westbrook, CT	2,238
DELAWARE	
Dover, DE	32,135
DISTRICT OF COLUMBIA	
Washington, DC	572,059
MAINE	
Augusta, ME	18,560
Bar Harbor, ME	2,680
Biddeford, ME	20,942
Bucksport, ME	2,970
Calais, ME	3,447
Ellsworth, ME	6,456
Farmington, ME	4,098
Fort Kent, ME	1,978
Houlton, ME	5,270
MARYLAND	
Beltsville, MD	15,690
Berlin, MD	3,491
Bethesda, MD	55,277
Boonsboro, MD	2,803
Cambridge, MD	10,911
Chestertown, MD	4,746
Havre De Grace, MD	11,331
Laurel, MD	19,960
Thurmont, MD	5,588
Towson, MD	51,793

STATE AND COMMUNITY	2000 CENSUS POP.
MASSACHUSETTS	
Bedford, MA	12,996
Boston, MA	589,141
Eastham/N. Eastham, MA	5,453
Lincoln, MA	2,850
Nantucket, MA	3,830
Newburyport, MA	17,189
Northampton, MA	28,978
North Attleboro, MA	16,796
Provincetown, MA	3,561
Saugus, MA	26,078
Wellfleet, MA	2,749
NEW HAMPSHIRE	
Berlin, NH	10,331
Manchester, NH	107,006
Nashua, NH	86,605
North Conway, NH	2,069
Plymouth, NH	3,528
Portsmouth, NH	20,784
NEW JERSEY	
Absecon, NJ	7,638
Bernardsville, NJ	7,345
Blairstown, NJ	5,747
Millington, NJ	2,500
Newton, NJ	8,244
Red Bank, NJ	11,844
Salem, NJ	5,857
Sussex, NJ	2,145

TABLE 1. COMMUNITIES SURVEYED,
continued

STATE AND COMMUNITY	2000 CENSUS POP.
NEW YORK	
Batavia, NY	16,256
Bath, NY	5,641
Beacon, NY	13,808
Buffalo, NY	292,648
Canandaigua, NY	11,264
Cortland, NY	18,740
Huntington, NY	18,403
Hyde Park, NY	2,650
Mastic Beach, NY	11,543
Montrose, NY	2,250
New York – Bronx, NY	1,332,650
New York – Brooklyn, NY	2,465,326
New York – Staten Island, NY	443,728
Northport, NY	7,606
Rouses Point, NY	2,277
Sag Harbor, NY	2,313
Sayville, NY	16,735
PENNSYLVANIA	
Altoona, PA	49,523
Birdsboro, PA	5,064
Butler, PA	15,121
Coatesville, PA	10,838
Erie, PA	103,717

STATE AND COMMUNITY	2000 CENSUS POP.
PENNSYLVANIA, continued	
Gettysburg, PA	7,490
Kane, PA	4,126
King of Prussia, PA	18,511
Lebanon, PA	24,461
Lewisburg, PA	5,620
Lock Haven, PA	9,149
Matamoros, PA	2,312
Meadville, PA	13,685
Montgomery/S. Williamsport, PA	6,412
Philadelphia, PA	1,517,550
Pittsburgh, PA	334,563
Stroudsburg, PA	5,756
Uniontown, PA	12,422
Warren, PA	10,259
Wilkes-Barre, PA	43,123
RHODE ISLAND	
None	
VERMONT	
Rutland, VT	17,292
Windsor, VT	3,756

B. DETERMINATION OF THE HOUSING CLASSES TO BE SURVEYED

In order to determine which housing classes to survey, the inventory of the agencies participating in the QMIS system were separated into housing classes shown in Table 2, below. Analysis of the government-owned housing data revealed the following information by rent class:

TABLE 2 GOVERNMENT-FURNISHED HOUSING (BY RENT CLASS) IN THE NORTHEAST REGION

Rent Class	# of Units	Avg. Age	Age Range	Avg. Sq. Ft.	Sq. Ft. Range
Houses					
4+ Bedrooms	97	100	6 to 239	3,197	918 to 8,915
3 Bedrooms	237	73	1 to 207	2,192	660 to 7,174
2 Bedrooms	167	90	1 to 281	1,647	657 to 3,811
1 Bedroom	77	86	12 to 256	1,184	295 to 4,230
Apartments					
3+ Bedrooms	47	74	11 to 199	1,601	789 to 6,428
2 Bedrooms	152	54	11 to 199	932	443 to 2,690
1 Bedroom	76	64	11 to 92	729	336 to 2,066
Efficiency	7	69	40 to 207	422	320 to 855
Cabins	3	53	43 to 59	448	288 to 658
Mobile Homes					
3 Bedrooms	4	22	6 to 36	850	675 to 1,150
2 Bedrooms	2	19	17 to 21	725	560 to 890
1 Bedroom	1	6	6	270	270
Travel Trailers	8	6	5 to 7	244	220 to 250
Dormitories	53	66	1 to 129	3,840	3,697 to 16,663
Trailer Pads	16	30	9 to 42	-	-
TOTALS	**947**	**75**	**1 to 281**	**1,778**	**220 to 16,663**

NOTE: The above data was extracted from the latest consolidated database stored by the QMIS Office. Since the program is decentralized, the consolidated database is based on what has been sent to our office by users in the field. The numbers above may not accurately reflect the actual number of units for this survey region.

As with other regional surveys, the contractor was directed to survey only those housing classes for which a representative sample could be readily obtained in the private rental market. Thus, comparables were not obtained for cabins or lookouts, temporary housing, travel trailers, bunkhouses/dormitories, transient units or tents.

Rental rates for cabins were established by using the average rental rate for one-bedroom, single-family houses as the basis of comparison. Additional adjustments that reflect the absence of certain standard housing features in some cabins have been included for use when appropriate.

Since temporary housing and travel trailers (mobile home-like structures containing less than 256 square feet of gross living area) are most structurally similar to mobile homes, the rental charges for these housing classes are based upon the analysis of mobile home market rental comparables.

Since comparable bunkhouse or dormitory housing does not exist in most communities, the QMIS Office is unable to obtain sufficient market data to provide a satisfactory statistical base. Consequently, rental rates for bunkhouses and dormitories have been established using an extension of the Principle of Comparability, as permitted in OMB Circular A-45. Similarly, the rental charge for transient units has been established in conjunction with the dormitory rate structure.

OMB Circular A-45, revised October 20, 1993, excludes tents from the definition of government-furnished housing. Therefore, rental charges have not been established (and should not be assessed) for tents which are used as employee housing.

Four housing classes (houses/plexes, apartments, mobile homes and trailer pads) were ultimately selected for field survey and statistical analysis. The contractor was instructed to select comparables built to Housing and Urban Development (HUD) minimum housing standards wherever possible. The number of observations obtained for each housing class in each community surveyed varied, depending upon the number of nearby government units of that class. The government inventory data was used to create a "Sample Plan" to guide the contractor in the conduct of the survey.

C. HEATING FUELS AND UTILITY CHARGE SURVEY

To ensure reliability of the energy consumption estimates for housing where consumption is neither metered nor measured, this report uses a series of contractor-developed heating and cooling consumption tables for each general type of housing represented in the survey. The tables are based upon energy consumption studies that use a methodology meeting housing industry standards. The results reflect energy consumption for variously sized single-family houses (with and without basements), apartments, and mobile homes. A complete discussion of the energy consumption/cost methodology is contained in Section VI.

D. CONTRACTOR SELECTION

The National Business Center provided procurement support and project coordination for this Private Rental Survey. Reimbursement for survey expenses was underwritten by the agencies and bureaus that participate in the QMIS Program.

The private rental survey was completed by Delta-21 Resources Inc. of Knoxville, Tennessee, during the months of May 2007 through July 2007. A total of 1,258 private rental housing comparables were sampled. In addition, electrical, heating fuel, utility, appliance, and other related service charges were collected in each of the communities surveyed. The private rental housing costs that were obtained reflected rental rates at that time.

IV. REGIONAL SURVEY PRINCIPLES AND PROCEDURES

A. SURVEY PRINCIPLES

The purpose of a regional survey is to determine and establish reasonable housing unit rents through an analysis of the market rents of comparable private housing in communities nearest to the concentrations of government housing. The process of arriving at the base rent of a structure is influenced by real estate appraisal principles, statistical limitations, and administrative considerations. Often there may be a conflict among these three interests, which necessitates a trade-off.

1. Real estate appraisal principles include matching comparables as closely as possible to the specific subject properties in physical characteristics and location, and adjusting in a logical direction for all significant differences.

2. Statistical principles involve: (a) trying to minimize the standard error of the estimate (unexplained variation); (b) getting a good match of characteristics between the properties analyzed and those the analysis is applied to; (c) obtaining a large and diverse sample; and (d) making adjustments for factors that are significant in explaining variation. Ideal samples may not always be available in the market; and the market search may be limited (like an appraisal) because of time and budget constraints.

3. Administrative considerations recognize that government housing is usually not located in established communities, and that physical characteristics (such as in historical houses, one-room cabins, lookouts or dormitories) are difficult to match in the market. Government housing is often found in areas influenced by tourism or boom/bust natural resource development that may produce unreasonable rents. Consistency and relative reasonableness, as well as time and budget constraints, must also be taken into consideration.

4. While trade-offs among these three considerations may result in a less than ideal application of any one of the three principles, the goal is still to produce Monthly Base Rental Rates (MBRR) for housing that is relatively consistent with the local market rents for similar housing, internally consistent and logical from one unit to another, and represent a reasonable value to the employee.

B. MULTIPLE REGRESSION PROCEDURES USED IN RENTAL RATE COMPUTATIONS

There are several reasons for using the regional survey method to arrive at rental rates. These include accuracy, consistency, fairness, cost effectiveness/economy, and the provision in OMB Circular A-45 that regional rental surveys are the preferred method.

Prior to the use of the regional survey method, Monthly Base Rental Rates (MBRRs) were reset every five years by individually appraising each government unit. The appraisal process normally relied upon the use of a small number (2-4) of comparables for each subject unit, and made logical or market-abstracted adjustments to each comparable. In many instances the same comparables were used to establish rental rates for several housing units. Thus the selection of comparables became critical. Individualized appraisals

often led to inconsistencies among units in the same area. Many times different agencies, managing similar or identical housing units in the same area, had substantially different rents after analyzing the same rental market. Appraisers valuing several different units by separate sets of comparables and adjustments sometimes arrived at rents not logically related to one another. Finally, the appraisal process required a considerable amount of travel, and individualized writing, typing and editing of appraisal reports, which was expensive and very time-consuming.

Alternatively, the regional survey method relies upon much larger samples of comparables. These are statistically analyzed to determine those factors that are significant in explaining variations in the adjusted rent of each class of housing comparables. Each class of comparables (houses, apartments and mobile homes) is analyzed separately to determine which locations and physical characteristics are important in explaining the differences in rents among individual rental units and communities. The computer program independently and objectively determines the best set of characteristics (formula) to explain the rental pattern. This formula varies for each survey region and housing class, but each is primarily based on square feet, bedrooms, bathrooms, amenities, and community market variances.

The rental rates are based upon an analysis of both regional data and local data. The rents in all surveyed communities for each housing class are tested for statistical significance. All significant negative location adjustments are applied to the housing using that community as their nearest established community. **Positive location (community) adjustments are not applied; so government housing units near high-rent communities are charged the typical rent for the region as a whole, rather than the typical rent for that high-cost location.**

The statistical process used is called forward in-and-out, step-wise multiple regression analysis. It takes all of the variables considered and forms a matrix or grid showing how every variable is related to every other variable (cross-correlation matrix). In this phase of the analysis, significant inventory items relating to the dwelling structure are coded into the computer as variables to be tested for their impact, if any, on rent. The variable to be explained (in this case, rent) is called the dependent variable, because its value is determined by that of the other (independent) variables.

In forward in-and-out step-wise multiple regression analysis, the independent variable that explains the most variation in the dependent variable (rent) is selected first by the computer and entered as Step 1. The remaining variation is then recomputed, and the independent variable that explains the largest portion of the remaining variation is selected by the computer and entered as Step 2. As each new variable is added, the coefficients of all the previously entered variables are recomputed to take into account relationships among the independent variables. If a previously entered variable no longer meets the test of significance, it is removed.

As this procedure uses the variation squared, it is highly sensitive to cases with extreme variations from the norm. Since the purpose of a regional survey is to find the typical rent for housing with certain characteristics, it is useful (and mandatory) to cull comparables with unusually high or low rents that are apparently unrelated to their characteristics. Such non-conforming rentals tend to obscure the typical pattern. To accomplish this culling, the following steps are normally taken.

Step 1. A listing of all the comparables is checked to see that the program has proper decodes, that no rental has been entered twice, and that the data is complete for each variable to be tested. The range for each rent class is also checked.

Step 2. Regression Run 1 (square foot base formula). The purified database is analyzed for the best fit of adjusted rent versus square feet and the logarithm of square feet. This comparison is undertaken because square footage in buildings is generally the variable that explains the most variation of adjusted rent. It is also a universal variable (one that applies to all cases) and a continuous variable (one that changes in many small increments).

Step 3. A listing is produced which shows the rent/predicted rent ratio of each private rental sample by community. The predicted rent is one computed using the square foot base formula derived in step 2. The purpose of this listing is to screen out individual rentals whose ratios are far out of line relative to other rental comparables in the same community.

Step 4. A scattergram of rentals for each class, showing adjusted rent by square feet, is produced to visually display the data. These scattergrams, and the listings produced in Step 3 above, are used to remove samples with unusually high or low rents in each size grouping. A separate variable for each of the remaining communities is then entered into the next step, the full regression analysis, to see if it has a statistically significant location adjustment after other adjustments have been made. This run and a crosstab run of physical features allows for selection of other variables that are significantly represented and widely (geographically) distributed. These variables are turned into dummy (yes/no) and combination variables. Continuous and discrete variables are entered as simple variables, logarithmic transformations, and in logical combinations.

Step 5. (First Full Regression Run). The screened samples for each housing class, along with the variables to be tested, are analyzed to find coefficients for the significant variables. The results are checked for logic and cross-correlation; normally only one form of a variable is allowed to stay in the equation. Variables with illogical results are checked to find reasons for such deviation from expected results. Such variables are normally dropped from subsequent regression runs. Sometimes the samples containing such variables are culled; however, culling samples is uncommon.

Step 6. (Other Full Regression Runs). The full regression analysis is rerun without the illogical variables and/or dropped cases. If the end results look reasonable, the coefficients determined by regression analysis are used to compute Monthly Base Rental Rates (MBRRs) for individual government-furnished housing.

Step 7. (Predicted Rent Tables). The coefficients of each satisfactory regression run are put into a computer program which produces a table of predicted MBRRs. The base values and all possible combinations of adjustments are reviewed to ensure the results are reliable for the full range of values. If not, the cause of the problem is diagnosed and corrected, and the regression analysis is re-run, producing a revised set of coefficients. Then Step 6 is repeated, and a new set of rent tables is produced.

V. ESTABLISHMENT OF MONTHLY BASE RENTAL RATES (MBRR)

A. USE OF BASE RENT CHARTS

Although rental computations have been automated to produce Monthly Base Rental Rates (MBRRs) and final Net Rents for most units, housing managers should understand the methodology used to determine rental rates. Therefore, a set of charts has been prepared to allow the manual computation of the MBRRs for each class of rental housing. The charts have been constructed as size/age tables for the three major categories of housing (houses, apartments and mobile homes). By knowing the gross square feet of the livable area (size), the age, and the housing class of a building being used, one can determine the base rent from the proper table. The charts also contain columns and/or footnotes of rent adjustments, which modify the rent from the size/age table to produce a MBRR for an individual unit.

The value of one refrigerator and one stove is included in the rents listed in Tables 3, 4, and 5. Therefore, if the government does not provide a refrigerator or a range in the unit, the value of each non-provided appliance should be subtracted from the monthly rent. The current values of a refrigerator and range are shown in Table 18 of this report, and may be adjusted annually by the QMIS Office to reflect changes in the Consumer Price Index (CPI) which occurs in November, following the issuance of this report.

In selecting the appropriate rent table, it is important to remember that the **design of the housing unit, not its use, determines its category.** Thus, a house or an apartment unit **designed** to be occupied by an individual or a family, but which is actually used to house unrelated individuals, would be valued by the category for which it was designed to be used, rather than as a bunkhouse/dormitory. Where a structure is not designed for occupancy by an individual or family, or has been substantially modified to house individuals on a dormitory basis, it would be appropriate to apply bunkhouse/dormitory rates. Thus, an unmodified three-bedroom house with a **planned occupancy** of six unrelated individuals (normally two persons per bedroom) would have a rental rate determined by calculating the rental rate for a three-bedroom house and then dividing that rate by six. This rate would change if the number of **planned** occupants changed. If the house were later **structurally modified** to be used as a bunkhouse/dormitory, the rate then would be the dormitory rate.

Based upon information provided by the contractor, deductions from the monthly contract rental rate of each rental sample were made for the contributory costs of utilities, appliances, furnishings and services provided and included in the contract rent. No deductions were made for central air conditioners, refrigerators or ranges; however, if a refrigerator or range was missing, the value was added to the adjusted rent. Central air conditioners are valued at their contributory value, if any. The resulting adjusted monthly contract rental rate represents the contributory value of the dwelling structure equipped with a refrigerator and a range. The establishment of final monthly rental charges for houses, apartments, mobile homes and cabins/lookouts requires the addition of charges for government-provided utilities, services, appliances and furnishings. Conversely, **deductions** are required for the values of ranges and refrigerators when they are not provided by the government.

There are a total of eleven rental rate charts: four charts for single-family housing, four charts for apartments, and three charts for mobile homes. Instructions for computing rental rates for cabins, bunkhouses and dormitories, transient units and trailer pads are found in Sections V.E, V.F, V.G and V.H, respectively. Because OMB Circular A-45 excludes tents from the definition of "rental housing," there is no charge for the provision of tents.

The use of the charts is fairly simple. First, find the chart for the rental class category of the government quarter. Next, round the finished square footage **down** to the nearest hundreds of square feet. Thus, if a unit has 980 square feet, the row labeled "900 Sq Ft" would be used. Then the age should be rounded **up** to the nearest age increment. (Always round to benefit the tenant.) If the dwelling at issue was built in 1983, its age would be computed as 2007 (the current year) minus 1983 (the year built). Thus, in this instance, the unit is 2007–1983 = 24 years old; and the column headed by "25 Yrs Old" should then be followed down to the "900 Sq Ft" row to obtain the size/age adjusted rent.

The rent charts also have various location adjustments, as well as adjustments for physical features such as the number of bathrooms, the type of garage facilities, the condition of the housing, etc. These should be subtracted from, or added to, the size/age adjusted rent, as specified, to determine the MBRR.

When computing the final rent (net rent) to be paid, the MBRR must be adjusted to include the value of government-provided related facilities (utilities, appliances, furnishings and services); and the administrative adjustments prescribed in OMB Circular A-45. Use the Department of the Interior Form DI 1880, "Rent Computation Schedule," for guidance. (Manual rent calculations also require information from the most recent Consumer Price Index (CPI) Memo published by the QMIS Office.)

Where a dwelling is larger than the highest square footage in the chart pertinent to that unit, use the size/age rent and adjustments from the bottom (largest "Sq Ft") row. Rent is "capped" at the largest "Sq Ft" indicated on each chart. This may eliminate the need for some administrative adjustments due to excess size of the housing. If a dwelling is smaller than the smallest square footage, use the lowest square footage listed on the chart.

The rent for a dwelling with more than 4 bedrooms (3 bedrooms for apartments and mobile homes) is calculated as if the unit had 4 bedrooms ("capped" at 3 bedrooms for apartments and mobile homes). The carport charge is the same regardless of the size of the carport; and the fireplace charge is the same for one or more fireplaces. In addition, a "cap" of 3 bathrooms applies.

To assist in the calculation of housing MBRRs, examples are provided in the following pages. While the rates appearing in the following tables should allow users to establish MBRRs for essentially any property, not all situations and conditions can be anticipated. Therefore, housing managers should use professional discretion to set rates for truly unusual situations. In cases where housing managers must use some other method to establish rates, please contact the National Business Center QMIS Office, at **303-969-5696 or 303-969-5050**, or fax 303-969-6634. You should explain the conditions, the rate used, and the reasoning so that the QMIS Office may anticipate such circumstances in the future. Please retain the documentation for such actions in your housing management files.

