
RENTAL SURVEY



COVERING GOVERNMENT-FURNISHED HOUSING LOCATED IN

GUAM

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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:

Michael Keegan
*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 on Guam in July 2007. This survey was undertaken as specified in the Office of Management and Budget (OMB) Circular Number A-45 and in the U.S. Department of the Interior Quarters Handbook (400 DM.) The QMIS Office has not had a client in the Guam area since 2000, so the last field survey for Guam was conducted by our office in June 1999.

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. No apartments, mobile homes, or trailer pads were surveyed in Guam. Rental rates for dormitories and transient tenants 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 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. CONTRACTING FOR THE PRIVATE RENTAL SURVEY

A. DETERMINATION OF THE COMMUNITIES TO BE SURVEYED

The communities from which the comparables (private rental market samples) were taken are shown on Table 1 below. Their locations and populations were determined to enable selection of established communities nearest to concentrations of government housing.

TABLE 1 COMMUNITIES SURVEYED IN GUAM

<u>COMMUNITY</u>	<u>2000 CENSUS POP.</u>
AGAT	3,988
APRA (Santa Rita)	3,347
AGANA (Hagatna)	3,732
DEDEDO	3,181
TAMUNING	10,833
YONA	2,332
CHALAN PAGO ORDOT	2,666
MONGMONG TOTO	3,307
BARRIGADA	4,417
MANGILAO	7,794
YIGO	6,391

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. **In Guam, differences between these communities was found to be statistically insignificant, and therefore local differences were not applied – only regional rents were established.** A complete discussion of this process is contained in Section III of this report.

B. DETERMINATION OF THE HOUSING CLASSES TO BE SURVEYED

In order to determine which housing classes to survey, the inventory of Navy civilian housing on Guam was separated into housing classes. Table 2 revealed the following information by rent class:

TABLE 2 GOVERNMENT-FURNISHED HOUSING (BY RENT CLASS) IN GUAM

Rent Class	# of Units	Avg. Age	Age Range	Avg. Sq. Ft.	Sq. Ft. Range
Houses					
4+ Bedrooms	349	33	2 to 62	2,117	1,239 to 3,086
3 Bedrooms	495	44	2 to 62	1,427	1,033 to 3,448
2 Bedrooms	427	23	11 to 53	1,539	898 to 2,758
TOTALS	1,271	34	2 to 62	1,654	898 to 3,448

NOTE: The above data was extracted from the latest Navy civilian housing inventory data. The figures are subject to revision.

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, and for those housing classes the government is providing. Thus, comparables were not obtained for apartments, mobile homes, cabins or lookouts, temporary housing, travel trailers, bunkhouses/dormitories, transient units or tents.

One housing class (houses/plexes) was ultimately selected for field survey and statistical analysis. The government inventory data was used to create a “Sample Plan” to guide the contractor in the conduct of the survey. The number of observations obtained by the contractor in each community surveyed varied, depending upon the number available in the private rental market.

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 V.

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 U.S. Navy Housing Office in Guam. The private rental survey was completed by Delta-21 Resources Inc. of Knoxville, Tennessee, during July 2007. A total of 331 private rental housing comparables were sampled. In addition, electric costs and other utility charges were collected in Guam. The private rental housing costs that were obtained reflected rental rates at that time.

III. SURVEY PRINCIPLES AND PROCEDURES

A. SURVEY PRINCIPLES

The purpose of a market survey is to determine and establish reasonable housing unit rents through an analysis of the 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 (houses, apartments and mobile homes.) 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 typically 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. In Guam, however, differences between communities was found to be statistically insignificant, and therefore community variables (indicating local market differences) were not applied.

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.

IV. 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. 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 3a, 3b, 3c and 3d. 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 7 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 four rental rate charts for single-family housing in Guam. Instructions for computing rental rates for bunkhouses/dormitories and transient units are also included.

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). 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 carport, a central refrigerated air conditioning system, and 1,276 gross square feet of living space. The house, located near Dededo, Guam, 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 \$1,316.

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 \$190 for a full extra bathroom. As the house in this example has only ½ of an extra bathroom, the adjustment is $\$190 \times .5$ (½ extra bathroom) = \$95. Add \$95 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 \$30 for central air conditioning.

The fifth adjustment is for a carport. Follow the column headed “**Carport (Any Size)**” down to the 1,200 Sq Ft row. \$50 should be charged for the carport. Add \$50 to the rent.