B. SINGLE FAMILY HOUSING

For single-family detached houses, including plexed dwellings and townhouses, use the rental chart which appropriately describes the housing class and the number of bedrooms of the subject unit. The charts for houses are in Tables 3a through 3d.

For example, assume a 3-bedroom, 1½-bath house, that was built in 1974, and which has a 2-car garage, two fireplaces, a central refrigerated air conditioning system, and 1,276 gross square feet of living space. The house, located near Lewisburg, Pennsylvania, is "fair" in both exterior and interior condition.

First, the chart for 3-bedroom, good condition, 1 bathroom, houses (Table 3b) should be located and used. These charts are baseline charts, which assume that each house is in good condition inside and outside and has one full bathroom. Therefore, if the house is in "good" condition inside and outside and has one bathroom, no additional computations are needed. If there is a deviation from either "good" inside or outside condition, or there are less or more bathrooms than one, then the computations must be changed as discussed below. In the first step, Table 3b is selected as the proper chart for 3-bedroom houses. Next, the size (gross finished floor space) should be rounded **down** to the nearest 100 square feet (from 1,276 to 1,200 sq. ft.) Under the column headed "**Sq Ft**," the figure 1,200 should be located. Further adjustments will be taken from this row.

Finally, the appropriate age column should be selected. The house in this example is 2007–1974 = 33 years old. The age should be rounded **up** to the next highest age column, which, in this case, is the column headed "**35 yrs old**." Follow this column down to the 1,200 square feet row to obtain the size/age "Chart Rent" of $986.

The first adjustment is the extra bathroom charge. Follow the column headed "**Per Extra Bath**" down to the 1,200 Sq Ft row to find a charge of $148 for a full extra bathroom. As the house in this example has only ½ of an extra bathroom, the adjustment is $148 x .5 (½ extra bathroom) = $74. Add $74 to the rent.

The second and third adjustments are made for a fair exterior and a fair interior condition. Follow the column headed "**Fair Exterior/Interior***" down to the 1,200 Sq Ft row. The amount reflects a deduction of -$15 for a house with a fair exterior **and** a deduction of -$15 for a house with a fair interior. Since both the exterior and interior are in fair condition, the total adjustment is -$30.

The fourth adjustment is for the central refrigerated air conditioning system. Follow the column headed "**Air Cond"** down to the 1,200 Sq Ft row. The amount reflects an addition of $73 for central air conditioning.

The fifth adjustment is for a two-car garage. Follow the column headed "**Garage (Per Car)**" down to the 1,200 Sq Ft row. $81 should be charged for each car the garage is designed to accommodate. Since the house in this example has a 2-car garage, multiply the amount shown for one car ($81) times 2 to reflect the value of a 2-car garage (2 x $81 = $162). Add $162 to the rent.

The sixth adjustment is made for the fireplace. Follow the column headed "**Fireplace**" down to the 1,200 Sq Ft row. The amount reflects an addition of $20 for one or more fireplaces. Add $20 to the rent for the fireplace.

The final adjustment is the community adjustment. The house in this example is located near Lewisburg, PA. The notes beneath the table (see "**Community Adjustments**") reflect that Lewisburg, PA receives an adjustment of -$373. As instructed, subtract $373 from the rent. Community adjustments are given only to communities in which the market rents are **lower** than the regional average level of rents. Communities not listed in the tables have rents which are equal to or higher than the regional average rent, and do not receive community adjustments.

In summary, the adjustments that produce the Monthly Base Rental Rate for the house used in this example are shown below.

Chart Rent (1,200 Sq Ft/35 Yrs Old)	$986.00
Extra Bath Adjustment (.5 X $148)	+ 74.00
Fair Exterior Condition Adjustment	- 15.00
Fair Interior Condition Adjustment	- 15.00
Central Air Conditioning Adjustment	+ 73.00
Garage Adjustment (2 Car X $81)	+ 162.00
Fireplace Adjustment	+ 20.00
Community Adjustment (Lewisburg, PA)	- 373.00
Monthly Base Rent	$912.00
Monthly Base Rent (Rounded to nearest $1)	$912.00

The last step is to round the resulting MBRR (Monthly Base Rental Rate) to the nearest whole dollar. Any amount resulting in an amount of $.50 or greater is rounded up; any amount resulting in an amount of $.49 or less is rounded down. The decision to round is discretionary.

TABLE 3A MONTHLY BASE RENT CHART - GOOD CONDITION, 4 BEDROOM, 1 BATH HOUSES
NORTHEAST REGION

Sq Ft	5 yrs old	15 yrs old	25 yrs old	35 yrs old	45 yrs old	55 yrs old	75+ yrs old	Per Extra Bath	Excel Interior / Exterior*	Fair Interior / Exterior*	Poor Interior / Exterior*	Refrig Air Cond	Garage (Per Car)	Fire-place	Plex
700	$897	$892	$887	$882	$877	$872	$862	+$86	+$20	-$15	-$20	+$73	+$81	+$20	-$38
800	$931	$926	$921	$916	$911	$906	$896	+$98	+$20	-$15	-$20	+$73	+$81	+$20	-$38
900	$964	$959	$954	$949	$944	$939	$929	+$111	+$20	-$15	-$20	+$73	+$81	+$20	-$38
1,000	$998	$993	$988	$983	$978	$973	$963	+$123	+$20	-$15	-$20	+$73	+$81	+$20	-$38
1,100	$1,031	$1,026	$1,021	$1,016	$1,011	$1,006	$996	+$135	+$20	-$15	-$20	+$73	+$81	+$20	-$38
1,200	$1,065	$1,060	$1,055	$1,050	$1,045	$1,040	$1,030	+$148	+$20	-$15	-$20	+$73	+$81	+$20	-$38
1,300	$1,098	$1,093	$1,088	$1,083	$1,078	$1,073	$1,063	+$160	+$20	-$15	-$20	+$73	+$81	+$20	-$38
1,400	$1,132	$1,127	$1,122	$1,117	$1,112	$1,107	$1,097	+$172	+$20	-$15	-$20	+$73	+$81	+$20	-$38
1,500	$1,165	$1,160	$1,155	$1,150	$1,145	$1,140	$1,130	+$185	+$20	-$15	-$20	+$73	+$81	+$20	-$38
1,600	$1,199	$1,194	$1,189	$1,184	$1,179	$1,174	$1,164	+$185	+$20	-$15	-$20	+$73	+$81	+$20	-$38
1,700	$1,232	$1,227	$1,222	$1,217	$1,212	$1,207	$1,197	+$185	+$20	-$15	-$20	+$73	+$81	+$20	-$38
1,800	$1,266	$1,261	$1,256	$1,251	$1,246	$1,241	$1,231	+$185	+$20	-$15	-$20	+$73	+$81	+$20	-$38
1,900	$1,299	$1,294	$1,289	$1,284	$1,279	$1,274	$1,264	+$185	+$20	-$15	-$20	+$73	+$81	+$20	-$38
2,000	$1,333	$1,328	$1,323	$1,318	$1,313	$1,308	$1,298	+$185	+$20	-$15	-$20	+$73	+$81	+$20	-$38
2,100	$1,366	$1,361	$1,356	$1,351	$1,346	$1,341	$1,331	+$185	+$20	-$15	-$20	+$73	+$81	+$20	-$38
2,200	$1,400	$1,395	$1,390	$1,385	$1,380	$1,375	$1,365	+$185	+$20	-$15	-$20	+$73	+$81	+$20	-$38
2,300	$1,433	$1,428	$1,423	$1,418	$1,413	$1,408	$1,398	+$185	+$20	-$15	-$20	+$73	+$81	+$20	-$38

Additional Adjustments:

Carport (Any Size)	+$20	Central Evaporative Air:	+$20

Community Adjustments:

Dover, DE	-$249	Canandaigua, NY	-$57
		Cortland, NY	-$460
Nantucket, MA	-$59	Rouses Point, NY	-$355
		Seneca Falls, NY	-$57
Berlin, MD	-$69		
Boonsboro, MD	-$39	Altoona, PA	-$536
Cambridge, MD	-$76	Birdsboro, PA	-$181
		Butler, PA	-$457
Augusta, ME	-$370	Coatesville, PA	-$74
Bar Harbor, ME	-$298	Erie, PA	-$431
Biddeford, ME	-$274	Gettysburg, PA	-$240
Bucksport, ME	-$456	Kane, PA	-$674
Calais, ME	-$658	Lebanon, PA	-$459
Farmington, ME	-$484	Lewisburg, PA	-$373
Fort Kent, ME	-$459	Lock Haven, PA	-$473
Houlton, ME	-$637	Matamoros, PA	-$194
Kennebunk, ME	-$274	Meadville, PA	-$515
		Montgomery/S. Williamsport,	-$401
Berlin, NH	-$419	Stroudsburg, PA	-$58
North Conway, NH	-$451	Uniontown, PA	-$452
		Warren, PA	-$665
Blairstown, NJ	-$79	Willkes-Barre, PA	-$442
Pennsville, NJ	-$121		
Salem, NJ	-$121	Rutland, VT	-$74
		Windsor, VT	-$584
Batavia, NY	-$312		
Bath, NY	-$462		
Buffalo, NY	-$296		

*If both the Exterior and Interior are in this condition, apply this factor twice.
Regardless of adjustments, the minimum base rent is $290 per month.
The appropriate CPI factor should be applied after completing the above adjustments.

TABLE 3B MONTHLY BASE RENT CHART - GOOD CONDITION, 3 BEDROOM, 1 BATH HOUSES
NORTHEAST REGION

Sq Ft	5 yrs old	15 yrs old	25 yrs old	35 yrs old	45 yrs old	55 yrs old	75+ yrs old	Per Extra Bath	Excel Interior / Exterior*	Fair Interior / Exterior*	Poor Interior / Exterior*	Refrig Air Cond	Garage (Per Car)	Fire-place	Plex
500	$804	$799	$794	$789	$784	$779	$769	+$62	+$20	-$15	-$20	+$73	+$81	+$20	-$38
600	$832	$827	$822	$817	$812	$807	$797	+$74	+$20	-$15	-$20	+$73	+$81	+$20	-$38
700	$860	$855	$850	$845	$840	$835	$825	+$86	+$20	-$15	-$20	+$73	+$81	+$20	-$38
800	$888	$883	$878	$873	$868	$863	$853	+$98	+$20	-$15	-$20	+$73	+$81	+$20	-$38
900	$916	$911	$906	$901	$896	$891	$881	+$111	+$20	-$15	-$20	+$73	+$81	+$20	-$38
1,000	$945	$940	$935	$930	$925	$920	$910	+$123	+$20	-$15	-$20	+$73	+$81	+$20	-$38
1,100	$973	$968	$963	$958	$953	$948	$938	+$135	+$20	-$15	-$20	+$73	+$81	+$20	-$38
1,200	$1,001	$996	$991	$986	$981	$976	$966	+$148	+$20	-$15	-$20	+$73	+$81	+$20	-$38
1,300	$1,029	$1,024	$1,019	$1,014	$1,009	$1,004	$994	+$160	+$20	-$15	-$20	+$73	+$81	+$20	-$38
1,400	$1,057	$1,052	$1,047	$1,042	$1,037	$1,032	$1,022	+$172	+$20	-$15	-$20	+$73	+$81	+$20	-$38
1,500	$1,086	$1,081	$1,076	$1,071	$1,066	$1,061	$1,051	+$185	+$20	-$15	-$20	+$73	+$81	+$20	-$38
1,600	$1,114	$1,109	$1,104	$1,099	$1,094	$1,089	$1,079	+$185	+$20	-$15	-$20	+$73	+$81	+$20	-$38
1,700	$1,142	$1,137	$1,132	$1,127	$1,122	$1,117	$1,107	+$185	+$20	-$15	-$20	+$73	+$81	+$20	-$38
1,800	$1,170	$1,165	$1,160	$1,155	$1,150	$1,145	$1,135	+$185	+$20	-$15	-$20	+$73	+$81	+$20	-$38
1,900	$1,198	$1,193	$1,188	$1,183	$1,178	$1,173	$1,163	+$185	+$20	-$15	-$20	+$73	+$81	+$20	-$38
2,000	$1,227	$1,222	$1,217	$1,212	$1,207	$1,202	$1,192	+$185	+$20	-$15	-$20	+$73	+$81	+$20	-$38
2,100	$1,255	$1,250	$1,245	$1,240	$1,235	$1,230	$1,220	+$185	+$20	-$15	-$20	+$73	+$81	+$20	-$38

Additional Adjustments:

Carport (Any Size)	+$20	Central Evaporative Air:	+$20

Community Adjustments:

Dover, DE	-$249	Canandaigua, NY	-$57
		Cortland, NY	-$460
Nantucket, MA	-$59	Rouses Point, NY	-$355
		Seneca Falls, NY	-$57
Berlin, MD	-$69		
Boonsboro, MD	-$39	Altoona, PA	-$536
Cambridge, MD	-$76	Birdsboro, PA	-$181
		Butler, PA	-$457
Augusta, ME	-$370	Coatesville, PA	-$74
Bar Harbor, ME	-$298	Erie, PA	-$431
Biddeford, ME	-$274	Gettysburg, PA	-$240
Bucksport, ME	-$456	Kane, PA	-$674
Calais, ME	-$658	Lebanon, PA	-$459
Farmington, ME	-$484	Lewisburg, PA	-$373
Fort Kent, ME	-$459	Lock Haven, PA	-$473
Houlton, ME	-$637	Matamoros, PA	-$194
Kennebunk, ME	-$274	Meadville, PA	-$515
		Montgomery/S. Williamsport,	-$401
Berlin, NH	-$419	Stroudsburg, PA	-$58
North Conway, NH	-$451	Uniontown, PA	-$452
		Warren, PA	-$665
Blairstown, NJ	-$79	Willkes-Barre, PA	-$442
Pennsville, NJ	-$121		
Salem, NJ	-$121	Rutland, VT	-$74
		Windsor, VT	-$584
Batavia, NY	-$312		
Bath, NY	-$462		
Buffalo, NY	-$296		

*If both the Exterior and Interior are in this condition, apply this factor twice.
Regardless of adjustments, the minimum base rent is $290 per month.
The appropriate CPI factor should be applied after completing the above adjustments.

TABLE 3C MONTHLY BASE RENT CHART - GOOD CONDITION, 2 BEDROOM, 1 BATH HOUSES
NORTHEAST REGION

Sq Ft	5 yrs old	15 yrs old	25 yrs old	35 yrs old	45 yrs old	55 yrs old	75+ yrs old	Per Extra Bath	Excel Interior / Exterior*	Fair Interior / Exterior*	Poor Interior / Exterior*	Refrig Air Cond	Garage (Per Car)	Fire-place	Plex
300	$731	$726	$721	$716	$711	$706	$696	+$37	+$20	-$15	-$20	+$73	+$81	+$20	-$38
400	$754	$749	$744	$739	$734	$729	$719	+$49	+$20	-$15	-$20	+$73	+$81	+$20	-$38
500	$777	$772	$767	$762	$757	$752	$742	+$62	+$20	-$15	-$20	+$73	+$81	+$20	-$38
600	$800	$795	$790	$785	$780	$775	$765	+$74	+$20	-$15	-$20	+$73	+$81	+$20	-$38
700	$823	$818	$813	$808	$803	$798	$788	+$86	+$20	-$15	-$20	+$73	+$81	+$20	-$38
800	$846	$841	$836	$831	$826	$821	$811	+$98	+$20	-$15	-$20	+$73	+$81	+$20	-$38
900	$869	$864	$859	$854	$849	$844	$834	+$111	+$20	-$15	-$20	+$73	+$81	+$20	-$38
1,000	$892	$887	$882	$877	$872	$867	$857	+$123	+$20	-$15	-$20	+$73	+$81	+$20	-$38
1,100	$914	$909	$904	$899	$894	$889	$879	+$135	+$20	-$15	-$20	+$73	+$81	+$20	-$38
1,200	$937	$932	$927	$922	$917	$912	$902	+$148	+$20	-$15	-$20	+$73	+$81	+$20	-$38
1,300	$960	$955	$950	$945	$940	$935	$925	+$160	+$20	-$15	-$20	+$73	+$81	+$20	-$38
1,400	$983	$978	$973	$968	$963	$958	$948	+$172	+$20	-$15	-$20	+$73	+$81	+$20	-$38
1,500	$1,006	$1,001	$996	$991	$986	$981	$971	+$185	+$20	-$15	-$20	+$73	+$81	+$20	-$38
1,600	$1,029	$1,024	$1,019	$1,014	$1,009	$1,004	$994	+$185	+$20	-$15	-$20	+$73	+$81	+$20	-$38
1,700	$1,052	$1,047	$1,042	$1,037	$1,032	$1,027	$1,017	+$185	+$20	-$15	-$20	+$73	+$81	+$20	-$38
1,800	$1,075	$1,070	$1,065	$1,060	$1,055	$1,050	$1,040	+$185	+$20	-$15	-$20	+$73	+$81	+$20	-$38
1,900	$1,098	$1,093	$1,088	$1,083	$1,078	$1,073	$1,063	+$185	+$20	-$15	-$20	+$73	+$81	+$20	-$38

Additional Adjustments:

Carport (Any Size)	+$20	Central Evaporative Air:	+$20

Community Adjustments:

Dover, DE	-$249	Canandaigua, NY	-$57
		Cortland, NY	-$460
Nantucket, MA	-$59	Rouses Point, NY	-$355
		Seneca Falls, NY	-$57
Berlin, MD	-$69		
Boonsboro, MD	-$39	Altoona, PA	-$536
Cambridge, MD	-$76	Birdsboro, PA	-$181
		Butler, PA	-$457
Augusta, ME	-$370	Coatesville, PA	-$74
Bar Harbor, ME	-$298	Erie, PA	-$431
Biddeford, ME	-$274	Gettysburg, PA	-$240
Bucksport, ME	-$456	Kane, PA	-$674
Calais, ME	-$658	Lebanon, PA	-$459
Farmington, ME	-$484	Lewisburg, PA	-$373
Fort Kent, ME	-$459	Lock Haven, PA	-$473
Houlton, ME	-$637	Matamoros, PA	-$194
Kennebunk, ME	-$274	Meadville, PA	-$515
		Montgomery/S. Williamsport,	-$401
Berlin, NH	-$419	Stroudsburg, PA	-$58
North Conway, NH	-$451	Uniontown, PA	-$452
		Warren, PA	-$665
Blairstown, NJ	-$79	Willkes-Barre, PA	-$442
Pennsville, NJ	-$121		
Salem, NJ	-$121	Rutland, VT	-$74
		Windsor, VT	-$584
Batavia, NY	-$312		
Bath, NY	-$462		
Buffalo, NY	-$296		

*If both the Exterior and Interior are in this condition, apply this factor twice.
Regardless of adjustments, the minimum base rent is $290 per month.
The appropriate CPI factor should be applied after completing the above adjustments.

TABLE 3D MONTHLY BASE RENT CHART - GOOD CONDITION, 1 BEDROOM, 1 BATH HOUSES
NORTHEAST REGION

Sq Ft	5 yrs old	15 yrs old	25 yrs old	35 yrs old	45 yrs old	55 yrs old	75+ yrs old	Per Extra Bath	Excel Interior / Exterior*	Fair Interior / Exterior*	Poor Interior / Exterior*	Refrig Air Cond	Garage (Per Car)	Fire-place	Plex
100	$680	$675	$670	$665	$660	$655	$645	+$12	+$20	-$15	-$20	+$73	+$81	+$20	-$38
200	$698	$693	$688	$683	$678	$673	$663	+$25	+$20	-$15	-$20	+$73	+$81	+$20	-$38
300	$715	$710	$705	$700	$695	$690	$680	+$37	+$20	-$15	-$20	+$73	+$81	+$20	-$38
400	$733	$728	$723	$718	$713	$708	$698	+$49	+$20	-$15	-$20	+$73	+$81	+$20	-$38
500	$751	$746	$741	$736	$731	$726	$716	+$62	+$20	-$15	-$20	+$73	+$81	+$20	-$38
600	$768	$763	$758	$753	$748	$743	$733	+$74	+$20	-$15	-$20	+$73	+$81	+$20	-$38
700	$786	$781	$776	$771	$766	$761	$751	+$86	+$20	-$15	-$20	+$73	+$81	+$20	-$38
800	$803	$798	$793	$788	$783	$778	$768	+$98	+$20	-$15	-$20	+$73	+$81	+$20	-$38
900	$821	$816	$811	$806	$801	$796	$786	+$111	+$20	-$15	-$20	+$73	+$81	+$20	-$38
1,000	$839	$834	$829	$824	$819	$814	$804	+$123	+$20	-$15	-$20	+$73	+$81	+$20	-$38
1,100	$856	$851	$846	$841	$836	$831	$821	+$135	+$20	-$15	-$20	+$73	+$81	+$20	-$38
1,200	$874	$869	$864	$859	$854	$849	$839	+$148	+$20	-$15	-$20	+$73	+$81	+$20	-$38
1,300	$891	$886	$881	$876	$871	$866	$856	+$160	+$20	-$15	-$20	+$73	+$81	+$20	-$38
1,400	$909	$904	$899	$894	$889	$884	$874	+$172	+$20	-$15	-$20	+$73	+$81	+$20	-$38
1,500	$927	$922	$917	$912	$907	$902	$892	+$185	+$20	-$15	-$20	+$73	+$81	+$20	-$38

Additional Adjustments:

Carport (Any Size)	+$20	Central Evaporative Air	+$20

Community Adjustments:

Dover, DE	-$249	Canandaigua, NY	-$57
		Cortland, NY	-$460
Nantucket, MA	-$59	Rouses Point, NY	-$355
		Seneca Falls, NY	-$57
Berlin, MD	-$69		
Boonsboro, MD	-$39	Altoona, PA	-$536
Cambridge, MD	-$76	Birdsboro, PA	-$181
		Butler, PA	-$457
Augusta, ME	-$370	Coatesville, PA	-$74
Bar Harbor, ME	-$298	Erie, PA	-$431
Biddeford, ME	-$274	Gettysburg, PA	-$240
Bucksport, ME	-$456	Kane, PA	-$674
Calais, ME	-$658	Lebanon, PA	-$459
Farmington, ME	-$484	Lewisburg, PA	-$373
Fort Kent, ME	-$459	Lock Haven, PA	-$473
Houlton, ME	-$637	Matamoros, PA	-$194
Kennebunk, ME	-$274	Meadville, PA	-$515
		Montgomery/S. Williamsport,	-$401
Berlin, NH	-$419	Stroudsburg, PA	-$58
North Conway, NH	-$451	Uniontown, PA	-$452
		Warren, PA	-$665
Blairstown, NJ	-$79	Willkes-Barre, PA	-$442
Pennsville, NJ	-$121		
Salem, NJ	-$121	Rutland, VT	-$74
		Windsor, VT	-$584
Batavia, NY	-$312		
Bath, NY	-$462		
Buffalo, NY	-$296		

*If both the Exterior and Interior are in this condition, apply this factor twice.
Regardless of adjustments, the minimum base rent is $290 per month.
The appropriate CPI factor should be applied after completing the above adjustments.

C. APARTMENTS

For all apartment units, use the rental chart which appropriately describes the housing class and the number of bedrooms of the subject unit. The charts for apartments are in Tables 4a through 4d.

Assume a 2-bedroom, 2-bathroom apartment, near Coatesville, Pennsylvania, with 760 square feet. The exterior is in poor condition; the interior is in fair condition. The apartment, which was built in 1963, is 44 years old (2007-1963), has a carport, and central evaporative cooling.

First, the two-bedroom chart for good condition apartments (Table 4b) should be located and used. These charts are baseline charts, which assume that each apartment is in "good" condition inside and outside, and has one full bathroom. Therefore, if the apartment is in "good" condition inside and outside and has one bathroom, no additional computations are needed. If there is a deviation from either "good" inside or outside condition, or there are less or more bathrooms than one, then the computations must be changed as discussed below. In the first step, Table 4b is selected as the proper chart for 2-bedroom apartments.

In the second step, the size (gross living area) is rounded **down** from 760 to 700 square feet. Under the column headed **"Sq Ft**," the figure 700 should be located. All further adjustments will be taken from this row.

In the third step the appropriate age column is selected. A 44-year-old apartment is between 35 and 45 years old; therefore, the **"45 yrs old"** column should be used. A two-bedroom apartment, in good condition with 700 square feet of living space (gross), and which is 45 years of age, has a "Chart Rent" of $974 per month.

The first adjustment is the extra bathroom adjustment charge. Following the 700 Sq Ft row along to the column headed **"Per Extra Bath"** you will find a charge of $95. To compute the charge for the extra bathroom, multiply 1 (1 extra bath) times $95 (the extra bath charge). Add $95 to the rent.

The second and third adjustments are for a poor exterior and a fair interior condition. Follow the 700 Sq Ft row across the table to the column headed **"Poor Exterior/Interior*"** a deduction of -$15 is shown; and in the next column titled **"Fair Exterior/Interior*"**, a deduction of -$10 is shown. Subtract $15 for poor exterior condition, and $10 for fair interior condition.

The fourth adjustment is for a carport. Beneath the table, under **"Additional Adjustments"**, there is an instruction to add $10 for a carport of any size. As instructed, add $10 to the rent of this apartment.

The fifth adjustment is for the central evaporative cooling system. Beneath the table, under **"Additional Adjustments"**, there is an instruction to add $20 for Central Evaporative Air.

The final adjustment is the community adjustment. The apartment in this example is located near Coatesville, PA. The notes beneath the table (see "**Community Adjustments**") show no adjustment for Coatesville, PA. Therefore, rental values in Coatesville for apartments are equal to or greater than the regional average. Since positive community adjustments are not applied, no community adjustment is shown for Coatesville.

In summary, the Monthly Base Rental Rate for the apartment in this example is determined as follows:

Chart Rent (700 Sq Ft/45 yrs old)	$974.00
Extra Bath Adjustment (1 X $95)	+ 95.00
Poor Exterior Adjustment	- 15.00
Fair Interior Adjustment	- 10.00
Carport Adjustment	+10.00
Central Evaporative Cooling Adjustment	+20.00
Location Adjustment (Coatesville, PA)	- 0.00
Monthly Base Rental Rate	$1,074.00
Monthly Base Rental Rate (Rounded to nearest $1)	$1,074.00

The last step is to round the resulting MBRR (Monthly Base Rental Rate) to the nearest whole dollar. Any amount resulting in an amount of $.50 or greater is rounded up; any amount resulting in an amount of $.49 or less is rounded down. The decision to round is discretionary.

TABLE 4A MONTHLY BASE RENT CHART - GOOD CONDITION, 3 BEDROOM, 1 BATH APARTMENTS
NORTHEAST REGION

Sq Ft	5 yrs old	15 yrs old	25 yrs old	35 yrs old	45 yrs old	55 yrs old	75+ yrs old	Per Extra Bath	Excel Interior / Exterior*	Fair Interior / Exterior*	Poor Interior / Exterior*	Garage	Refrig Air Cond
600	$927	$921	$915	$910	$904	$899	$888	+$95	+$20	-$10	-$15	+$20	+$71
700	$1,007	$1,001	$996	$990	$985	$979	$968	+$95	+$20	-$10	-$15	+$20	+$71
800	$1,087	$1,081	$1,076	$1,070	$1,065	$1,059	$1,048	+$95	+$20	-$10	-$15	+$20	+$71
900	$1,167	$1,162	$1,156	$1,150	$1,145	$1,139	$1,128	+$95	+$20	-$10	-$15	+$20	+$71
1,000	$1,247	$1,242	$1,236	$1,231	$1,225	$1,220	$1,208	+$95	+$20	-$10	-$15	+$20	+$71
1,100	$1,328	$1,322	$1,316	$1,311	$1,305	$1,300	$1,289	+$95	+$20	-$10	-$15	+$20	+$71
1,200	$1,408	$1,402	$1,397	$1,391	$1,386	$1,380	$1,369	+$95	+$20	-$10	-$15	+$20	+$71
1,300	$1,488	$1,482	$1,477	$1,471	$1,466	$1,460	$1,449	+$95	+$20	-$10	-$15	+$20	+$71
1,400	$1,568	$1,563	$1,557	$1,551	$1,546	$1,540	$1,529	+$95	+$20	-$10	-$15	+$20	+$71
1,500	$1,648	$1,643	$1,637	$1,632	$1,626	$1,621	$1,609	+$95	+$20	-$10	-$15	+$20	+$71
1,600	$1,729	$1,723	$1,717	$1,712	$1,706	$1,701	$1,690	+$95	+$20	-$10	-$15	+$20	+$71
1,700	$1,809	$1,803	$1,798	$1,792	$1,787	$1,781	$1,770	+$95	+$20	-$10	-$15	+$20	+$71
1,800	$1,889	$1,883	$1,878	$1,872	$1,867	$1,861	$1,850	+$95	+$20	-$10	-$15	+$20	+$71

Additional Adjustments:

Carport (Any Size)	+$10	Central Evaporative Air	+$20
Fireplace(s)	+$41		

Community Adjustments:

Augusta, ME	-$573
Bar Harbor, ME	-$162
Farmington, ME	-$647
Laurel, MD	-$128
Saugus, MA	-$17
Beacon, NY	-$97
Gettysburg, PA	-$522
Windsor, VT	-$397

*If both the Exterior and Interior are in this condition, apply this factor twice.

Regardless of adjustments, the minimum base rent is $290 per month.

The appropriate CPI factor should be applied after completing the above adjustments.

TABLE 4B MONTHLY BASE RENT CHART - GOOD CONDITION, 2 BEDROOM, 1 BATH APARTMENTS
NORTHEAST REGION

Sq Ft	5 yrs old	15 yrs old	25 yrs old	35 yrs old	45 yrs old	55 yrs old	75+ yrs old	Per Extra Bath	Excel Interior / Exterior*	Fair Interior / Exterior*	Poor Interior / Exterior*	Garage	Refrig Air Cond
400	$756	$750	$745	$739	$734	$728	$717	+$95	+$20	-$10	-$15	+$20	+$71
500	$836	$830	$825	$819	$814	$808	$797	+$95	+$20	-$10	-$15	+$20	+$71
600	$916	$911	$905	$899	$894	$888	$877	+$95	+$20	-$10	-$15	+$20	+$71
700	$996	$991	$985	$980	$974	$969	$957	+$95	+$20	-$10	-$15	+$20	+$71
800	$1,077	$1,071	$1,065	$1,060	$1,054	$1,049	$1,038	+$95	+$20	-$10	-$15	+$20	+$71
900	$1,157	$1,151	$1,146	$1,140	$1,135	$1,129	$1,118	+$95	+$20	-$10	-$15	+$20	+$71
1,000	$1,237	$1,231	$1,226	$1,220	$1,215	$1,209	$1,198	+$95	+$20	-$10	-$15	+$20	+$71
1,100	$1,317	$1,312	$1,306	$1,300	$1,295	$1,289	$1,278	+$95	+$20	-$10	-$15	+$20	+$71
1,200	$1,397	$1,392	$1,386	$1,381	$1,375	$1,370	$1,358	+$95	+$20	-$10	-$15	+$20	+$71
1,300	$1,478	$1,472	$1,466	$1,461	$1,455	$1,450	$1,439	+$95	+$20	-$10	-$15	+$20	+$71
1,400	$1,558	$1,552	$1,547	$1,541	$1,536	$1,530	$1,519	+$95	+$20	-$10	-$15	+$20	+$71
1,500	$1,638	$1,632	$1,627	$1,621	$1,616	$1,610	$1,599	+$95	+$20	-$10	-$15	+$20	+$71
1,600	$1,718	$1,713	$1,707	$1,701	$1,696	$1,690	$1,679	+$95	+$20	-$10	-$15	+$20	+$71

Additional Adjustments:

Carport (Any Size)	+$10	Central Evaporative Air	+$20
Fireplace(s)	+$41		

Community Adjustments:

Augusta, ME	-$573
Bar Harbor, ME	-$162
Farmington, ME	-$647
Laurel, MD	-$128
Saugus, MA	-$17
Beacon, NY	-$97
Gettysburg, PA	-$522
Windsor, VT	-$397

*If both the Exterior and Interior are in this condition, apply this factor twice.

Regardless of adjustments, the minimum base rent is $290 per month.

The appropriate CPI factor should be applied after completing the above adjustments.

TABLE 4C MONTHLY BASE RENT CHART - GOOD CONDITION, 1 BEDROOM, 1 BATH APARTMENTS

NORTHEAST REGION

Sq Ft	5 yrs old	15 yrs old	25 yrs old	35 yrs old	45 yrs old	55 yrs old	75+ yrs old	Per Extra Bath	Excel Interior / Exterior*	Fair Interior / Exterior*	Poor Interior / Exterior*	Garage	Refrig Air Cond
300	$665	$660	$654	$648	$643	$637	$626	+$95	+$20	-$10	-$15	+$20	+$71
400	$745	$740	$734	$729	$723	$718	$706	+$95	+$20	-$10	-$15	+$20	+$71
500	$826	$820	$814	$809	$803	$798	$787	+$95	+$20	-$10	-$15	+$20	+$71
600	$906	$900	$895	$889	$884	$878	$867	+$95	+$20	-$10	-$15	+$20	+$71
700	$986	$980	$975	$969	$964	$958	$947	+$95	+$20	-$10	-$15	+$20	+$71
800	$1,066	$1,061	$1,055	$1,049	$1,044	$1,038	$1,027	+$95	+$20	-$10	-$15	+$20	+$71
900	$1,146	$1,141	$1,135	$1,130	$1,124	$1,119	$1,107	+$95	+$20	-$10	-$15	+$20	+$71
1,000	$1,227	$1,221	$1,215	$1,210	$1,204	$1,199	$1,188	+$95	+$20	-$10	-$15	+$20	+$71
1,100	$1,307	$1,301	$1,296	$1,290	$1,285	$1,279	$1,268	+$95	+$20	-$10	-$15	+$20	+$71
1,200	$1,387	$1,381	$1,376	$1,370	$1,365	$1,359	$1,348	+$95	+$20	-$10	-$15	+$20	+$71
1,300	$1,467	$1,462	$1,456	$1,450	$1,445	$1,439	$1,428	+$95	+$20	-$10	-$15	+$20	+$71
1,400	$1,547	$1,542	$1,536	$1,531	$1,525	$1,520	$1,508	+$95	+$20	-$10	-$15	+$20	+$71
1,500	$1,628	$1,622	$1,616	$1,611	$1,605	$1,600	$1,589	+$95	+$20	-$10	-$15	+$20	+$71

Additional Adjustments:

Carport (Any Size)	+$10	Central Evaporative Air	+$20
Fireplace(s)	+$41		

Community Adjustments:

Augusta, ME	-$573
Bar Harbor, ME	-$162
Farmington, ME	-$647
Laurel, MD	-$128
Saugus, MA	-$17
Beacon, NY	-$97
Gettysburg, PA	-$522
Windsor, VT	-$397

*If both the Exterior and Interior are in this condition, apply this factor twice.

Regardless of adjustments, the minimum base rent is $290 per month.

The appropriate CPI factor should be applied after completing the above adjustments.

TABLE 4D MONTHLY BASE RENT CHART - GOOD CONDITION, 0 BEDROOM, 1 BATH APARTMENTS
NORTHEAST REGION

Sq Ft	5 yrs old	15 yrs old	25 yrs old	35 yrs old	45 yrs old	55 yrs old	75+ yrs old	Per Extra Bath	Excel Interior / Exterior*	Fair Interior / Exterior*	Poor Interior / Exterior*	Garage	Refrig Air Cond
100	$494	$489	$483	$478	$472	$467	$455	+$95	+$20	-$10	-$15	+$20	+$71
200	$575	$569	$563	$558	$552	$547	$536	+$95	+$20	-$10	-$15	+$20	+$71
300	$655	$649	$644	$638	$633	$627	$616	+$95	+$20	-$10	-$15	+$20	+$71
400	$735	$729	$724	$718	$713	$707	$696	+$95	+$20	-$10	-$15	+$20	+$71
500	$815	$810	$804	$799	$793	$787	$776	+$95	+$20	-$10	-$15	+$20	+$71
600	$895	$890	$884	$879	$873	$868	$856	+$95	+$20	-$10	-$15	+$20	+$71
700	$976	$970	$964	$959	$953	$948	$937	+$95	+$20	-$10	-$15	+$20	+$71
800	$1,056	$1,050	$1,045	$1,039	$1,034	$1,028	$1,017	+$95	+$20	-$10	-$15	+$20	+$71
900	$1,136	$1,130	$1,125	$1,119	$1,114	$1,108	$1,097	+$95	+$20	-$10	-$15	+$20	+$71
1,000	$1,216	$1,211	$1,205	$1,200	$1,194	$1,188	$1,177	+$95	+$20	-$10	-$15	+$20	+$71
1,100	$1,296	$1,291	$1,285	$1,280	$1,274	$1,269	$1,257	+$95	+$20	-$10	-$15	+$20	+$71

Additional Adjustments:

Carport (Any Size)	+$10	Central Evaporative Air	+$20
Fireplace(s)	+$41		

Community Adjustments:

Augusta, ME	-$573
Bar Harbor, ME	-$162
Farmington, ME	-$647
Laurel, MD	-$128
Saugus, MA	-$17
Beacon, NY	-$97
Gettysburg, PA	-$522
Windsor, VT	-$397

*If both the Exterior and Interior are in this condition, apply this factor twice.

Regardless of adjustments, the minimum base rent is $290 per month.

The appropriate CPI factor should be applied after completing the above adjustments.

D. MOBILE HOMES, TRAVEL TRAILERS, AND HOUSEBOATS

For these housing classes, use the mobile home base rental charts (Tables 5a, 5b and 5c). To familiarize the reader with these charts, assume a 490 square foot, 1-bedroom mobile home built in 1973 with a ¾ bathroom. This mobile home is in poor interior and poor exterior condition and is located near Cambridge, Maryland. The Monthly Base Rental Rate for the mobile home in this example is calculated as follows.

The chart for one bedroom mobile homes (Table 5c) should be located and used. This chart assumes that each mobile home has one bedroom, is in "good" condition inside and outside, and has one full bathroom. Therefore, if the mobile home is in "good" condition inside and outside and has one full bathroom, no additional computations are needed. If there is a deviation from either "good" inside or outside condition, or there are less or more bathrooms than one, then the computations must be changed accordingly.

First, locate Table 5c. Next, the gross **square feet** of living area should be rounded **down** to 400 square feet, and the **age** (2007-1973 = 34 years) is rounded **up** to 35+ years. The column headed **"Sq Ft**" is followed down to 400. All other adjustments are taken from this row. On this row, under the column headed **"35+ yrs old,"** the "Chart Rent" is $374.

The base rental value of $374 ("chart rent") includes the value of one full bathroom. Since the unit in this example has only a ¾ bathroom, an adjustment must be made for the missing ¼ bathroom. At the top of the table is a column titled **"Per Extra Bath."** Follow this column down to the 400 Sq Ft row. A value of $10 is shown. Multiply this value times .25 (¼ bathroom) to calculate the value of the missing ¼ bathroom ($10 X .25 = $2.50). Subtract $3.00 (rounded) from the rent.

The second and third adjustments are for the condition of the unit. Follow the 400 Sq Ft row to the column headed **"Poor Exterior/Interior*"**; subtract $15 for the poor exterior condition and another $15 for the poor interior condition.

The final adjustment is the community adjustment. The mobile home in this example is located near Cambridge, MD. The notes beneath the table (see "**Community Adjustments**") show an adjustment of -$310 for Cambridge, MD. The rental values for mobile homes in Cambridge, MD are much lower than the survey area average. The rent for mobile homes which use Cambridge as the nearest established community should be reduced by -$310.

The Monthly Base Rental Rate for this mobile home is shown below.

Chart Rent (400 Sq Ft/35+ Yrs Old)	$374.00
Bathroom Adjustment (.25 X $10, rounded)	- 3.00
Poor Exterior	- 15.00
Poor Interior	- 15.00
Location Adjustment (Cambridge, MD)	-310.00
Computed Monthly Base Rental Rate	$31.00

Actual Monthly Base Rental Rate (Minimum Base applies) $290.00

Note: In this example, the Monthly Base Rental Rate computes to $31.00, which is less than the $290.00 minimum Monthly Base Rental Rate for the Northeast Survey Region (refer to the footnotes on each rent table for the minimum base rent). Therefore, the Monthly Base Rental Rate for the mobile home in this example will be set at $290.00. Keep in mind that the *Monthly Base Rental Rate* is different from the minimum monthly *final rent*. Thus, $290.00 is not the minimum final rent possible.