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)	\$1,316.00
Extra Bath Adjustment (.5 X \$190).....	+ 95.00
Fair Exterior Condition Adjustment.....	- 15.00
Fair Interior Condition Adjustment.....	- 15.00
Central Air Conditioning Adjustment.....	+ 30.00
Carport Adjustment	<u>+ 50.00</u>
Monthly Base Rent.....	\$1,461.00
Monthly Base Rent (Rounded to nearest \$1)	\$1,461.00

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
GUAM**

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 (Any Size)	Carport (Any Size)	Plex
700	\$1,164	\$1,130	\$1,095	\$1,060	\$1,026	\$991	\$921	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
800	\$1,230	\$1,195	\$1,161	\$1,126	\$1,091	\$1,057	\$987	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
900	\$1,296	\$1,261	\$1,226	\$1,192	\$1,157	\$1,122	\$1,053	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
1,000	\$1,361	\$1,327	\$1,292	\$1,257	\$1,223	\$1,188	\$1,119	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
1,100	\$1,427	\$1,392	\$1,358	\$1,323	\$1,288	\$1,254	\$1,184	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
1,200	\$1,493	\$1,458	\$1,423	\$1,389	\$1,354	\$1,319	\$1,250	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
1,300	\$1,559	\$1,524	\$1,489	\$1,454	\$1,420	\$1,385	\$1,316	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
1,400	\$1,624	\$1,590	\$1,555	\$1,520	\$1,485	\$1,451	\$1,381	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
1,500	\$1,690	\$1,655	\$1,621	\$1,586	\$1,551	\$1,516	\$1,447	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
1,600	\$1,756	\$1,721	\$1,686	\$1,652	\$1,617	\$1,582	\$1,513	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
1,700	\$1,821	\$1,787	\$1,752	\$1,717	\$1,683	\$1,648	\$1,578	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
1,800	\$1,887	\$1,852	\$1,818	\$1,783	\$1,748	\$1,714	\$1,644	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
1,900	\$1,953	\$1,918	\$1,883	\$1,849	\$1,814	\$1,779	\$1,710	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
2,000	\$2,018	\$1,984	\$1,949	\$1,914	\$1,880	\$1,845	\$1,776	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
2,100	\$2,084	\$2,049	\$2,015	\$1,980	\$1,945	\$1,911	\$1,841	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
2,200	\$2,150	\$2,115	\$2,080	\$2,046	\$2,011	\$1,976	\$1,907	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
2,300	\$2,216	\$2,181	\$2,146	\$2,111	\$2,077	\$2,042	\$1,973	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73

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

Regardless of adjustments, the minimum base rent is \$300 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
GUAM**

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 (Any Size)	Carport (Any Size)	Plex
500	\$960	\$925	\$890	\$856	\$821	\$786	\$717	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
600	\$1,025	\$991	\$956	\$921	\$887	\$852	\$783	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
700	\$1,091	\$1,056	\$1,022	\$987	\$952	\$918	\$848	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
800	\$1,157	\$1,122	\$1,087	\$1,053	\$1,018	\$983	\$914	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
900	\$1,223	\$1,188	\$1,153	\$1,118	\$1,084	\$1,049	\$980	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
1,000	\$1,288	\$1,254	\$1,219	\$1,184	\$1,149	\$1,115	\$1,045	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
1,100	\$1,354	\$1,319	\$1,285	\$1,250	\$1,215	\$1,180	\$1,111	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
1,200	\$1,420	\$1,385	\$1,350	\$1,316	\$1,281	\$1,246	\$1,177	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
1,300	\$1,485	\$1,451	\$1,416	\$1,381	\$1,347	\$1,312	\$1,242	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
1,400	\$1,551	\$1,516	\$1,482	\$1,447	\$1,412	\$1,378	\$1,308	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
1,500	\$1,617	\$1,582	\$1,547	\$1,513	\$1,478	\$1,443	\$1,374	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
1,600	\$1,682	\$1,648	\$1,613	\$1,578	\$1,544	\$1,509	\$1,440	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
1,700	\$1,748	\$1,713	\$1,679	\$1,644	\$1,609	\$1,575	\$1,505	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
1,800	\$1,814	\$1,779	\$1,744	\$1,710	\$1,675	\$1,640	\$1,571	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
1,900	\$1,880	\$1,845	\$1,810	\$1,775	\$1,741	\$1,706	\$1,637	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
2,000	\$1,945	\$1,911	\$1,876	\$1,841	\$1,806	\$1,772	\$1,702	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
2,100	\$2,011	\$1,976	\$1,942	\$1,907	\$1,872	\$1,837	\$1,768	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73

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

Regardless of adjustments, the minimum base rent is \$300 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
GUAM**