TABLE 5A MONTHLY BASE RENT CHART - GOOD CONDITION, 3 BEDROOM, 1 BATH MOBILE HOMES
NORTHEAST REGION

Sq Ft	5 yrs old	10 yrs old	15 yrs old	20 yrs old	25 yrs old	30 yrs old	35+ yrs old	Per Extra Bath	Excel Interior / Exterior*	Fair Interior / Exterior*	Poor Interior / Exterior*
400	$569	$549	$529	$508	$488	$468	$447	+$10	+$15	-$10	-$15
500	$597	$576	$556	$536	$516	$495	$475	+$10	+$15	-$10	-$15
600	$624	$604	$584	$563	$543	$523	$503	+$10	+$15	-$10	-$15
700	$652	$632	$611	$591	$571	$550	$530	+$10	+$15	-$10	-$15
800	$680	$659	$639	$619	$598	$578	$558	+$10	+$15	-$10	-$15
900	$707	$687	$667	$646	$626	$606	$585	+$10	+$15	-$10	-$15
1,000	$735	$714	$694	$674	$654	$633	$613	+$10	+$15	-$10	-$15
1,100	$762	$742	$722	$701	$681	$661	$641	+$10	+$15	-$10	-$15
1,200	$790	$770	$749	$729	$709	$688	$668	+$10	+$15	-$10	-$15
1,300	$818	$797	$777	$757	$736	$716	$696	+$10	+$15	-$10	-$15
1,400	$845	$825	$805	$784	$764	$744	$723	+$10	+$15	-$10	-$15
1,500	$873	$852	$832	$812	$792	$771	$751	+$10	+$15	-$10	-$15
1,600	$900	$880	$860	$839	$819	$799	$779	+$10	+$15	-$10	-$15

Additional Adjustments:

Garage (Any Size)	+$20	Central Refrigerated Air Conditioning	+$20
Carport (Any Size)	+$10	Central Evaporative Air	+$10
Fireplace(s)	+$10		

Community Adjustments:

Cambridge, MD	-$310
Ellsworth, ME	-$26

*If both the Exterior and Interior are in this condition, apply this factor twice.

Regardless of adjustments, the minimum base rent is $290 per month.

The appropriate CPI factor should be applied after completing the above adjustments.

TABLE 5B MONTHLY BASE RENT CHART - GOOD CONDITION, 2 BEDROOM, 1 BATH MOBILE HOMES

NORTHEAST REGION

Sq Ft	5 yrs old	10 yrs old	15 yrs old	20 yrs old	25 yrs old	30 yrs old	35+ yrs old	Per Extra Bath	Excel Interior / Exterior*	Fair Interior / Exterior*	Poor Interior / Exterior*
400	$532	$512	$492	$471	$451	$431	$411	+$10	+$15	-$10	-$15
500	$551	$530	$510	$490	$470	$449	$429	+$10	+$15	-$10	-$15
600	$569	$549	$529	$508	$488	$468	$447	+$10	+$15	-$10	-$15
700	$588	$567	$547	$527	$506	$486	$466	+$10	+$15	-$10	-$15
800	$606	$586	$565	$545	$525	$504	$484	+$10	+$15	-$10	-$15
900	$624	$604	$584	$563	$543	$523	$503	+$10	+$15	-$10	-$15
1,000	$643	$622	$602	$582	$562	$541	$521	+$10	+$15	-$10	-$15
1,100	$661	$641	$621	$600	$580	$560	$539	+$10	+$15	-$10	-$15
1,200	$680	$659	$639	$619	$598	$578	$558	+$10	+$15	-$10	-$15
1,300	$698	$678	$657	$637	$617	$596	$576	+$10	+$15	-$10	-$15
1,400	$716	$696	$676	$655	$635	$615	$595	+$10	+$15	-$10	-$15
1,500	$735	$714	$694	$674	$654	$633	$613	+$10	+$15	-$10	-$15

Additional Adjustments:

Garage (Any Size)	+$20	Central Refrigerated Air Conditioning	+$20
Carport (Any Size)	+$10	Central Evaporative Air	+$10
Fireplace(s)	+$10		

Community Adjustments:

Cambridge, MD	-$310
Ellsworth, ME	-$26

*If both the Exterior and Interior are in this condition, apply this factor twice.

Regardless of adjustments, the minimum base rent is $290 per month.

The appropriate CPI factor should be applied after completing the above adjustments.

TABLE 5C MONTHLY BASE RENT CHART - GOOD CONDITION, 1 BEDROOM, 1 BATH MOBILE HOMES

NORTHEAST REGION

Sq Ft	5 yrs old	10 yrs old	15 yrs old	20 yrs old	25 yrs old	30 yrs old	35+ yrs old	Per Extra Bath	Excel Interior / Exterior*	Fair Interior / Exterior*	Poor Interior / Exterior*
100	$468	$448	$427	$407	$387	$366	$346	+$10	+$15	-$10	-$15
200	$477	$457	$437	$416	$396	$376	$355	+$10	+$15	-$10	-$15
300	$486	$466	$446	$425	$405	$385	$365	+$10	+$15	-$10	-$15
400	$496	$475	$455	$435	$414	$394	$374	+$10	+$15	-$10	-$15
500	$505	$484	$464	$444	$424	$403	$383	+$10	+$15	-$10	-$15
600	$514	$494	$473	$453	$433	$412	$392	+$10	+$15	-$10	-$15
700	$523	$503	$483	$462	$442	$422	$401	+$10	+$15	-$10	-$15
800	$532	$512	$492	$471	$451	$431	$411	+$10	+$15	-$10	-$15
900	$542	$521	$501	$481	$460	$440	$420	+$10	+$15	-$10	-$15
1,000	$551	$530	$510	$490	$470	$449	$429	+$10	+$15	-$10	-$15
1,100	$560	$540	$519	$499	$479	$458	$438	+$10	+$15	-$10	-$15
1,200	$569	$549	$529	$508	$488	$468	$447	+$10	+$15	-$10	-$15

Additional Adjustments:

Garage (Any Size)	+$20	Central Refrigerated Air Conditioning	+$20
Carport (Any Size)	+$10	Central Evaporative Air	+$10
Fireplace(s)	+$10		

Community Adjustments:

Cambridge, MD	-$310
Ellsworth, ME	-$26

*If both the Exterior and Interior are in this condition, apply this factor twice.

Regardless of adjustments, the minimum base rent is $290 per month.

The appropriate CPI factor should be applied after completing the above adjustments.

E. CABINS OR LOOKOUTS

For purposes of rental rate establishment, the rental housing class most comparable to cabins or lookouts would be 1-bedroom, single-family houses, regardless of the number of bedrooms in the cabin. One-bedroom, single-family rental houses generally consist of smaller and older housing units. Where the cabins or lookouts are outfitted for housekeeping, and contain an independent primary heating system, the rental rates (including all applicable adjustments) are determined by using the 1-bedroom house chart (Table 3d).

Where a cabin or lookout lacks full housekeeping facilities (including running water, an inside heated bathroom or a central heating system), additional adjustments (shown below) must be made to the Monthly Base Rental Rate. A free-standing stove without a fan or a fireplace does not qualify as a central primary heating system. These adjustments are designed to take into consideration the inconvenience resulting from the lack of full housekeeping facilities. However, the adjusted monthly base rental rate for cabins or lookouts may not be set below the minimum monthly base rent for the Northeast Survey Region of $290.

No Electricity = –20%

No Inside Bathroom = –20%

No Running Water = –20%

No Central Heating System = –15% (applied only if used during the heating season.)

Less Than Two Rooms (One-Room Cabin or Lookout) = –10%

F. BUNKHOUSE AND DORMITORIES

Bunkhouses and dormitories should only include housing units that have been specifically constructed or modified for use as bunkhouses or dormitories. Single-family houses, apartments or mobile homes that are **used** as dormitories or bunkhouses, must be valued as what they are (houses, apartments or mobile homes), with the rent divided by the number of **planned** occupants.

Dormitory or bunkhouse units typically lack either a living room or kitchen, or have common baths and centralized kitchens (cafeterias, mess halls) serving many people. Many also have multiple bunk beds in large ward-like rooms. Such housing units pose a valuation problem, as they are normally found only in association with institutions such as the military or colleges, of which its occupants are members. Since these institutions do not typically rent to the public at large, one cannot obtain an arms-length "private market" rent.

Under circumstances where there is a lack of comparable rental data, OMB Circular A-45 provides that rental rates may be established using an extension of the Principle of Comparability. Under this procedure, rental rates are established using the most comparable rental housing available, and the rate is essentially 50 percent of the average house rent.

During their 1994 Conference, the National Housing Council decided that one aggregate monthly rate should be established for **all** dormitories in a survey region. This aggregate dormitory rate, which includes the value of government-provided utilities, furnishings and services, was determined as follows. An analysis of the comparables used in this Northeast survey found that the average single-family house had 1,449 square feet of finished floor space, 2.7 bedrooms and an average monthly-adjusted contract rent of $1,293. By applying an extension of the Principle of Comparability, the Base Shelter Rental Rate (BSRR) for bunkhouses and dormitories is calculated as shown below.

During their 2002 Conference, the National Housing Council reviewed different dormitory costing methods for the newer types of dormitories being built by some agencies. In researching new and existing dormitory models, it was found the majority of the dormitories plan to house two occupants per room, which the current costing methodology is based upon. In addition, most occupants in dormitories share both a kitchen and bathroom. Based on these factors, the Council decided to continue using the current costing methodology.

Average adjusted contract rent / 2 = $1,293 / 2 = $647
$647 / (average # of bedrooms x 2 occupants per bedroom)
$647 / (2.7 bedrooms x 2 occupants) = $647 / 5.4 = $119.80 per month per occupant

Charges were then added to this rate for utilities, services and furnishings that are provided by the government. The aggregate value of these items was based on a study of the rates prevailing in the Northeast regional survey area. These charges were prorated based upon a 1,449 square foot, 2.7 bedroom, single-family house occupied by 2 people per bedroom. The aggregate charge for these utilities, services and furnishings was $70.94.

Monthly, weekly, and daily bunkhouse and dormitory rates are computed as follows.

TABLE 6 BUNKHOUSE/DORMITORY RENTS
NORTHEAST REGION

Monthly Charge

Dormitory Base Shelter Rent Rate (BSRR) $119.80
Related Facilities Charges $70.94

Monthly Base Rental Rate (MBRR, rounded to nearest five cents) $190.75

Bi-Weekly Charge

To convert to bi-weekly rate, multiply MBRR by .4615 and
round to nearest five cents $88.05

Weekly Charge

To convert to weekly rate, multiply MBRR by .2308 and
round to nearest five cents $44.05

Daily Charge

To convert to daily rate, multiply MBRR by .0333 and
round to nearest five cents $6.35

An administrative adjustment of –10% is permitted for dormitories if 3 or more people must share a bedroom or sleeping area. Also, an administrative adjustment of –10% is permitted for dormitories that lack a kitchen or cooking facilities.

NOTE: For current dormitory rates in this region, see the annual "CPI Memorandum," issued each November by the QMIS Office.

G. TRANSIENT RENTS

Transient units are those that are occupied on a transient basis, normally for a period of 90 days or less. Government-provided transient housing units offer a range of accommodations. At some locations, kitchen facilities, private telephones and private bathrooms may be available; at others, they are not provided. At some locations, maid service is provided (with varying degrees of frequency); at other locations, employees are "issued" bedding and other domestic items, and must take care of their own housekeeping arrangements.

Given the diversity of facilities and services associated with government-provided transient units, the National Housing Council determined that private housing comparable to government transient units generally does not exist. Accordingly, the rental charges for transient units have been established by extending the principle of comparability, as provided in OMB Circular A-45.

Essentially, the rental charge for transient units is the sum of the monthly dormitory rate plus related facilities, a monthly charge for maid service (Table 18), and a 20 percent administrative/service charge required by OMB Circular A-45 paragraph 7.c (4)(a). Monthly, weekly and daily charges for transients are shown, below, in Table 7.

TABLE 7 TRANSIENT RENTS
NORTHEAST REGION

Dormitory BSRR	$119.80
Related Facilities Charges	70.94
Maid Service (Table 18)	78.05
Subtotal	$268.79
Administrative Charge +20% (OMB Cir. A-45)	x 1.20
Transient MBRR (rounded to nearest five cents)	$322.55
Monthly Charge	$322.55
Bi-Weekly Charge ($322.55 x .4615 Rounded)	$148.85
Weekly Charge ($322.55 x .2308 Rounded)	$74.45
Daily Charge ($322.55 x .0333 Rounded)	$10.75

NOTE: For current Transient rates in this region, see the annual "CPI Memorandum," issued each November by the QMIS Office.

H. TRAILER PADS

During the Northeast survey, trailer pads were surveyed in a variety of mobile home parks. They differed in physical characteristics, utilities, rents, and geographic location.

A simplified analysis of this data was done. The value of related facilities in the contract rent was subtracted to arrive at an adjusted rent. After excluding extreme outliers, the average adjusted rent was determined for the remaining samples.

The average adjusted rent was then divided into the actual rent of each remaining sample. Those communities where the adjusted contract rents were significantly lower than the average rent for the region were adjusted to the community average trailer pad rents. As with houses, apartments and mobile homes, those trailer pads in high-cost areas are "capped" at the average trailer pad rent for the survey region.

During their 1993 Conference, the National Housing Council agreed to assess the monthly base rental rate for single-wide trailer pads for **all** government-furnished trailer pads. This is because most employees do not own/occupy doublewide mobile homes, and because the market differences are negligible.

To determine the trailer pad Monthly Base Rental Rate, use the applicable rate contained in Table 8. Do not use the rates in Table 8 if the trailer pad is occupied by a government-owned or -leased mobile home; this would be a "trailer" or "mobile home" rent class and the "space rent" is already included in the base rent calculation for these units. Rates in Table 8 are used if a tenant-owned trailer or recreational vehicle is parked on a government-owned trailer space.

For example, if a trailer pad were occupied by a tenant-owned mobile home located near Bar Harbor, Maine, the base rent for this pad would be $112 per month. If, for another example, the trailer space were located near Laurel, Maryland, the base rental rate for this pad would be $280 (the "All Other Locations" charge). No other adjustments are made for physical characteristics, such as the date the trailer pad was installed, the front or square footage, or the total number of sites at that location.

However, all appropriate administrative adjustments (such as amenity and isolation adjustments), as well as all charges for government-provided related facilities (such as utilities and furnishings) should be applied to the Monthly Base Rental Rates in Table 8 to determine the monthly net rental charge.

TABLE 8 TRAILER PADS - MONTHLY BASE RENTAL RATES
NORTHEAST REGION

COMMUNITIES	MONTHLY BASE RENTAL RATES
MAINE	
Bar Harbor	$112
ALL OTHER LOCATIONS	**$280**

I. OBSOLETE HOUSING UNITS

OMB Circular A-45 (revised October 20, 1993) excludes from the term rental units "…housing which due to extreme deterioration is unsuitable for occupancy except in exigent circumstances. …" The net effect of this change means there will be no base rental rate for obsolete units. However, assessments will be made for utilities, furnishings, appliances, and any other services that are provided by the government.

The Department of the Interior Quarters Handbook: Department Manual 400 (DM 400) and the regulations of other QMIS Program participants require that housing used for employees must be safe, sanitary, and energy efficient. Where housing is in obsolete condition, it is by definition unfit for use as employee housing, and should be renovated, replaced, destroyed or used for non-residential purposes. Section 7.3A of DM 400 also provides that the appropriate Program Assistant Secretary, or his/her designee (Bureau Head), may authorize temporary occupancy, for a period not to exceed one year, pending a rehabilitation or replacement action where sufficient written justification is provided.

VI. CHARGES FOR UTILITIES, APPLIANCES AND RELATED SERVICES

A. BACKGROUND

OMB Circular A-45 requires that, whenever possible, utilities should be provided by a private company and billed directly to housing occupants. Where government-furnished utilities are provided, they should be metered or measured. When government-furnished utilities are not metered or measured, consumption will be determined from an analysis of the average amounts of utilities used in comparable private housing in the nearest established community or survey area. **Where the government furnishes utilities, and where the housing rental rates are established by the regional survey method, the utility rates shall be the regional average utility rates prescribed in this report – not the rates prevailing in the nearest established community.**

The regional average utility rates contained in this report include all applicable delivery charges, adjustments, taxes and surcharges. Charges for government-provided appliances, services and furnishings (those in Table 18) are based upon nationwide average costs.

The following sections of this report detail the consumption and cost data to be used in the circumstances described above. The cost data in this report will be updated by the QMIS Office each year and distributed with the Consumer Price Index (CPI) adjustment that takes effect each year. See the "CPI Memorandum" distributed annually in November for current utility rates in this region.

B. ENERGY CONSUMPTION STUDY

1. **General.** Energy consumption estimates are required where the government furnishes the space heating or cooling fuel and the electricity, and where consumption is neither metered nor measured. In such instances, average energy consumption must be estimated and the government must assess a charge based on private sector energy costs in the survey area. No methodology for estimating energy consumption can exactly predict the amounts of energy needed to heat or cool specific dwellings. Precise consumption measurements are possible only when metering is used. However, the methodology used in this report will yield **reasonable** estimates of the heating and cooling energy consumption requirements of unmetered dwellings. The methodology employed in this section was developed by a contractor. For this report, however, the contractor-provided tables and conversion charts have been reformatted, and the methodology has been re-stated, to simplify the process of estimating energy consumption requirements. The unit costs for various fuel types and for electricity (e.g., the cost per gallon for fuel oil and propane; the cost per MCF (1,000 cubic feet) for natural gas; and the cost per KwH for electricity) are regional averages of the unit fuel/electricity prices gathered in each community surveyed for rental comparables.

2. **Housing Prototypes**. For the Northeast energy study, estimates of the heating and cooling energy requirements were prepared for each of the following six prototypical housing units.

   Type I – Single family, one story, no basement

   Type II – Single family, one story, full basement

   Type III – Single family, two story, no basement

Type IV – Single family, two story, full basement

Type V – Apartment unit

Type VI – Mobile Home

3. **Assumptions**. For each of the housing prototypes, the following assumptions were made:

   a. Location – The housing is located in New York, New York (the Baseline City.)

   b. R values – Each housing type has the R values of insulation in floors, walls, and ceilings recommended in the HUD Minimum Property Standards (HUD-MPS) for the New York, NY area.

   c. Occupants – The housing contains an average compliment of occupants who are energy conscious (one person per 500 feet of floor space was assumed).

   d. All measurements are of finished living space only and are based upon exterior dimensions.

   e. Condition – The housing is in good condition.

   f. Building shape – A rectangular shape with a ratio of 2:1 was established. This provides more building skin than a square configuration therefore; the rectangular shape yields a conservative estimate of skin loads.

   g. Window area – A window area of 10 percent of wall area was used to match UBC (Uniform Building Code) minimum window area standards.

   h. Roof type – A flat or pitched roof with ceiling insulation was assumed in all cases.

   i. Air changes – 1.5 air changes per hour were established as representing a conservative estimate of air changes in residential applications.

   j. Perimeter loss – Approximately 10 percent of overall building load is attributed to the slab on grade floors with rigid insulation to a value of R-6.

4. Using the above assumptions, infiltration factors developed by the Department of Energy, R values, building dimensions, and cooling and heating degree days, a contractor has formulated methodologies for estimating British Thermal Unit (BTU) and kilowatt hour (KwH) consumption rates and costs for heating and cooling. The relevant portions of the methodology are explained below.

C. SPACE HEATING (FOSSIL FUEL) CONSUMPTION/COST CALCULATIONS

To illustrate the procedure for calculating the cost of heating with fossil fuel, a single story 1,850 square foot house, with no basement, located near Rouses Point, New York will be used as an example.

1. The first step is to select from among Tables 9a through 9f the table that most closely describes the unit at issue. In this case, Table 9a is for a 1-story single-family house with a partial (50 percent or

less) or no basement (Prototype I). When determining the prototype, use the total basement (finished and unfinished) square footage. Unfinished space is only considered when determining the prototype. It is never used when using a rent setting or consumption chart. Table 9a should be selected in this example.

2. The second step is to determine the number of BTUs consumed **annually** for heating the house used in this example. Select from Table 9a the annual MBTU (million BTUs) consumption appropriate for the heating degree days (HDDs) and the gross **finished** square footage of the house in this example. Use the table as shown below.

   a. Find the number of HDDs for the established community near which the housing units are located. Table 10 contains the HDDs for the nearest established communities in the Northeast survey region; this table shows that Rouses Point, NY has 7,938 HDDs. In Table 9a, 7,938 HDDs lies between the columns headed **"7,500"** and **"8,000."** Round 7,938 HDDs down to 7,500 HDDs.

   b. In Table 9a, 1,850 square feet (the size of the house used in the example) lies between 1,800 and 2,000 square feet; round 1,850 down to 1,800 square feet.

   c. From Table 9a (1,800 square feet and 7,500 HDDs) the annual MBTU consumption rate is 117.0 MBTUs.

3. The third step is to calculate the amount of fossil fuel needed to produce 117.0 MBTUs. Table 11 shows the amount of fossil fuel needed to produce 1 MBTU. The total amount of heating fuel required to produce 117.0 MBTUs is computed by multiplying the appropriate fuel factor in Table 11 by the number of MBTUs. In this case the fuel required is:

Natural gas:	117.0 MBTUs x 1 MCF	=	117.0 MCF
Propane:	117.0 MBTUs x 10.2 gallons	=	1,193.40 gallons
Fuel oil:	117.0 MBTUs x 7.04 gallons	=	823.68 gallons

4. The fourth step is to calculate the annual cost of the fuel consumed. This can be done by multiplying the annual fuel consumption by the unit fuel charges shown in Table 12. Following this procedure, the charge for fuel consumed annually to produce 117.0 MBTUs is:

Natural gas:	117.0 MCF x $14.93 (per MCF)	=	$1,746.81 annually
Propane:	1,193.40 gallons x $2.15 (per gallon)	=	$2,565.81 annually
Fuel oil:	823.68 gallons x $2.47 (per gallon)	=	$2,034.49 annually

5. The fifth step is to calculate the monthly charge for fossil heating fuel. This is done simply by dividing the annual charges (above) by 12 (months). In this manner the monthly charges are: natural gas = $145.57 monthly; propane = $213.82 monthly; and fuel oil = $169.54 monthly.

6. The final step is to multiply the monthly charge (computed in step 5 above) by the appropriate HUD MPS Heating Zone conversion factor (Table 13). In order to use Table 13, it is first necessary to determine the HUD MPS Zone for the community at issue (Rouses Point, NY). Table 10 shows the HUD MPS Zones for the nearest established communities located within the Northeast survey region. From Table 10, it can be seen that Rouses Point, NY is in MPS Zone 8. The conversion factor can now be found in Table 13. The conversion factor for a single story dwelling with no basement

(Prototype I) in HUD MPS Zone 8 is 1.08. Multiply the monthly charges determined in step 5 above by 1.08 (the conversion factor). In this manner, the heating fuel charge can be computed for any housing unit in any community or location. In this example, the final monthly heating costs are $157.22 ($145.57 x 1.08) for natural gas, $230.93 ($213.82 x 1.08) for propane; and $183.10 ($169.54 x 1.08) for fuel oil.

The above example pertained to a single story dwelling with a partial (50 percent or less) or no basement. When calculating the heating fuel charge for a different type of housing (including apartments and mobile homes), use the table (Tables 9a through 9f) which most closely describes the housing unit to compute the annual MBTU consumption.

TABLE 9A ANNUAL MBTU USAGE (MILLIONS BTUS) - PROTOTYPE I

Single Family, One Story, Partial (Less Than 50%) or No Basement

NORTHEAST REGION

Baseline City: New York, New York

Heating Degree Days

Gross Sq Ft	2,500	3,000	3,500	4,000	4,500	5,000	5,500	6,000	6,500	7,000	7,500	8,000	8,500	9,000	9,500	10,000
200	4.3	5.2	6.1	6.9	7.8	8.7	9.5	10.4	11.3	12.1	13.0	13.9	14.7	15.6	16.5	17.3
400	8.7	10.4	12.1	13.9	15.6	17.3	19.1	20.8	22.5	24.3	26.0	27.7	29.5	31.2	32.9	34.7
600	13.0	15.6	18.2	20.8	23.4	26.0	28.6	31.2	33.8	36.4	39.0	41.6	44.2	46.8	49.4	52.0
800	17.3	20.8	24.3	27.7	31.2	34.7	38.1	41.6	45.1	48.6	52.0	55.5	59.0	62.4	65.9	69.4
1,000	21.7	26.0	30.3	34.7	39.0	43.4	47.7	52.0	56.4	60.7	65.0	69.4	73.7	78.0	82.4	86.7
1,200	26.0	31.2	36.4	41.6	46.8	52.0	57.2	62.4	67.6	72.8	78.0	83.2	88.4	93.6	98.8	104.0
1,400	30.3	36.4	42.5	48.6	54.6	60.7	66.8	72.8	78.9	85.0	91.0	97.1	103.2	109.2	115.3	121.4
1,600	34.7	41.6	48.6	55.5	62.4	69.4	76.3	83.2	90.2	97.1	104.0	111.0	117.9	124.8	131.8	138.7
1,800	39.0	46.8	54.6	62.4	70.2	78.0	85.8	93.6	101.4	109.2	117.0	124.8	132.7	140.5	148.3	156.1
2,000	43.4	52.0	60.7	69.4	78.0	86.7	95.4	104.0	112.7	121.4	130.1	138.7	147.4	156.1	164.7	173.4
2,200	47.7	57.2	66.8	76.3	85.8	95.4	104.9	114.4	124.0	133.5	143.1	152.6	162.1	171.7	181.2	190.7
2,400	52.0	62.4	72.8	83.2	93.6	104.0	114.4	124.8	135.3	145.7	156.1	166.5	176.9	187.3	197.7	208.1
2,600	56.4	67.6	78.9	90.2	101.4	112.7	124.0	135.3	146.5	157.8	169.1	180.3	191.6	202.9	214.1	225.4
2,800	60.7	72.8	85.0	97.1	109.2	121.4	133.5	145.7	157.8	169.9	182.1	194.2	206.3	218.5	230.6	242.8
3,000	65.0	78.0	91.0	104.0	117.0	130.1	143.1	156.1	169.1	182.1	195.1	208.1	221.1	234.1	247.1	260.1

TABLE 9B ANNUAL MBTU USAGE (MILLIONS BTUS) - PROTOTYPE II

Single Family, Single Story, Full Basement

NORTHEAST REGION

Baseline City: New York, New York

	Heating Degree Days															
Gross Sq Ft	**2,500**	**3,000**	**3,500**	**4,000**	**4,500**	**5,000**	**5,500**	**6,000**	**6,500**	**7,000**	**7,500**	**8,000**	**8,500**	**9,000**	**9,500**	**10,000**
200	4.3	5.1	6.0	6.8	7.7	8.6	9.4	10.3	11.1	12.0	12.8	13.7	14.6	15.4	16.3	17.1
400	8.6	10.3	12.0	13.7	15.4	17.1	18.8	20.5	22.3	24.0	25.7	27.4	29.1	30.8	32.5	34.2
600	12.8	15.4	18.0	20.5	23.1	25.7	28.2	30.8	33.4	36.0	38.5	41.1	43.7	46.2	48.8	51.4
800	17.1	20.5	24.0	27.4	30.8	34.2	37.7	41.1	44.5	47.9	51.4	54.8	58.2	61.6	65.1	68.5
1,000	21.4	25.7	30.0	34.2	38.5	42.8	47.1	51.4	55.6	59.9	64.2	68.5	72.8	77.0	81.3	85.6
1,200	25.7	30.8	36.0	41.1	46.2	51.4	56.5	61.6	66.8	71.9	77.0	82.2	87.3	92.4	97.6	102.7
1,400	30.0	36.0	41.9	47.9	53.9	59.9	65.9	71.9	77.9	83.9	89.9	95.9	101.9	107.9	113.8	119.8
1,600	34.2	41.1	47.9	54.8	61.6	68.5	75.3	82.2	89.0	95.9	102.7	109.6	116.4	123.3	130.1	137.0
1,800	38.5	46.2	53.9	61.6	69.3	77.0	84.7	92.4	100.2	107.9	115.6	123.3	131.0	138.7	146.4	154.1
2,000	42.8	51.4	59.9	68.5	77.0	85.6	94.2	102.7	111.3	119.8	128.4	137.0	145.5	154.1	162.6	171.2
2,200	47.1	56.5	65.9	75.3	84.7	94.2	103.6	113.0	122.4	131.8	141.2	150.7	160.1	169.5	178.9	188.3
2,400	51.4	61.6	71.9	82.2	92.4	102.7	113.0	123.3	133.5	143.8	154.1	164.4	174.6	184.9	195.2	205.4
2,600	55.6	66.8	77.9	89.0	100.2	111.3	122.4	133.5	144.7	155.8	166.9	178.0	189.2	200.3	211.4	222.6
2,800	59.9	71.9	83.9	95.9	107.9	119.8	131.8	143.8	155.8	167.8	179.8	191.7	203.7	215.7	227.7	239.7
3,000	64.2	77.0	89.9	102.7	115.6	128.4	141.2	154.1	166.9	179.8	192.6	205.4	218.3	231.1	244.0	256.8

TABLE 9C ANNUAL MBTU USAGE (MILLIONS BTUS) - PROTOTYPE III

Single Family, Two Story, Partial (Less Than 50%) or No Basement

NORTHEAST REGION

Baseline City: New York, New York

Gross Sq Ft	Heating Degree Days															
	2,500	**3,000**	**3,500**	**4,000**	**4,500**	**5,000**	**5,500**	**6,000**	**6,500**	**7,000**	**7,500**	**8,000**	**8,500**	**9,000**	**9,500**	**10,000**
200	3.8	4.5	5.3	6.0	6.8	7.5	8.3	9.0	9.8	10.5	11.3	12.0	12.8	13.5	14.3	15.0
400	7.5	9.0	10.5	12.0	13.5	15.0	16.5	18.0	19.5	21.0	22.5	24.0	25.5	27.0	28.5	30.0
600	11.3	13.5	15.8	18.0	20.3	22.5	24.8	27.0	29.3	31.5	33.8	36.0	38.3	40.5	42.8	45.0
800	15.0	18.0	21.0	24.0	27.0	30.0	33.0	36.0	39.0	42.0	45.0	48.0	51.0	54.0	57.0	60.0
1,000	18.8	22.5	26.3	30.0	33.8	37.5	41.3	45.0	48.8	52.5	56.3	60.0	63.8	67.5	71.3	75.0
1,200	22.5	27.0	31.5	36.0	40.5	45.0	49.5	54.0	58.5	63.0	67.5	72.0	76.5	81.0	85.5	90.0
1,400	26.3	31.5	36.8	42.0	47.3	52.5	57.8	63.0	68.3	73.5	78.8	84.0	89.3	94.5	99.8	105.0
1,600	30.0	36.0	42.0	48.0	54.0	60.0	66.0	72.0	78.0	84.0	90.0	96.0	102.0	108.0	114.0	120.0
1,800	33.8	40.5	47.3	54.0	60.8	67.5	74.3	81.0	87.8	94.5	101.3	108.0	114.8	121.5	128.3	135.0
2,000	37.5	45.0	52.5	60.0	67.5	75.0	82.5	90.0	97.5	105.0	112.5	120.0	127.5	135.0	142.5	150.0
2,200	41.3	49.5	57.8	66.0	74.3	82.5	90.8	99.0	107.3	115.5	123.8	132.0	140.3	148.5	156.8	165.0
2,400	45.0	54.0	63.0	72.0	81.0	90.0	99.0	108.0	117.0	126.0	135.0	144.0	153.0	162.0	171.0	180.0
2,600	48.8	58.5	68.3	78.0	87.8	97.5	107.3	117.0	126.8	136.5	146.3	156.0	165.8	175.5	185.3	195.0
2,800	52.5	63.0	73.5	84.0	94.5	105.0	115.5	126.0	136.5	147.0	157.5	168.0	178.5	189.0	199.5	210.0
3,000	56.3	67.5	78.8	90.0	101.3	112.5	123.8	135.0	146.3	157.5	168.8	180.0	191.3	202.5	213.8	225.0

TABLE 9D ANNUAL MBTU USAGE (MILLIONS BTUS) - PROTOTYPE IV

Single Family, Two Story, Full Basement

NORTHEAST REGION

Baseline City: New York, New York

	Heating Degree Days															
Gross Sq Ft	**2,500**	**3,000**	**3,500**	**4,000**	**4,500**	**5,000**	**5,500**	**6,000**	**6,500**	**7,000**	**7,500**	**8,000**	**8,500**	**9,000**	**9,500**	**10,000**
200	5.1	6.1	7.1	8.2	9.2	10.2	11.2	12.3	13.3	14.3	15.3	16.3	17.4	18.4	19.4	20.4
400	10.2	12.3	14.3	16.3	18.4	20.4	22.5	24.5	26.5	28.6	30.6	32.7	34.7	36.8	38.8	40.8
600	15.3	18.4	21.4	24.5	27.6	30.6	33.7	36.8	39.8	42.9	45.9	49.0	52.1	55.1	58.2	61.3
800	20.4	24.5	28.6	32.7	36.8	40.8	44.9	49.0	53.1	57.2	61.3	65.3	69.4	73.5	77.6	81.7
1,000	25.5	30.6	35.7	40.8	45.9	51.1	56.2	61.3	66.4	71.5	76.6	81.7	86.8	91.9	97.0	102.1
1,200	30.6	36.8	42.9	49.0	55.1	61.3	67.4	73.5	79.6	85.8	91.9	98.0	104.1	110.3	116.4	122.5
1,400	35.7	42.9	50.0	57.2	64.3	71.5	78.6	85.8	92.9	100.1	107.2	114.4	121.5	128.6	135.8	142.9
1,600	40.8	49.0	57.2	65.3	73.5	81.7	89.8	98.0	106.2	114.4	122.5	130.7	138.9	147.0	155.2	163.4
1,800	45.9	55.1	64.3	73.5	82.7	91.9	101.1	110.3	119.5	128.6	137.8	147.0	156.2	165.4	174.6	183.8
2,000	51.1	61.3	71.5	81.7	91.9	102.1	112.3	122.5	132.7	142.9	153.2	163.4	173.6	183.8	194.0	204.2
2,200	56.2	67.4	78.6	89.8	101.1	112.3	123.5	134.8	146.0	157.2	168.5	179.7	190.9	202.2	213.4	224.6
2,400	61.3	73.5	85.8	98.0	110.3	122.5	134.8	147.0	159.3	171.5	183.8	196.0	208.3	220.5	232.8	245.0
2,600	66.4	79.6	92.9	106.2	119.5	132.7	146.0	159.3	172.5	185.8	199.1	212.4	225.6	238.9	252.2	265.5
2,800	71.5	85.8	100.1	114.4	128.6	142.9	157.2	171.5	185.8	200.1	214.4	228.7	243.0	257.3	271.6	285.9
3,000	76.6	91.9	107.2	122.5	137.8	153.2	168.5	183.8	199.1	214.4	229.7	245.0	260.4	275.7	291.0	306.3

TABLE 9E ANNUAL MBTU USAGE (MILLIONS BTUS) - PROTOTYPE V

Apartments

NORTHEAST REGION

Baseline City: New York, New York

Gross Sq Ft	Heating Degree Days															
	2,500	**3,000**	**3,500**	**4,000**	**4,500**	**5,000**	**5,500**	**6,000**	**6,500**	**7,000**	**7,500**	**8,000**	**8,500**	**9,000**	**9,500**	**10,000**
200	2.7	3.2	3.7	4.3	4.8	5.3	5.9	6.4	6.9	7.5	8.0	8.5	9.1	9.6	10.1	10.7
400	5.3	6.4	7.5	8.5	9.6	10.7	11.7	12.8	13.9	14.9	16.0	17.1	18.1	19.2	20.3	21.3
600	8.0	9.6	11.2	12.8	14.4	16.0	17.6	19.2	20.8	22.4	24.0	25.6	27.2	28.8	30.4	32.0
800	10.7	12.8	14.9	17.1	19.2	21.3	23.5	25.6	27.7	29.8	32.0	34.1	36.2	38.4	40.5	42.6
1,000	13.3	16.0	18.7	21.3	24.0	26.7	29.3	32.0	34.6	37.3	40.0	42.6	45.3	48.0	50.6	53.3
1,200	16.0	19.2	22.4	25.6	28.8	32.0	35.2	38.4	41.6	44.8	48.0	51.2	54.4	57.6	60.8	64.0
1,400	18.7	22.4	26.1	29.8	33.6	37.3	41.0	44.8	48.5	52.2	56.0	59.7	63.4	67.2	70.9	74.6
1,600	21.3	25.6	29.8	34.1	38.4	42.6	46.9	51.2	55.4	59.7	64.0	68.2	72.5	76.8	81.0	85.3
1,800	24.0	28.8	33.6	38.4	43.2	48.0	52.8	57.6	62.4	67.2	72.0	76.8	81.5	86.3	91.1	95.9
2,000	26.7	32.0	37.3	42.6	48.0	53.3	58.6	64.0	69.3	74.6	80.0	85.3	90.6	95.9	101.3	106.6
2,200	29.3	35.2	41.0	46.9	52.8	58.6	64.5	70.4	76.2	82.1	87.9	93.8	99.7	105.5	111.4	117.3
2,400	32.0	38.4	44.8	51.2	57.6	64.0	70.4	76.8	83.1	89.5	95.9	102.3	108.7	115.1	121.5	127.9
2,600	34.6	41.6	48.5	55.4	62.4	69.3	76.2	83.1	90.1	97.0	103.9	110.9	117.8	124.7	131.7	138.6
2,800	37.3	44.8	52.2	59.7	67.2	74.6	82.1	89.5	97.0	104.5	111.9	119.4	126.9	134.3	141.8	149.2
3,000	40.0	48.0	56.0	64.0	72.0	80.0	87.9	95.9	103.9	111.9	119.9	127.9	135.9	143.9	151.9	159.9

TABLE 9F ANNUAL MBTU USAGE (MILLIONS BTUS) - PROTOTYPE VI

Mobile Homes

NORTHEAST REGION

Baseline City: New York, New York

Gross Sq Ft	Heating Degree Days 2,500	3,000	3,500	4,000	4,500	5,000	5,500	6,000	6,500	7,000	7,500	8,000	8,500	9,000	9,500	10,000
200	5.8	7.0	8.1	9.3	10.5	11.6	12.8	13.9	15.1	16.3	17.4	18.6	19.8	20.9	22.1	23.2
400	11.6	13.9	16.3	18.6	20.9	23.2	25.6	27.9	30.2	32.5	34.9	37.2	39.5	41.8	44.2	46.5
600	17.4	20.9	24.4	27.9	31.4	34.9	38.3	41.8	45.3	48.8	52.3	55.8	59.3	62.7	66.2	69.7
800	23.2	27.9	32.5	37.2	41.8	46.5	51.1	55.8	60.4	65.1	69.7	74.4	79.0	83.7	88.3	93.0
1,000	29.1	34.9	40.7	46.5	52.3	58.1	63.9	69.7	75.5	81.3	87.2	93.0	98.8	104.6	110.4	116.2
1,200	34.9	41.8	48.8	55.8	62.7	69.7	76.7	83.7	90.6	97.6	104.6	111.6	118.5	125.5	132.5	139.4
1,400	40.7	48.8	56.9	65.1	73.2	81.3	89.5	97.6	105.7	113.9	122.0	130.1	138.3	146.4	154.5	162.7
1,600	46.5	55.8	65.1	74.4	83.7	93.0	102.3	111.6	120.8	130.1	139.4	148.7	158.0	167.3	176.6	185.9
1,800	52.3	62.7	73.2	83.7	94.1	104.6	115.0	125.5	136.0	146.4	156.9	167.3	177.8	188.2	198.7	209.2
2,000	58.1	69.7	81.3	93.0	104.6	116.2	127.8	139.4	151.1	162.7	174.3	185.9	197.5	209.2	220.8	232.4
2,200	63.9	76.7	89.5	102.3	115.0	127.8	140.6	153.4	166.2	178.9	191.7	204.5	217.3	230.1	242.9	255.6
2,400	69.7	83.7	97.6	111.6	125.5	139.4	153.4	167.3	181.3	195.2	209.2	223.1	237.0	251.0	264.9	278.9
2,600	75.5	90.6	105.7	120.8	136.0	151.1	166.2	181.3	196.4	211.5	226.6	241.7	256.8	271.9	287.0	302.1
2,800	81.3	97.6	113.9	130.1	146.4	162.7	178.9	195.2	211.5	227.8	244.0	260.3	276.6	292.8	309.1	325.4
3,000	87.2	104.6	122.0	139.4	156.9	174.3	191.7	209.2	226.6	244.0	261.5	278.9	296.3	313.7	331.2	348.6