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 (Any Size)	Carport (Any Size)	Plex
300	\$755	\$720	\$686	\$651	\$616	\$582	\$512	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
400	\$821	\$786	\$751	\$717	\$682	\$647	\$578	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
500	\$887	\$852	\$817	\$782	\$748	\$713	\$644	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
600	\$952	\$918	\$883	\$848	\$813	\$779	\$709	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
700	\$1,018	\$983	\$949	\$914	\$879	\$844	\$775	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
800	\$1,084	\$1,049	\$1,014	\$980	\$945	\$910	\$841	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
900	\$1,149	\$1,115	\$1,080	\$1,045	\$1,011	\$976	\$906	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
1,000	\$1,215	\$1,180	\$1,146	\$1,111	\$1,076	\$1,042	\$972	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
1,100	\$1,281	\$1,246	\$1,211	\$1,177	\$1,142	\$1,107	\$1,038	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
1,200	\$1,346	\$1,312	\$1,277	\$1,242	\$1,208	\$1,173	\$1,104	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
1,300	\$1,412	\$1,377	\$1,343	\$1,308	\$1,273	\$1,239	\$1,169	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
1,400	\$1,478	\$1,443	\$1,408	\$1,374	\$1,339	\$1,304	\$1,235	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
1,500	\$1,544	\$1,509	\$1,474	\$1,439	\$1,405	\$1,370	\$1,301	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
1,600	\$1,609	\$1,575	\$1,540	\$1,505	\$1,470	\$1,436	\$1,366	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
1,700	\$1,675	\$1,640	\$1,606	\$1,571	\$1,536	\$1,501	\$1,432	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
1,800	\$1,741	\$1,706	\$1,671	\$1,637	\$1,602	\$1,567	\$1,498	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
1,900	\$1,806	\$1,772	\$1,737	\$1,702	\$1,668	\$1,633	\$1,563	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73

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

Regardless of adjustments, the minimum base rent is \$300 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
GUAM**

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 (Any Size)	Carport (Any Size)	Plex
100	\$551	\$516	\$481	\$446	\$412	\$377	\$308	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
200	\$616	\$582	\$547	\$512	\$477	\$443	\$373	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
300	\$682	\$647	\$613	\$578	\$543	\$508	\$439	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
400	\$748	\$713	\$678	\$644	\$609	\$574	\$505	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
500	\$813	\$779	\$744	\$709	\$675	\$640	\$570	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
600	\$879	\$844	\$810	\$775	\$740	\$706	\$636	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
700	\$945	\$910	\$875	\$841	\$806	\$771	\$702	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
800	\$1,010	\$976	\$941	\$906	\$872	\$837	\$768	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
900	\$1,076	\$1,041	\$1,007	\$972	\$937	\$903	\$833	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
1,000	\$1,142	\$1,107	\$1,072	\$1,038	\$1,003	\$968	\$899	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
1,100	\$1,208	\$1,173	\$1,138	\$1,103	\$1,069	\$1,034	\$965	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
1,200	\$1,273	\$1,239	\$1,204	\$1,169	\$1,134	\$1,100	\$1,030	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
1,300	\$1,339	\$1,304	\$1,270	\$1,235	\$1,200	\$1,165	\$1,096	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
1,400	\$1,405	\$1,370	\$1,335	\$1,301	\$1,266	\$1,231	\$1,162	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73
1,500	\$1,470	\$1,436	\$1,401	\$1,366	\$1,332	\$1,297	\$1,227	+\$190	+\$30	-\$15	-\$20	+\$30	+\$336	+\$50	-\$73

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

Regardless of adjustments, the minimum base rent is \$300 per month.

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

C. 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.

V. 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 7) are based upon U.S. 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 Guam 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 Guam.
- 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 Guam 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

The methodology for determining the quantity and cost of energy required for space heating is not present in this report. Since there are no heating degree days in Guam, the government furnished housing in Guam does not have space heating systems.

D. SPACE COOLING CONSUMPTION/COST CALCULATIONS

To illustrate the procedure for calculating the cost of cooling with electricity, a single-story 1,276 square-foot house, with no basement, located in Guam, will be used as an example.