TABLE 10 HEATING/COOLING DEGREE DAYS AND MPS ZONES

Community	Heating Degree Days	Cooling Degree Days	HUD MPS Zone
CONNECTICUT			
Ansonia, CT	6,271	558	6
Danbury, CT	6,159	597	7
Newington, CT	6,121	654	7
Westbrook, CT	5,799	511	6
West Haven, CT	6,271	558	6
DELAWARE			
Dover, DE	4,212	1,262	4
DISTRICT OF COLUMBIA			
Washington, DC	4,571	1,243	4
MAINE			
Augusta, ME	7,358	388	8
Bar Harbor, ME	7,437	269	8
Biddeford, ME	7,586	164	8
Bucksport, ME	7,432	248	8
Calais, ME	8,188	242	8
Ellsworth, ME	7,493	232	8
Farmington, ME	8,628	147	8
Fort Kent, ME	10,075	120	8
Houlton, ME	9,300	169	8
Kennebunk, ME	7,586	164	8
Orono, ME	8,036	293	8
MARYLAND			
Baltimore, MD	3,807	1,774	4
Beltsville, MD	4,707	1,109	4
Berlin, MD	4,008	1,194	4
Bethesda, MD	4,990	983	4
Boonsboro, MD	5,249	902	5
Cambridge, MD	3,930	1,400	5
Chestertown, MD	4,559	1,183	4
Greenbelt, MD	4,707	1,109	4
Havre De Grace, MD	4,459	1,153	5
Laurel, MD	4,505	1,271	4

TABLE 10. HEATING/COOLING DEGREE DAYS AND HUD ZONE, Continued

Community	Heating Degree Days	Cooling Degree Days	HUD MPS Zone
MARYLAND, Continued			
Potomac, MD	4,990	983	4
Thurmont, MD	5,370	733	5
Towson, MD	4,564	1,194	6
MASSACHUSETTS			
Bedford, MA	6,370	485	7
Boston, MA	5,630	777	7
Carlisle, MA	5,593	699	7
Concord, MA	6,370	532	7
Eastham/N. Eastham, MA	5,931	265	6
Lexington, MA	6,370	532	7
Lincoln, MA	6,370	532	7
Nantucket, MA	5,776	361	6
Newburyport, MA	6,435	550	7
N. Attleboro, MA	6,109	539	7
Northampton, MA	6,856	452	7
Provincetown, MA	5,994	436	6
Salem, MA	5,704	582	7
Saugus, MA	5,704	582	7
Sudbury, MA	6,370	532	7
Wellfleet, MA	5,931	265	6
NEW HAMPSHIRE			
Berlin, NH	8,515	169	8
Gorham, NH	8,515	169	8
Manchester, NH	7,742	263	7
Nashua, NH	6,834	445	7
North Conway, NH	7,758	305	8
Plymouth, NH	8,253	201	8
Portsmouth, NH	6,593	416	7
NEW JERSEY			
Absecon, NJ	5,113	935	6
Bernardsville, NJ	6,281	438	6
Blairstown, NJ	6,428	480	6
Morristown, NJ	5,783	692	6

TABLE 10. HEATING/COOLING DEGREE DAYS AND HUD ZONE, Continued

Community	Heating Degree Days	Cooling Degree Days	HUD MPS Zone
NEW JERSEY, Continued			
Newton, NJ	6,428	480	6
Pennsville, NJ	4,666	1,106	6
Red Bank, NJ	5,168	750	5
Salem, NJ	4,666	1,106	6
Sussex, NJ	6,486	486	6
NEW YORK			
Batavia, NY	6,559	526	6
Bath, NY	7,336	291	7
Bay Shore, NY	5,538	563	6
Buffalo, NY	6,692	548	8
Canandaigua, NY	6,641	496	6
Cortland, NY	7,040	409	6
Fishkill, NY	5,813	790	6
Huntington, NY	5,397	643	6
Hyde Park, NY	6,377	546	7
Islip, NY	5,357	770	6
Mastic Beach, NY	5,538	563	6
Montrose, NY	6,103	576	6
New York – Bronx, NY	4,754	1,151	6
New York – Brooklyn, NY	4,681	1,123	6
New York – Staten Island, NY	4,681	1,123	6
Northport, NY	5,397	643	6
Oyster Bay, NY	5,397	643	6
Patchogue, NY	5,382	702	6
Rouses Point, NY	7,938	333	8
Sag Harbor, NY	5,538	563	6
Sayville, NY	5,538	563	6
Seneca Falls, NY	6,547	491	7
Shirley, NY	5,538	563	6
PENNSYLVANIA			
Birdsboro, PA	5,395	845	5
Coatesville, PA	5,597	716	6
Erie, PA	6,243	620	6

TABLE 10. HEATING/COOLING DEGREE DAYS AND HUD ZONE, Continued

Community	Heating Degree Days	Cooling Degree Days	HUD MPS Zone
PENNSYLVANIA, Continued			
Gettysburg, PA	5,427	780	6
Hollidaysburg, PA	6,055	546	6
Kane, PA	8,094	120	7
King of Prussia, PA	5,114	1,104	5
Lebanon, PA	5,960	578	5
Lewisburg, PA	6,093	608	6
Lock Haven, PA	6,294	573	6
Matamoras, PA	6,344	520	6
Meadville, PA	6,739	401	7
Montgomery, PA	5,935	680	6
Philadelphia, PA	4,759	1,235	5
Pittsburgh, PA	5,829	726	6
Stroudsburg, PA	6,246	548	6
Uniontown, PA	5,736	630	6
Warren, PA	6,703	440	7
Wilkes-Barre, PA	6,234	611	6
VERMONT			
Manchester Center, VT	8,096	174	8
Rutland, VT	7,304	317	8
Windsor, VT	8,130	255	8
WEST VIRGINIA			
Martinsburg, WV	5,968	392	6
Parkersburg, WV	5,091	1,038	6

TABLE 11 FUEL REQUIRED TO PRODUCE 1 MBTU

Type of Fuel	Amount Needed to Produce 1 MBTU
Natural Gas	1 MCF (1,000 cu. ft.)
Propane	10.2 Gallons
Fuel Oil #2	7.04 Gallons

TABLE 12 HEATING FUEL COST

NORTHEAST REGION

Type of Fuel	Charge per unit
Natural Gas	$14.93
Propane	$2.15
Fuel Oil #2	$2.47

TABLE 13 MPS HEATING ZONE CONVERSION FACTORS

NORTHEAST REGION

	Dwelling Prototypes					
	I	II	III	IV	V	VI
HUD MPS Heating Zone	Single Story No Basement	Single Story Full Basement	Double Story No Basement	Double Story Full Basement	Apart-ments	Mobile Homes
1						
2						
3						
4	1.00	1.00	1.00	1.00	1.00	1.00
5	1.00	1.00	1.00	1.00	1.00	1.00
6	1.00	1.00	1.00	1.00	1.00	1.00
7	.99	.98	.98	.99	.98	.99
8	1.08	1.08	1.09	1.09	1.13	1.06

D. SPACE HEATING (ELECTRICITY) CONSUMPTION/COST CALCULATIONS

The procedure for calculating electrical consumption and costs for space heating (where electricity is unmetered or otherwise unmeasured) is similar to the procedure used for fossil fuels. Tables 14a through 14f are used.

1. Select from these tables the dwelling prototype most similar to the unit at issue.

2. Determine the annual kilowatt hour (KwH) consumption by finding the appropriate columns for square feet and HDD (heating degree days). Note: HDDs for the nearest established communities may be found in Table 10.

3. Divide the annual KwH by 12 to determine the monthly average electrical consumption.

4. Adjust for HUD MPS Heating Zone, using the conversion factors in Table 13.

5. Adjust for heat pump (if applicable).

6. Determine the appropriate charge per KwH from the table below. **Do not calculate the total cost of electricity in steps – such as the first 500 KwH costs so much, then the second 500 KwH costs so much, etc.**

KwH Consumed Per Month	Northeast Region Charge per KwH
1 – 500	$.150
501 – 1,000	$.143
1,001 – 1,500	$.141
Over 1,500	$.139

7. Compute the monthly charge for space heating by multiplying the appropriate charge per KwH times the number of KwH consumed per month.

8. Example: The average monthly electric heating charge for a single family, 2,100 square foot, two story, no basement home located near Gettysburg, Pennsylvania is computed as follows:

   a. Step 1. Select the table (table 14a through f) that most closely describes the housing unit at issue. In this case, table 14c (single family, two story, no basement - prototype III) should be selected.

   b. Step 2. Determine from table 14c the annual KwH consumption appropriate for the heating degree days (HDD) and the gross square footage of the house in this example. Use the table as follows:

      1) Find the number of heating degree days for the established community in which the unit is located. Table 10 (which contains the HDD for established communities in the Northeast survey region) shows that Gettysburg, PA has 5,427 HDD. In table 14c, the number of

HDDs in Gettsburg, PA (5,427) lies between the column headed 5,000 and the column headed 5,750. Round down to 5,000 HDD.

2) In table 14c, 2,100 square feet (the size of the house used in this example) lies between 2,000 and 2,200 square feet. Round 2,100 down to 2,000 square feet.

3) From table 14c (2,000 square feet and 5,000 HDD) the annual KwH consumption rate is 17,580 KwH.

c. Step 3. Calculate the monthly KwH consumption by dividing the annual KwH by 12 (months). In this instance, the monthly consumption is 1,465.0 KwH (17,580 / 12 = 1,465.0 KwH per month).

d. Step 4, HUD MPS Zone adjustment. The HUD MPS Zone adjustment is made as follows:

1) Use Table 10 to find the HUD MPS Zone for the community at issue. In this manner, Gettysburg, PA is found to be in HUD MPS Zone 6.

2) In Table 13, determine the adjustment factor for the appropriate dwelling type and MPS Zone. The factor for housing prototype III in HUD MPS Zone 6 is 1.00.

3) Multiply the monthly electric consumption (as computed in paragraph 8c, above) times the HUD MPS adjustment factor (1,465.0 x 1.00 = 1,465.0 KwH per month).

e. Step 5, **Adjustment for heat pump**. The process described above is used for computing the electrical consumption for heating with a straight resistance heating system. However, where a dwelling is heated with an electric heat pump, the resistance heating consumption (1,465.0 KwH in this example) should be multiplied by a factor of 0.75, which represents the greater efficiency of the heat pump. In this example, the monthly electric consumption for a heat pump as the heating source would be 1,098.75 KwH (1,465.0 x 0.75 = 1,098.75).

f. Step 6. The final step is to compute the monthly charge for the electricity consumed. This is done by multiplying the charge per KwH times the KwH consumed per month. The appropriate charge per KwH may be found in the table below.

KwH Consumed Per Month	Northeast Region Charge per KwH
1 – 500	$.150
501 – 1,000	$.143
1,001 – 1,500	$.141
Over 1,500	$.139

In this example, the average monthly consumption (1,465.0 KwH) for resistance heat falls in the "1,001 – 1,500" KwH per month consumption category; the appropriate charge is $0.141 per KwH. The average monthly consumption (1,098.75 KwH) for a heat pump also falls in the "1,001 – 1,500" KwH per month consumption category; and the appropriate unit charge is $0.141 per KwH.

Therefore, the monthly electric heating charge for the house used in this example is computed as follows:

Resistance heat: 1,465.00 KwH x $.141 = $206.57 monthly

Heat pump: 1,098.75 KwH x $.141 = $154.92 monthly

E. SPACE COOLING CONSUMPTION/COST CALCULATIONS

Space cooling costs are calculated in the same manner as for electric space heating except that Cooling Degree Days (CDD) are used in lieu of HDD values. CDD values for the Nearest Established Communities are found in Table 10. Additionally, only Tables 14a through 14f are used in calculating cooling energy consumption. Briefly, the steps are as follows.

1. Select from Tables 14a through 14f the table that most closely describes the housing unit at issue.

2. Based on the size of the dwelling (square feet) and the number of CDD (from Table 10), use the appropriate Table (14a-f) to determine the annual KwH consumption.

3. Divide the annual KwH consumption by 12 (months) to determine the average number of KwH consumed per month.

4. Apply the HUD MPS Zone adjustment factor.

5. Apply the Coefficient of Performance (CoP) adjustment.

6. Determine the appropriate charge per KwH from the table below.

KwH Consumed Per Month	Northeast Region Charge per KwH
1 – 500	$.150
501 – 1,000	$.143
1,001 – 1,500	$.141
Over 1,500	$.139

7. Compute the monthly charge for space cooling by multiplying the appropriate charge per KwH times the number of KwH consumed per month.

8. Example: Compute the average monthly electric cooling charge for a 1,275 square foot mobile home near Newton, New Jersey.

   a. Step 1: Table Selection. Select the table (table 14a through 14f), which most closely describes the housing unit at issue. Table 14f (Mobile Homes - Prototype VI) should be selected.

b. Step 2: Annual KwH Consumption. Determine from table 14f the annual KwH consumption appropriate for the cooling degree days (CDD) and the gross square footage of the mobile home in this example. Use the table as follows:

1) Find the number of cooling degree days for the established community closest to the housing. Table 10 (which contains the CDD for established communities in the Northeast survey region) shows that Newton, NJ has 480 CDD. In table 14f, 480 CDD lies between the columns headed 400 and 500. Round down to 400 CDD.

2) In table 14f, 1,275 square feet (the size of the mobile home used in this example) lies between 1,200 and 1,400 square feet. Round down to 1,200 square feet.

3) From table 14f (1,200 square feet and 400 CDD) the annual KwH consumption rate is 1,307 KwH.

c. Step 3: Monthly Consumption. Calculate the monthly KwH consumption by dividing the annual KwH consumption by 12 (months). In this instance, the monthly consumption is 108.92 KwH (1,307 / 12 = 108.92).

d. Step 4: HUD MPS Zone Adjustment. The HUD MPS Zone adjustment is made as follows:

1) Use Table 10 to find the HUD MPS Zone for the community at issue. In this manner, Newton, NJ is found to be in HUD MPS Zone 6.

2) In Table 15, determine the adjustment factor for the appropriate dwelling unit type and MPS Zone. The factor for housing prototype VI in HUD MPS Zone 6 is 1.95.

3) Multiply the monthly electric consumption (as computed in paragraph 8c, above) times the HUD MPS Zone adjustment factor: 108.92 KwH x 1.95 = 212.39 KwH per month.

e. Step 5: Adjustment for Coefficient of Performance (CoP). This adjustment accounts for the differences in the efficiencies of evaporative (swamp) and refrigerated air central cooling systems.

1) Evaporative (swamp) cooling. For a central evaporative cooling system, the adjusted KwH (computed in Step 4, above) is divided by a factor of 6.66. In this example, the monthly KwH requirement for central evaporative cooling is computed as 212.39 KwH / 6.66 CoP = 31.89 KwH per month.

2) Refrigerated air cooling. For a central refrigerated air cooling system, the adjusted KwH (computed in step 4, above) is divided by a factor of 2. In this example, the monthly KwH requirement for central refrigerated air cooling is computed as 212.39 KwH / 2 CoP = 106.2 KwH per month.

f. Step 6: Monthly Charge. The final step is to compute the monthly charge for the electricity consumed. This is done by multiplying the electricity rate times the KwH consumed per month. The appropriate charge per KwH may be found in the table below.

KwH Consumed Per Month	Northeast Region Charge per KwH
1 – 500	$.150
501 – 1,000	$.143
1,001 – 1,500	$.141
Over 1,500	$.139

In this example, the average monthly consumption (31.89 KwH) for evaporative cooling falls in the "1 – 500" KwH consumption range. And 106.2 KwH for refrigerated cooling also falls in the "1 – 500" KwH consumption range. The appropriate charge will be $0.150 per KwH for evaporative cooling and $.150 for refrigerated cooling.

Therefore, the monthly charges for cooling the mobile home used in this example would be computed as follows.

Evaporative cooling: 31.98 KwH x $0.150 = $4.80 monthly

Refrigerated cooling: 106.2 KwH x $0.150 = $15.93 monthly

9. Gas-powered Central Air Conditioning Units. If the central air conditioning unit is gas operated (natural gas or propane), the charge is computed as follows:

    a. Compute the KwH consumption in same manner as shown in steps 1 through 4 above (Note: the calculations through step 4 produce 212.39 KwH per month).

    b. Calculate the Coefficient of Performance (CoP) adjustment in step 5 above for refrigerated air conditioning; that is, divide the number of KwH in paragraph 9a, above (212.39 KwH) by the CoP (2); for example 212.39 / 2 = 106.2 KwH.

    c. Convert the monthly KwH to MBTUs by dividing the KwH calculated in paragraph 9b above by 234.4 KwH. [It takes 234.4 Kilowatts to generate 1 MBTU.] Thus, 106.2 KwH / 234.4 (KwH per MBTU) = 0.45 MBTUs.

    d. Calculate the volumes of natural gas and propane needed to produce 0.45 MBTUs. This is done as follows.

        1) Natural Gas. For central air conditioning units that operate on natural gas, multiply the MBTUs calculated in paragraph 9c above by 1 MCF [It takes 1 MCF of natural gas to generate 1 MBTU; 0.45 MBTUs x 1 MCF = 0.45 MCF.] Thus, 0.45 MCF of natural gas would be required per month (annual average) to cool the unit in this example.

        2) Propane. For central air conditioning units that operate on propane gas, multiply the MBTUs calculated in paragraph 9c above by 10.2 gallons [It takes 10.2 gallons of propane to generate 1 MBTU; 0.45 MBTUs x 10.2 gallons = 4.59 gallons.] Thus, 4.59 gallons of propane would be required per month (annual average) to cool the unit in this example.

e. Calculate the monthly charge for natural gas or propane consumed. This is done by multiplying the volume of fuel consumed by the unit cost of the fuel. These calculations are shown below.

Natural gas: 0.45 MCF x $14.93 per MCF = $6.72 per month

Propane gas: 4.59 gallons x $2.15 per gallon = $9.87 per month

TABLE 14A ANNUAL KWH USAGE (ELECTRIC HEATING/COOLING) - PROTOTYPE I

Single Family, One Story, Partial (Less Than 50%) or No Basement

NORTHEAST REGION

Baseline City: New York, New York

	Heating or Cooling Degree Days															
Gross Sq Ft	**100**	**200**	**300**	**400**	**500**	**750**	**1,000**	**3,500**	**4,250**	**5,000**	**5,750**	**6,500**	**7,250**	**8,000**	**8,750**	**9,500**
200	41	81	122	163	203	305	406	1,423	1,727	2,032	2,337	2,642	2,947	3,252	3,556	3,861
400	81	163	244	325	406	610	813	2,845	3,455	4,064	4,674	5,284	5,893	6,503	7,113	7,722
600	122	244	366	488	610	915	1,219	4,268	5,182	6,097	7,011	7,926	8,840	9,755	10,669	11,584
800	163	325	488	650	813	1,219	1,626	5,690	6,910	8,129	9,348	10,568	11,787	13,006	14,226	15,445
1,000	203	406	610	813	1,016	1,524	2,032	7,113	8,637	10,161	11,685	13,209	14,734	16,258	17,782	19,306
1,200	244	488	732	975	1,219	1,829	2,439	8,535	10,364	12,193	14,022	15,851	17,680	19,509	21,338	23,167
1,400	285	569	854	1,138	1,423	2,134	2,845	9,958	12,092	14,226	16,359	18,493	20,627	22,761	24,895	27,029
1,600	325	650	975	1,301	1,626	2,439	3,252	11,380	13,819	16,258	18,697	21,135	23,574	26,013	28,451	30,890
1,800	366	732	1,097	1,463	1,829	2,744	3,658	12,803	15,547	18,290	21,034	23,777	26,521	29,264	32,008	34,751
2,000	406	813	1,219	1,626	2,032	3,048	4,064	14,226	17,274	20,322	23,371	26,419	29,467	32,516	35,564	38,612
2,200	447	894	1,341	1,788	2,235	3,353	4,471	15,648	19,001	22,355	25,708	29,061	32,414	35,767	39,120	42,474
2,400	488	975	1,463	1,951	2,439	3,658	4,877	17,071	20,729	24,387	28,045	31,703	35,361	39,019	42,677	46,335
2,600	528	1,057	1,585	2,114	2,642	3,963	5,284	18,493	22,456	26,419	30,382	34,345	38,308	42,270	46,233	50,196
2,800	569	1,138	1,707	2,276	2,845	4,268	5,690	19,916	24,184	28,451	32,719	36,987	41,254	45,522	49,790	54,057
3,000	610	1,219	1,829	2,439	3,048	4,573	6,097	21,338	25,911	30,483	35,056	39,628	44,201	48,774	53,346	57,919

TABLE 14B ANNUAL KWH USAGE (ELECTRIC HEATING/COOLING) - PROTOTYPE II

Single Family, Single Story, Full Basement

NORTHEAST REGION

Baseline City: New York, New York

	Heating or Cooling Degree Days															
Gross Sq Ft	**100**	**200**	**300**	**400**	**500**	**750**	**1,000**	**3,500**	**4,250**	**5,000**	**5,750**	**6,500**	**7,250**	**8,000**	**8,750**	**9,500**
200	40	80	120	161	201	301	401	1,405	1,705	2,006	2,307	2,608	2,909	3,210	3,511	3,812
400	80	161	241	321	401	602	803	2,809	3,411	4,013	4,615	5,217	5,819	6,421	7,023	7,624
600	120	241	361	482	602	903	1,204	4,214	5,116	6,019	6,922	7,825	8,728	9,631	10,534	11,437
800	161	321	482	642	803	1,204	1,605	5,618	6,822	8,026	9,230	10,434	11,637	12,841	14,045	15,249
1,000	201	401	602	803	1,003	1,505	2,006	7,023	8,527	10,032	11,537	13,042	14,547	16,052	17,556	19,061
1,200	241	482	722	963	1,204	1,806	2,408	8,427	10,233	12,039	13,844	15,650	17,456	19,262	21,068	22,873
1,400	281	562	843	1,124	1,405	2,107	2,809	9,832	11,938	14,045	16,152	18,259	20,365	22,472	24,579	26,686
1,600	321	642	963	1,284	1,605	2,408	3,210	11,236	13,644	16,052	18,459	20,867	23,275	25,683	28,090	30,498
1,800	361	722	1,083	1,445	1,806	2,709	3,612	12,641	15,349	18,058	20,767	23,475	26,184	28,893	31,602	34,310
2,000	401	803	1,204	1,605	2,006	3,010	4,013	14,045	17,055	20,064	23,074	26,084	29,093	32,103	35,113	38,122
2,200	441	883	1,324	1,766	2,207	3,311	4,414	15,450	18,760	22,071	25,382	28,692	32,003	35,313	38,624	41,935
2,400	482	963	1,445	1,926	2,408	3,612	4,815	16,854	20,466	24,077	27,689	31,301	34,912	38,524	42,135	45,747
2,600	522	1,043	1,565	2,087	2,608	3,913	5,217	18,259	22,171	26,084	29,996	33,909	37,822	41,734	45,647	49,559
2,800	562	1,124	1,685	2,247	2,809	4,214	5,618	19,663	23,877	28,090	32,304	36,517	40,731	44,944	49,158	53,371
3,000	602	1,204	1,806	2,408	3,010	4,515	6,019	21,068	25,582	30,097	34,611	39,126	43,640	48,155	52,669	57,184

TABLE 14C ANNUAL KWH USAGE (ELECTRIC HEATING/COOLING) - PROTOTYPE III

Single Family, Two Story, Partial (Less Than 50%) or No Basement

NORTHEAST REGION

Baseline City: New York, New York

	Heating or Cooling Degree Days															
Gross Sq Ft	**100**	**200**	**300**	**400**	**500**	**750**	**1,000**	**3,500**	**4,250**	**5,000**	**5,750**	**6,500**	**7,250**	**8,000**	**8,750**	**9,500**
200	35	70	105	141	176	264	352	1,231	1,494	1,758	2,022	2,285	2,549	2,813	3,076	3,340
400	70	141	211	281	352	527	703	2,461	2,989	3,516	4,043	4,571	5,098	5,626	6,153	6,680
600	105	211	316	422	527	791	1,055	3,692	4,483	5,274	6,065	6,856	7,647	8,438	9,229	10,021
800	141	281	422	563	703	1,055	1,406	4,922	5,977	7,032	8,087	9,142	10,196	11,251	12,306	13,361
1,000	176	352	527	703	879	1,318	1,758	6,153	7,471	8,790	10,108	11,427	12,745	14,064	15,382	16,701
1,200	211	422	633	844	1,055	1,582	2,110	7,384	8,966	10,548	12,130	13,712	15,294	16,877	18,459	20,041
1,400	246	492	738	984	1,231	1,846	2,461	8,614	10,460	12,306	14,152	15,998	17,844	19,689	21,535	23,381
1,600	281	563	844	1,125	1,406	2,110	2,813	9,845	11,954	14,064	16,173	18,283	20,393	22,502	24,612	26,721
1,800	316	633	949	1,266	1,582	2,373	3,164	11,075	13,449	15,822	18,195	20,568	22,942	25,315	27,688	30,062
2,000	352	703	1,055	1,406	1,758	2,637	3,516	12,306	14,943	17,580	20,217	22,854	25,491	28,128	30,765	33,402
2,200	387	774	1,160	1,547	1,934	2,901	3,868	13,536	16,437	19,338	22,239	25,139	28,040	30,941	33,841	36,742
2,400	422	844	1,266	1,688	2,110	3,164	4,219	14,767	17,931	21,096	24,260	27,425	30,589	33,753	36,918	40,082
2,600	457	914	1,371	1,828	2,285	3,428	4,571	15,998	19,426	22,854	26,282	29,710	33,138	36,566	39,994	43,422
2,800	492	984	1,477	1,969	2,461	3,692	4,922	17,228	20,920	24,612	28,304	31,995	35,687	39,379	43,071	46,762
3,000	527	1,055	1,582	2,110	2,637	3,955	5,274	18,459	22,414	26,370	30,325	34,281	38,236	42,192	46,147	50,103

TABLE 14D ANNUAL KWH USAGE (ELECTRIC HEATING/COOLING) - PROTOTYPE IV

Single Family, Two Story, Full Basement
NORTHEAST REGION

Baseline City: New York, New York

	Heating or Cooling Degree Days															
Gross Sq Ft	**100**	**200**	**300**	**400**	**500**	**750**	**1,000**	**3,500**	**4,250**	**5,000**	**5,750**	**6,500**	**7,250**	**8,000**	**8,750**	**9,500**
200	48	96	144	191	239	359	479	1,675	2,034	2,393	2,752	3,111	3,470	3,829	4,188	4,547
400	96	191	287	383	479	718	957	3,350	4,068	4,786	5,504	6,222	6,940	7,658	8,376	9,094
600	144	287	431	574	718	1,077	1,436	5,026	6,103	7,180	8,257	9,333	10,410	11,487	12,564	13,641
800	191	383	574	766	957	1,436	1,915	6,701	8,137	9,573	11,009	12,445	13,881	15,316	16,752	18,188
1,000	239	479	718	957	1,197	1,795	2,393	8,376	10,171	11,966	13,761	15,556	17,351	19,146	20,941	22,735
1,200	287	574	862	1,149	1,436	2,154	2,872	10,051	12,205	14,359	16,513	18,667	20,821	22,975	25,129	27,283
1,400	335	670	1,005	1,340	1,675	2,513	3,350	11,727	14,240	16,752	19,265	21,778	24,291	26,804	29,317	31,830
1,600	383	766	1,149	1,532	1,915	2,872	3,829	13,402	16,274	19,146	22,017	24,889	27,761	30,633	33,505	36,377
1,800	431	862	1,292	1,723	2,154	3,231	4,308	15,077	18,308	21,539	24,770	28,000	31,231	34,462	37,693	40,924
2,000	479	957	1,436	1,915	2,393	3,590	4,786	16,752	20,342	23,932	27,522	31,112	34,701	38,291	41,881	45,471
2,200	527	1,053	1,580	2,106	2,633	3,949	5,265	18,428	22,376	26,325	30,274	34,223	38,172	42,120	46,069	50,018
2,400	574	1,149	1,723	2,297	2,872	4,308	5,744	20,103	24,411	28,718	33,026	37,334	41,642	45,949	50,257	54,565
2,600	622	1,244	1,867	2,489	3,111	4,667	6,222	21,778	26,445	31,112	35,778	40,445	45,112	49,779	54,445	59,112
2,800	670	1,340	2,010	2,680	3,350	5,026	6,701	23,453	28,479	33,505	38,531	43,556	48,582	53,608	58,633	63,659
3,000	718	1,436	2,154	2,872	3,590	5,385	7,180	25,129	30,513	35,898	41,283	46,667	52,052	57,437	62,822	68,206

TABLE 14E ANNUAL KWH USAGE (ELECTRIC HEATING/COOLING) - PROTOTYPE V

Apartments

NORTHEAST REGION

Baseline City: New York, New York

	Heating or Cooling Degree Days															
Gross Sq Ft	**100**	**200**	**300**	**400**	**500**	**750**	**1,000**	**3,500**	**4,250**	**5,000**	**5,750**	**6,500**	**7,250**	**8,000**	**8,750**	**9,500**
200	25	50	75	100	125	187	250	875	1,062	1,249	1,437	1,624	1,812	1,999	2,186	2,374
400	50	100	150	200	250	375	500	1,749	2,124	2,499	2,873	3,248	3,623	3,998	4,373	4,747
600	75	150	225	300	375	562	750	2,624	3,186	3,748	4,310	4,872	5,435	5,997	6,559	7,121
800	100	200	300	400	500	750	999	3,498	4,248	4,997	5,747	6,497	7,246	7,996	8,745	9,495
1,000	125	250	375	500	625	937	1,249	4,373	5,310	6,247	7,184	8,121	9,058	9,995	10,932	11,869
1,200	150	300	450	600	750	1,124	1,499	5,247	6,372	7,496	8,620	9,745	10,869	11,994	13,118	14,242
1,400	175	350	525	700	875	1,312	1,749	6,122	7,434	8,745	10,057	11,369	12,681	13,993	15,304	16,616
1,600	200	400	600	800	999	1,499	1,999	6,996	8,496	9,995	11,494	12,993	14,492	15,992	17,491	18,990
1,800	225	450	675	900	1,124	1,687	2,249	7,871	9,557	11,244	12,931	14,617	16,304	17,991	19,677	21,364
2,000	250	500	750	999	1,249	1,874	2,499	8,745	10,619	12,493	14,367	16,241	18,115	19,989	21,863	23,737
2,200	275	550	825	1,099	1,374	2,061	2,749	9,620	11,681	13,743	15,804	17,866	19,927	21,988	24,050	26,111
2,400	300	600	900	1,199	1,499	2,249	2,998	10,494	12,743	14,992	17,241	19,490	21,739	23,987	26,236	28,485
2,600	325	650	974	1,299	1,624	2,436	3,248	11,369	13,805	16,241	18,678	21,114	23,550	25,986	28,423	30,859
2,800	350	700	1,049	1,399	1,749	2,624	3,498	12,244	14,867	17,491	20,114	22,738	25,362	27,985	30,609	33,232
3,000	375	750	1,124	1,499	1,874	2,811	3,748	13,118	15,929	18,740	21,551	24,362	27,173	29,984	32,795	35,606

TABLE 14F ANNUAL KWH USAGE (ELECTRIC HEATING/COOLING) - PROTOTYPE VI

Mobile Homes

NORTHEAST REGION

Baseline City: New York, New York

	Heating or Cooling Degree Days															
Gross Sq Ft	**100**	**200**	**300**	**400**	**500**	**750**	**1,000**	**3,500**	**4,250**	**5,000**	**5,750**	**6,500**	**7,250**	**8,000**	**8,750**	**9,500**
200	54	109	163	218	272	409	545	1,907	2,315	2,724	3,132	3,541	3,949	4,358	4,766	5,175
400	109	218	327	436	545	817	1,089	3,813	4,630	5,447	6,265	7,082	7,899	8,716	9,533	10,350
600	163	327	490	654	817	1,226	1,634	5,720	6,945	8,171	9,397	10,622	11,848	13,074	14,299	15,525
800	218	436	654	872	1,089	1,634	2,179	7,626	9,261	10,895	12,529	14,163	15,797	17,432	19,066	20,700
1,000	272	545	817	1,089	1,362	2,043	2,724	9,533	11,576	13,619	15,661	17,704	19,747	21,790	23,832	25,875
1,200	327	654	981	1,307	1,634	2,451	3,268	11,440	13,891	16,342	18,794	21,245	23,696	26,148	28,599	31,050
1,400	381	763	1,144	1,525	1,907	2,860	3,813	13,346	16,206	19,066	21,926	24,786	27,646	30,505	33,365	36,225
1,600	436	872	1,307	1,743	2,179	3,268	4,358	15,253	18,521	21,790	25,058	28,327	31,595	34,863	38,132	41,400
1,800	490	981	1,471	1,961	2,451	3,677	4,903	17,159	20,836	24,513	28,190	31,867	35,544	39,221	42,898	46,575
2,000	545	1,089	1,634	2,179	2,724	4,086	5,447	19,066	23,151	27,237	31,323	35,408	39,494	43,579	47,665	51,750
2,200	599	1,198	1,798	2,397	2,996	4,494	5,992	20,973	25,467	29,961	34,455	38,949	43,443	47,937	52,431	56,925
2,400	654	1,307	1,961	2,615	3,268	4,903	6,537	22,879	27,782	32,684	37,587	42,490	47,392	52,295	57,198	62,100
2,600	708	1,416	2,124	2,833	3,541	5,311	7,082	24,786	30,097	35,408	40,719	46,031	51,342	56,653	61,964	67,275
2,800	763	1,525	2,288	3,051	3,813	5,720	7,626	26,692	32,412	38,132	43,852	49,571	55,291	61,011	66,731	72,451
3,000	817	1,634	2,451	3,268	4,086	6,128	8,171	28,599	34,727	40,856	46,984	53,112	59,241	65,369	71,497	77,626

TABLE 15 MPS COOLING ZONE CONVERSION FACTORS

NORTHEAST REGION

	Dwelling Prototypes					
	I	II	III	IV	V	VI
HUD MPS Heating Zone	Single Story No Basement	Single Story Full Basement	Double Story No Basement	Double Story Full Basement	Apart-ments	Mobile Homes
1						
2						
3						
4	2.12	2.22	2.35	1.99	2.92	1.99
5	2.10	2.19	2.33	1.97	2.88	1.97
6	2.07	2.17	2.30	1.95	2.84	1.95
7	2.25	2.35	2.50	2.10	3.13	2.08
8	2.72	2.83	3.05	2.35	3.90	2.44

F. NON-SPACE HEATING/COOLING ENERGY CONSUMPTION/COST CALCULATIONS

The examples in the preceding sections (VI.C, VI.D and VI.E) dealt with the charges for space heating and cooling. However, to compute **total energy consumption** charges, the costs for energy consumed by lights, equipment, and appliances (government **and** tenant-owned) must be determined and added to the heating and cooling charges.

1. **Consumption**. Electric non-space heating/cooling consumption and cost estimates include electricity used by small appliances, lights, radios, television, refrigerators, ranges, washers, dryers, etc. These items, and their associated consumption levels, are shown in Table 16. It is assumed that every government quarter uses a furnace fan, television/radio, lights, and miscellaneous small appliances. Be sure to add these items from Table 16 in addition to any other applicable items in determining the total consumption.

   To use Table 16, first determine the finished floor space square footage range within which a specific housing unit falls. Then, using the values in Table 16, add the KwH consumed by each appliance or equipment item which is present in the housing unit. If a housing unit has more than one (1) refrigerator, freezer, room (window) air conditioner or space heater, multiply the KwH shown in the table times the number of refrigerators, freezers, room air conditioners or space heaters that are present in the housing unit to determine the total monthly KwH consumption for these appliances.

   There may be instances where appliances are fueled by fossil fuels rather than by electricity. Table 16a provides monthly consumption (in MCF or gallons of fuel) for the most common of these.

   If an appliance listed in Table 16 or Table 16a is not present in the housing unit at issue, do not include its monthly energy use when computing the total energy consumed by equipment and appliances.

2. **Cost**. The cost of electricity or fossil fuel consumed by appliances and equipment is easily computed by multiplying the total monthly consumption (as determined in the preceding paragraphs) times the appropriate charge per KwH, MCF or gallon. These unit charges are shown in Table 17.

TABLE 16 MONTHLY KWH USAGE: APPLIANCES AND EQUIPMENT

ALL REGIONS

Appliance/ Equipment	Gross Square Feet of Living Space									
	Under 301	301-500	501-700	701-1,100	1,101-1,300	1,301-1,500	1,501-1,900	1,901-2,100	2,101-2,500	Over 2,500
Hot water heater	130	130	245	245	370	370	480	480	600	705
Stove / Microwave	45	45	50	50	55	55	60	60	65	70
Refrigerator 1/	45	50	50	50	85	85	85	85	85	85
Clothes washer	20	35	35	35	45	45	45	55	55	65
Clothes dryer	15	15	25	25	35	35	35	35	40	50
Dishwasher	35	35	45	45	60	60	70	70	80	95
Freezer 1/	70	70	70	70	70	70	70	70	70	70
Furnace fan	15	15	20	20	20	25	25	30	30	35
Room air conditioner	65	65	65	65	65	65	65	65	65	65
Television / radio	5	5	10	10	20	20	20	20	25	25
Lights	50	55	75	80	90	90	95	100	120	120
Space heater (portable) 1/	130	130	130	130	130	130	130	130	130	130
Misc. small appliances	30	30	45	45	65	65	75	80	95	105
Engine Heaters	195	195	195	195	195	195	195	195	195	195
Hot Tub	360	360	360	360	360	360	360	360	360	360

1/ If more than one of these appliances are present in a housing unit, multiply the KwH consumption times the number of appliances to determine the total KwH consumed for each appliance category.

NOTE: FOR APPLIANCES OPERATED BY FOSSIL FUELS, SEE TABLE 16A.

TABLE 16A MONTHLY FOSSIL FUEL CONSUMPTION: APPLIANCES AND EQUIPMENT
ALL REGIONS

Appliance/ Equipment	Gross Square Feet of Living Space									
	Under 301	301-500	501-700	701-1,100	1,101-1,300	1,301-1,500	1,501-1,900	1,901-2,100	2,101-2,500	Over 2,500
Hot water heater										
Natural Gas MCF	.55	.55	1.05	1.05	1.58	1.58	2.05	2.05	2.56	3.01
Propane Gallons	5.61	5.61	10.71	10.71	16.12	16.12	20.91	20.91	26.11	30.70
Fuel Oil Gallons	3.87	3.87	7.39	7.39	11.12	11.12	14.43	14.43	18.02	21.19
Kitchen Range										
Natural Gas MCF	.19	.21	.21	.21	.36	36	.36	.36	.36	.36
Propane Gallons	1.94	1.94	2.14	2.14	2.35	2.35	2.65	2.65	2.86	3.06
Fuel Oil Gallons	1.34	1.34	1.48	1.49	1.62	1.62	1.83	1.83	1.97	2.11
Refrigerator 1/										
Natural Gas MCF	.19	.21	.21	.21	.36	.36	.36	.36	.36	.36
Propane Gallons	1.94	2.14	2.14	2.14	3.67	3.67	3.67	3.67	3.67	3.67
Clothes dryer										
Natural Gas MCF	.06	.06	.11	.11	.15	.15	.15	.15	.17	.21
Propane Gallons	.61	.61	1.12	1.12	1.53	1.53	1.53	1.53	1.73	2.14
Freezer 1/										
Natural Gas MCF	.30	.30	.30	.30	.30	.30	.30	.30	.30	.30
Propane Gallons	3.06	3.06	3.06	3.06	3.06	3.06	3.06	3.06	3.06	3.06
Space heater (portable) 1/										
Natural Gas MCF	.55	.55	.55	.55	.55	.55	.55	.55	.55	.55
Propane Gallons	5.61	5.61	5.61	5.61	5.61	5.61	5.61	5.61	5.61	5.61
Fuel oil Gallons	3.87	3.87	3.87	3.87	3.87	3.87	3.87	3.87	3.87	3.87

1/ If more than one of these appliances are present in a housing unit, multiply the consumption times the number of appliances to determine the total consumed for each appliance category.