1. The first step is to select from Table 4 the housing prototype (I through VI) which most closely describes the quarters unit at issue. In this example, Prototype I (single family, one story, partial or no basement) should be selected.
2. The second step is to determine from Table 4 the annual KwH consumption appropriate for the Cooling Degree Days (CDD) and the gross square footage of the house in this example. Although in other U.S. Regions, this calculation uses the CDDs of the specific community, Guam has a uniform climate, with 5,190 CDDs at all locations on the island. Table 4 also includes the HUD MPS Cooling Zone Conversion factor for each Prototype. Therefore it reflects the annual KwH required for space cooling each of the six housing prototypes in Guam (or any location with 5,190 CDDs in HUD Zone 1.) The house used in this example is 1,276 square feet in size, and lies between 1,200 and 1,400 square feet. Round down to 1,200 square feet. From Table 4 (1,200 square feet and Prototype I), 34,852 KwH of electricity are consumed annually to space cool the unit in the example.
3. The third step is to calculate the monthly KwH consumption by dividing the annual KwH consumption by 12 (months). In this instance, the monthly consumption is 2,904.33 KwH ($34,852 \text{ annual KwH} / 12 = 2,904.33$).
4. The fourth step, the Coefficient of Performance (CoP) adjustment, is made to account for differences in the efficiencies between refrigerated air and evaporative (swamp) central cooling systems.
 - a. Refrigerated air cooling. For a central refrigerated air cooling system, the monthly KwH (computed in step 3 above) is divided by a factor of 2. In this example, the monthly KwH requirement for central refrigerated air cooling is computed as $2,904.33 / 2 = 1,452.17$ KwH, or 1,452 KwH (rounded) per month.
 - b. Evaporative (swamp) cooling. For a central evaporative cooling system, the monthly KwH (computed in step 3, above) is divided by a factor of 6.66.

5. The final step is to compute the monthly charge for the electricity consumed. This is done by multiplying the charge per Kwh times the CoP-adjusted Kwh per month. The appropriate charge per Kwh may be found in the table below.

<u>Kwh Consumed</u> <u>Per Month</u>	<u>Guam</u> <u>Charge per Kwh</u>
1 – 500	\$.169
501 – 1,000	\$.188
1,001 – 1,500	\$.195
Over 1,500	\$.198

The average monthly CoP-adjusted consumption (1,452 Kwh) falls in the “1,001 – 1,500” Kwh range. The appropriate charge will be \$0.195 per Kwh. Therefore, the monthly charges for cooling the 1,276 square-foot house used in this example would be computed as 1,452 Kwh x \$0.195 = \$283.14 monthly.

TABLE 4 ANNUAL KWH USAGE (ELECTRIC SPACE COOLING) IN GUAM

Assumes: Guam Cooling Degree Days = 5,190 CDD

Includes: MPS Cooling Zone Conversion Factors for HUD Zone 1

Gross Sq Ft	Single Family One Story No Basement	Single Family One Story 50% Basement	Single Family Two Story No Basement	Single Family Two Story 50% Basement	Apartments	Mobile Homes
	I	II	III	IV	V	VI
100	2,904	2,086	2,459	2,727	1,619	10,915
200	5,809	4,172	4,919	5,455	3,237	21,829
400	11,617	8,345	9,837	10,910	6,475	43,658
600	17,426	12,517	14,756	16,364	9,712	65,487
800	23,235	16,689	19,674	21,819	12,950	87,317
1,000	29,043	20,861	24,593	27,274	16,187	109,146
1,200	34,852	25,034	29,511	32,729	19,425	130,975
1,400	40,660	29,206	34,430	38,184	22,662	152,804
1,600	46,469	33,378	39,348	43,638	25,900	174,633
1,800	52,278	37,550	44,267	49,093	29,137	196,462
2,000	58,086	41,723	49,185	54,548	32,375	218,291
2,200	63,895	45,895	54,104	60,003	35,612	240,121
2,400	69,704	50,067	59,023	65,457	38,850	261,950
2,600	75,512	54,239	63,941	70,912	42,087	283,779
2,800	81,321	58,412	68,860	76,367	45,325	305,608
3,000	87,129	62,584	73,778	81,822	48,562	327,437

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

The example in the preceding section dealt with the charges for space 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 electricity charges for cooling.

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 5. It is assumed that every government quarter uses a television/radio, lights, miscellaneous small appliances, and a furnace fan, if central heating is installed. Be sure to add these items from Table 5 in addition to any other applicable items in determining the total consumption.

To use Table 5, first determine the finished floor space square footage range within which a specific housing unit falls. Then, using the values in Table 5, 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, or room (window) air conditioner, multiply the Kwh shown in the table times the number of refrigerators, freezers, or room air conditioners that are present in the housing unit to determine the total monthly Kwh consumption for these appliances.

If an appliance listed in Table 5 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 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. These unit charges are shown in Table 6.