NOTE: To compute the cost per month for an appliance that is fueled by a fossil fuel, multiply the consumption listed by the unit cost found in Table 17 of this report.

G. WATER AND SEWER CONSUMPTION/COST CALCULATIONS

In accordance with OMB Circular No. A-45 and Departmental policies and guidelines, when utilities are furnished by the government, charges shall be based upon regional average residential rates and consumption levels applicable to private rental housing in the survey region.

Where regional survey procedures are used to establish base rental rates, the charges for government-furnished water and sewer services must be based upon *regional average* water and sewer rates, and not the rates prevailing in the nearest established community. In determining the regional average rates, the water and sewer rates for each survey community were obtained and averaged.

Thus, where the water service is unmetered, and where the government furnishes water and sewer services, *including well water and septic waste disposal systems*, the regional average flat rate charges, shown below, shall be used. These charges are based upon (1) the average of the monthly service costs (including taxes, service charges, etc.) in all surveyed communities; and (2) consumption levels (based on numbers of bedrooms) contained in planning guides published by the Department of Housing and Urban Development (HUD). The rates below are based upon the number of bedrooms contained in a dwelling.

Flat Rate Water and Sewer Charges

NORTHEAST REGION

Number of Bedrooms	Monthly Charges	Total
1 (or less)	$19.80 water + $20.40 sewer	= $40.20
2	$26.00 water + $26.50 sewer	= $52.50
3	$35.25 water + $34.50 sewer	= $69.75
4	$44.00 water + $43.00 sewer	= $87.00

H. GOVERNMENT PROVIDED METERED UTILITIES

Where the government provides the utilities, and the consumption is metered *at the housing unit level*, the following unit charges will apply.

TABLE 17 UTILITY CHARGES (COST PER UNIT)

NORTHEAST REGION

Do not calculate the total cost of electricity in steps, such as the first 500 KwH costs so much, then the second 500 KwH costs so much, etc.

a. Electricity

KwH Consumed Per Month	Charge Per KwH
0 – 500	$.150
501 – 1,000	$.143
1,001 – 1,500	$.141
Over 1,500	$.139

b. Fuel Oil #2 — $2.47 Per Gallon.

c. Propane — $2.15 Per Gallon.

d. Natural Gas — $14.93 Per MCF (1,000 cubic feet).

e. Water

Water Consumed Per Month	Cost Per Gallon
1 – 3,000 Gallons	$0.0066
3,001 – 5,000 Gallons	$0.0052
5,001 – 7,500 Gallons	$0.0047
Over 7,500 Gallons	$0.0044

f. Sewer

Sewer Consumed Per Month	Cost Per Gallon
1 – 3,000 Gallons	$0.0068
3,001 – 5,000 Gallons	$0.0053
5,001 – 7,500 Gallons	$0.0046
Over 7,500 Gallons	$0.0043

I. GARBAGE/TRASH REMOVAL SERVICE RATES

In the case of garbage and trash hauling, as with other government-provided services, OMB Circular No. A-45 requires the charges to be based upon the domestic rates for comparable services provided to occupants of private rental units in the survey area (region).

The garbage and trash services provided to housing occupants vary from weekly to daily service. Establishment of a service charge based upon the service in the nearest established community may or may not reflect a similar level of service. Therefore, the charge for garbage and trash collection, when conducted by the government, will, regardless of housing type, be **$20.10 per unit per month** in the Northeast region.

J. CHARGES FOR APPLIANCES AND RELATED SERVICES

OMB Circular No. A-45 requires agencies to charge occupants of government housing for appliances, furnishings and services that the government provides with the unit. The charges for appliances, furnishings and services most typically provided by federal agencies are found in Table 18. The monthly recapture cost of the items in Table 18 were determined from information gathered by contractors in the survey communities of all QMIS regions, and from special studies conducted by the QMIS Office.

Agencies providing appliances, furnishings or services that are not included in Table 18 are responsible for establishing an appropriate monthly charge that reflects the private market value of the item(s) provided. In such cases, the agency or bureau should advise the QMIS Office to ensure that subsequent regional survey reports include charges for all government-provided appliances, furnishings and services.

TABLE 18 MONTHLY CHARGES FOR APPLIANCES & RELATED SERVICES - ALL REGIONS (EFFECTIVE MARCH 4, 2007)

APPLIANCES		
Range (Gas / Electric) *	(+/-)	$3.65
Refrigerator *	(+/-)	3.30
Clothes Washer		3.85
Clothes Dryer		3.20
Dishwasher		3.15
Microwave Oven		1.20
Trash Compactor		3.65
Freezer		1.90
Freezer (Community)		1.00
Window Air Conditioner		
Refrigerated Unit		4.05
Evaporative (Swamp) Unit		3.05
Free Standing Stove		3.70
Fireplace Insert		4.40
Lawn Mower		3.75
Hot Tub		33.40
Community Laundry		
(Non-Coin Operated)		
Washer Only		1.90
Dryer Only		1.60
Washer and Dryer		3.50
ISOLATION ADJUSTMENT FACTOR		3.60

SERVICES AND FURNISHINGS	
Storage Shed (Per Unit)	$2.50
Furniture (Per Room)	11.10
Swimming Pool	
Private Pool	60.00
Community Pool	20.00
Satellite Dish	22.00
Cable Television	28.50
Premium Channel (Each)	19.15
Maid Service	78.05
Lawncare (Per Mowing)	
Houses (Excluding Plexes)	24.55
All Other Classes	12.35
Snow Removal (Per Removal)	14.20
Firewood (Per Cord)	146.05
ELECTRIC CREDITS	
Well pump (0-1 Bedroom)	-1.35
Well pump (2 Bedrooms)	-2.15
Well pump (3 Bedrooms)	-3.10
Well pump (4+ Bedrooms)	-4.25
Sewer Lift Pump (0-1 Bedroom)	-1.35
Sewer Lift Pump (2 Bedrooms)	-1.35
Sewer Lift Pump (3 Bedrooms)	-1.60
Sewer Lift Pump (4+ Bedrooms)	-2.15
Base Radio	-1.35
Remote Control Relay	-1.35
Sump Pump	-1.35
Radon Mitigation Fan	-12.60

**If the government provides one range and refrigerator, no additions or deductions are made.*
**If the government does not provide a range or a refrigerator, deduct the amount shown above.*
**If the government provides 2 or more ranges or refrigerators, add the amounts shown above for each appliance furnished in excess of one range and one refrigerator.*

VII. ADMINISTRATIVE ADJUSTMENTS

Once the MBRR is established, certain adjustments (e.g. for isolation and amenity deficiencies) are authorized by OMB Circular A-45. These administrative adjustments are established by OMB and are not derived from regional surveys conducted by the QMIS Office.

The administrative adjustments contained in OMB Circular A-45, and described below, are not authorized for dormitories/bunkhouses or transient units. This is because the rental rates for those housing classes are administratively established, through extensions of the principle of comparability, and are not based directly upon market comparability.

A. SITE AMENITY ADJUSTMENTS

Living conditions at some government housing sites are not always the same as those found in the survey communities. In the communities surveyed, the amenities discussed below (and in OMB Circular A-45) are generally present and their contributory value is included in the contract rent and in the MBRRs determined from the tables in this report. Thus, if any amenity listed below is present at the housing site, no positive adjustment is made for that amenity because its presence has already accounted for in the MBRR. However, the lack of an amenity discussed below represents a less desirable condition that should be reflected as a **negative** percentage adjustment to the MBRR or CPI-adjusted MBRR (CPI-MBRR), whichever is applicable.

1. **Reliability and adequacy of water supply**. The water delivery system at the housing site should provide potable water (free of significant discoloration or odor) and adequate pressure at usual outlets. If the water delivery system at the housing site does not meet these conditions, 3 percent should be deducted from the MBRR or CPI-MBRR, whichever is applicable.

2. **Reliability and adequacy of electric service**. Electric service at the housing site must equal or exceed a 100-ampere power system, and should provide 24-hour service under **normal** conditions. When evaluating the electric service, housing managers are reminded that OMB Circular A-45 recognizes that occasional temporary power outages are considered to be "normal" conditions. Furthermore, if an adequate back-up generator is available, then the electric service amenity will be considered to be reliable and adequate – regardless of the reliability of the primary power source. When electric service is inadequate and unreliable, 3 percent should be deducted from the MBRR or CPI-MBRR, whichever is applicable.

3. **Reliability and adequacy of fuel for heating, cooling and cooking.** There should be sufficient fuel storage capacity to meet prevailing weather conditions and needs. Where electricity is used as the heating, cooling or cooking "fuel," an adjustment can only be made when a deduction has been made for deficient electric service (see paragraph VII.A.2, above). If the fuel delivery/storage system is inadequate, 3 percent should be deducted from the MBRR or the CPI-MBRR, whichever is applicable.

4. **Reliability and adequacy of police protection**. Law enforcement personnel, including government employees with law enforcement authority, should be available on a 24-hour basis. OMB Circular A-45 defines "availability" as the ability of law enforcement officers to respond to emergencies at the

housing site as quickly as a law enforcement officer in the nearest established community could respond to an emergency in the nearest established community.

OMB Circular A-45 further provides that where part-time officers serve the housing site, the fact that the officers are part-time does not necessarily mean that they are less available than officers in the nearest established community. The important point is that the availability determination must be based on comparative response times (housing site vs. the nearest established community) – not the employment conditions of the officers serving the housing site.

Finally, OMB Circular A-45 provides that gaps in availability due to temporary illness or injury, use of annual leave, temporary duties, training, or other short absences, do not render law enforcement personnel "unavailable" at the housing site.

If, after applying these guidelines, it is determined that the law enforcement protection at the housing site is unreliable and inadequate in comparison to the reliability and adequacy of law enforcement protection in the nearest established community, 3 percent should be deducted from the MBRR or CPI-MBRR, whichever is applicable.

5. **Fire insurance availability or reliability and adequacy of fire protection**. Fire insurance should be available (for the housing) with the premium charge based upon a rating equal to the rating available to comparable housing located in the nearest established community. Alternatively, adequate equipment, an adequate supply of water (or fire retardant chemical), and trained personnel should be available on a 24-hour basis to meet foreseeable emergencies. OMB Circular A-45 provides that **if** either element is present (adequate insurance or an adequate fire fighting capability), no adjustment is authorized. If both elements are missing, 3 percent should be deducted from the MBRR or CPI-MBRR, whichever is applicable.

6. **Reliability and adequacy of sanitation service**. An adequately functioning sewage disposal system and a solid waste/refuse disposal system should be available. OMB Circular A-45 considers septic, cesspool or other systems adequate, even though they may require periodic maintenance, as long as they are usable during periods of occupancy. If the sanitation service at the housing site is unreliable or inadequate, 3 percent should be deducted from the MBRR or CPI-MBRR, whichever is applicable.

7. **Reliability and adequacy of telephone service**. Access to commercial telephone facilities should be available on a 24-hour basis. Deductions (except as provided below) are not allowed for occasional temporary interruptions of telephone service. OMB Circular A-45 allows specific deductions for various levels of service and privacy. These are explained below.

   a. The MBRR or CPI-MBRR (whichever is applicable) should be reduced by 3 percent if telephone service is not available within the unit or within 100 yards of the unit.

   b. The MBRR or CPI-MBRR (whichever is applicable) should be reduced by 2 percent if there is no telephone service within the unit, but telephone service (either private or party line) is available within 100 yards of the unit.

c. The MBRR or CPI-MBRR (whichever is applicable) should be reduced by 1 percent if telephone service is available in the employee's unit, but the service is not a private line and/or the service is not accessible on a 24-hour per day basis.

8. **Noise and odors**. If there are frequent disturbing or offensive noises and/or odors at the housing site, 3 percent should be deducted from the MBRR or CPI-MBRR, whichever is applicable.

9. **Miscellaneous improvements**. One or more of the following improvements should be available at the housing site: paved roads/streets, sidewalks or street lights. If any one of these improvements is present, no deduction is authorized. If all three of these improvements are missing (i.e., there are no paved roads/streets and there are no sidewalks and there are no street lights), 1 percent should be deducted from the MBRR or CPI-MBRR, whichever is applicable.

B. ISOLATION ADJUSTMENT

In some cases, government housing is located far from the nearest established community (see paragraph IX.C for the OMB's definition of "established community"). In addition, different modes of transportation (travel categories) may serve to further isolate the housing site from the nearest established community. In situations where the housing location and the travel categories meet the requirements contained in OMB Circular A-45, an isolation adjustment should be applied. To determine whether an isolation adjustment applies, and the amount of the adjustment, if applicable, you should follow the steps in the Isolation Adjustment Computation Schedule, shown on the following page. This schedule is a (modified) reproduction of the appendix to OMB Circular A-45, and is included in this report for illustrative purposes only. Therefore, you should use the form prescribed by your agency or bureau when documenting the isolation adjustment.

Isolation Adjustment Computation

- Step 1. Determine the one-way distance in miles (from the individual unit to the nearest established community) for each category of transportation listed in Figure 1. Enter mileage(s) in the appropriated block(s) under Column B.

- Step 2. Multiply mileage figures entered in Column B by point values listed in Column A for each affected category of transportation to produce one-way points for each category. Add 29 points to the category 4 subtotal and 27 points to the category 5 subtotal to reflect relative differences in cost or time by use of these modes of travel.

- Step 3. Add all categories of one-way points in Column C to produce one-way points. (If the total does not exceed 30 points, there is no adjustment for isolation.)

Figure 1

	Column A		Column B			Column C
Category of Travel	Point Value		One-way Miles			One-way Points
(1) Paved road or rail	1.0	X	____	=		____
(2) Unpaved but improved road	1.5	X	____	=		____
(3) Unimproved road	2.0	X	____	=		____
(4) Water, snowmobile, pack animal, foot or other special purpose conveyance	2.5	X	____	=	____+29	____
(5) Air	4.0	X	____	=	____+27	____
TOTAL ONE-WAY POINTS				=		____

- Step 4. Calculate the Isolation Adjustment Factor (IAF) using the following OMB formula: Multiply 2 (to reflect round-trip points) by 4 (to reflect number of trips per month) and then multiply by GSA's current automobile allowance per mile as of the last day of September of each year. For example, the GSA mileage allowance, as of September 30, 2006, was $0.445 per mile, resulting in an IAF of $3.60 per point.

ISOLATION ADJUSTMENT FACTOR = $3.60 per point

- Step 5. Multiply total adjusted points by the Isolation Adjustment Factor to produce the monthly adjustment for isolation (rounded to the nearest whole dollar).

MONTHLY ADJUSTMENT = _____

C. LOSS OF PRIVACY

Some occupants are subject to a loss of privacy during non-duty hours by virtue of public visits which occur several times daily. In other cases, occupants may be inhibited from enjoying the full range of activities normally associated with living in private rental housing (such as where restrictions are imposed on activities in housing at national cemeteries, or where units are in view of prison inmates). In such cases, OMB Circular A-45 allows a deduction from the MBRR or CPI-MBRR (whichever is applicable) of up to 10 percent. OMB Circular A-45 instructs housing managers to establish proportional adjustments to reflect situations of less frequency or seriousness in their impact upon privacy or usage, or to reflect seasonal variations.

D. EXCESSIVE OR INADEQUATE SIZE

Occupants are sometimes provided dwellings that are excessively large or small for their needs. This may be because the range and variety of units available at an installation may be much less than that which is available in private rental markets. In such cases, OMB Circular A-45 allows a deduction from the MBRR or the CPI-MBRR (whichever is applicable) of up to 10 percent. The Circular instructs that the deduction should be in direct proportion to the degree of excess or inadequacy, and that the deduction must not continue beyond one month after suitable housing is made available. Before this adjustment is applied, local housing managers should consult with managers within their agencies or bureaus to determine whether other alternatives (such as closing off rooms and other excess space) would offer a more suitable means of adjustment.

E. LIMITATIONS TO ADMINISTRATIVE ADJUSTMENTS

Administrative adjustments cannot be applied without limit. OMB Circular A-45 provides that the MBRR or CPI-MBRR cannot be reduced by more than 50 percent unless an isolation is authorized and applied. For units which receive an isolation adjustment, the MBRR or CPI-MBRR may not be reduced by more than 60 percent. These limitations do not apply to excessive heating or cooling adjustments, which are described in paragraph IX.A of this report.

VIII. CONSUMER PRICE INDEX (CPI) ADJUSTMENTS

OMB Circular A-45 requires annual verification and adjustment (when necessary) of the following rental components that are presented in this report: (1) the Monthly Base Rental Rates (MBRRs); (2) the charges for related facilities (utilities, appliances, furnishings and services); and (3) the Isolation Adjustment Factor (IAF). These verifications and adjustments are to be made in each interim year between regional surveys.

Generally, OMB Circular A-45 specifies that these changes are to be based upon September index levels of specified components of the Consumer Price Index (CPI) and the GSA temporary duty mileage allowance in effect as of September 30 of each year. These changes must be implemented at the beginning of the first pay period in March of each following year.

The QMIS Office is responsible for determining the amounts of these changes, and for providing QMIS Rental Program participants with the information, the software, and the instructions needed to implement the required changes. This information is usually provided to each National Housing Officer in November of each year, and new CPI- and Regional Survey-adjusted rental formulas are distributed with the updated QMIS software in December each year. National, regional or installation housing managers (as required by your agency or bureau) are responsible for implementing these annual rental adjustments.

IX. OTHER OMB CIRCULAR A-45 RENT CONSIDERATIONS

A. EXCESSIVE HEATING OR COOLING COSTS

OMB Circular A-45 authorizes a deduction from the Monthly Base Rental Rate (MBRR) or the Consumer Price Index-adjusted Monthly Base Rental Rate (CPI-MBRR), whichever is applicable, when housing is unusually costly to heat or cool. This adjustment is allowed only when: (1) the excessive heating or cooling costs are due to the poor design of the unit or the lack of adequate insulation/weather-proofing; and (2) when the energy/fuel used for heating and/or cooling is metered. This adjustment will vary from quarter to quarter, but is the difference between the actual heating and/or cooling costs paid by the occupant and 125 percent of the cost of heating and/or cooling a comparable (but adequately constructed and insulated) dwelling located in the same climate zone. For more information on this adjustment, you should consult your agency/bureau policies, or the QMIS Office.

B. INCREMENTAL ADJUSTMENTS

New baseline regional surveys or annual CPI adjustments may occasionally increase a unit's rent by more than 25 percent. When this occurs, OMB Circular A-45 allows housing managers to impose the increase incrementally over a period of not more than one year. The Circular also requires that such increases must be applied in equal increments on at least a quarterly basis. In effect, 25 percent of the increase is implemented during the first pay period in March; 50 percent of the increase is implemented three months later; 75 percent of the increase is implemented six months later; and 100 percent of the increase is implemented nine months later. Incremental adjustments apply only to existing tenants, and do not apply to non-federal tenants.

C. ESTABLISHED COMMUNITY

OMB Circular A-45 has established the following minimum standards for use in determining which population centers (cities, towns, etc.) may be used as "established communities" when determining rents.

1. An established community must have a year-round population of 1,500 or more (5,000 or more in Alaska). The population determinations must be based upon the most recently conducted decennial census.

2. An established community must have at least one doctor and one dentist, who are available to all occupants on a non-emergency basis.

3. An established community must have a private rental market with housing available to the general public. This requirement excludes communities on military posts, Indian reservations and other government installations which may meet the other criteria contained in paragraphs IX.C.1 and C.2 above.