TABLE 5 MONTHLY KWH USAGE: APPLIANCES AND EQUIPMENT
ALL REGIONS

Appliance/ Equipment	<u>Gross Square Feet of Living Space</u>									
	<u>Under 301</u>	<u>301- 500</u>	<u>501- 700</u>	<u>701- 1,100</u>	<u>1,101- 1,300</u>	<u>1,301- 1,500</u>	<u>1,501- 1,900</u>	<u>1,901- 2,100</u>	<u>2,101- 2,500</u>	<u>Over 2,500</u>
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.

F. WATER AND SEWER CONSUMPTION/COST CALCULATIONS

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 Guam; 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 unit.

Flat Rate Water and Sewer Charges in Guam

<u>Number of Bedrooms</u>	<u>Monthly Charges</u>	<u>Total</u>
1 (or less)	\$14.70 water + \$21.90 sewer	= \$36.60
2	\$19.50 water + \$22.00 sewer	= \$41.50
3	\$29.25 water + \$22.00 sewer	= \$51.25
4	\$40.00 water + \$22.00 sewer	= \$62.00

G. 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 6 UTILITY CHARGES (COST PER UNIT) IN GUAM

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**

<u>Kwh Consumed Per Month</u>	<u>Charge Per Kwh</u>
0 – 500	\$.169
501 – 1,000	\$.188
1,001 – 1,500	\$.195
Over 1,500	\$.198

b. **Water**

<u>Water Consumed Per Month</u>	<u>Cost Per Gallon</u>
1 – 3,000 Gallons	\$0.0049
3,001 – 5,000 Gallons	\$0.0039
5,001 – 7,500 Gallons	\$0.0039
Over 7,500 Gallons	\$0.0040

c. **Sewer**

<u>Sewer Consumed Per Month</u>	<u>Cost Per Gallon</u>
1 – 3,000 Gallons	\$0.0073
3,001 – 5,000 Gallons	\$0.0044
5,001 – 7,500 Gallons	\$0.0029
Over 7,500 Gallons	\$0.0022

H. GARBAGE/TRASH REMOVAL SERVICE RATES

The charge for garbage and trash collection, when conducted by the government, will, regardless of housing type, be **\$10.00 per unit per month** in the Guam region.

I. CHARGES FOR APPLIANCES AND RELATED SERVICES

OMB Circular 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 7. The monthly recapture cost of the items in Table 7 were determined from information gathered nationwide by contractors and from special studies conducted by the QMIS Office.

Agencies providing appliances, furnishings or services that are not included in Table 7 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 7 MONTHLY CHARGES FOR APPLIANCES & RELATED SERVICES - ALL REGIONS
(EFFECTIVE MARCH 4, 2007)**

APPLIANCES		SERVICES AND FURNISHINGS	
Range (Gas / Electric) *	(+/-) \$3.65	Storage Shed (Per Unit)	\$2.50
Refrigerator *	(+/-) 3.30	Furniture (Per Room)	11.10
Clothes Washer	3.85	Swimming Pool	
Clothes Dryer	3.20	Private Pool	60.00
Dishwasher	3.15	Community Pool	20.00
Microwave Oven	1.20	Satellite Dish	22.00
Trash Compactor	3.65	Cable Television	28.50
Freezer	1.90	Premium Channel (Each)	19.15
Freezer (Community)	1.00	Maid Service	78.05
Window Air Conditioner		Lawncare (Per Mowing)	
Refrigerated Unit	4.05	Houses (Excluding Plexes)	24.55
Evaporative (Swamp) Unit	3.05	All Other Classes	12.35
Free Standing Stove	3.70	Snow Removal (Per Removal)	14.20
Fireplace Insert	4.40	Firewood (Per Cord)	146.05
Lawn Mower	3.75		
Hot Tub	33.40	<u>ELECTRIC CREDITS</u>	
		Well pump (0-1 Bedroom)	-1.35
Community Laundry		Well pump (2 Bedrooms)	-2.15
(Non-Coin Operated)		Well pump (3 Bedrooms)	-3.10
Washer Only	1.90	Well pump (4+ Bedrooms)	-4.25
Dryer Only	1.60		
Washer and Dryer	3.50	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
ISOLATION ADJUSTMENT FACTOR	3.60	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.*

VI. 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 VI.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. In situations where the housing location and the travel modes meet the requirements contained in OMB Circular A-45, an isolation adjustment should be applied. Since none of the Government-provided housing on Guam is eligible for an isolation adjustment, instructions for computation of this administrative adjustment are not included here. Contact the QMIS Office for more information.

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 housing that is 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. These limitations do not apply to excessive heating or cooling adjustments, which are described in paragraph VII.A of this report.

VI. 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.

VII. 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.