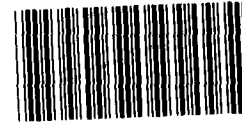# GAO

United States
General Accounting Office
Washington, D.C. 20548

Resources, Community, and
Economic Development Division

B-249669

147289

August 7, 1992

The Honorable Barbara A. Mikulski
Chair
Subcommittee on VA, HUD and
  Independent Agencies
Committee on Appropriations
United States Senate

Dear Madam Chair:

On July 1, 1992, you asked us to examine aspects of the
Department of Housing and Urban Development's (HUD) process
for allocating fiscal year 1992 Comprehensive Grant Program
funds to public housing agencies (PHAs). The grant program
distributes funds to PHAs to modernize their public housing
projects on the basis of a needs-based formula. First, you
asked us to determine whether factors aside from HUD's
regulations were used to allocate funds. Second, you asked
us to examine the bases for changes between HUD's
preliminary allocation estimates (Dec. 1991) to individual
PHAs and its final allocations (May 1992).

In summary, we found that HUD's actions to allocate
Comprehensive Grant Program funds were consistent with its
final regulations. In addition, our limited spot-checking
of HUD's data (such as the number of housing units
administered by PHAs) used to produce the final allocations
did not disclose any instances in which data were
inappropriately changed.

Differences between HUD's preliminary estimates and the
final allocations to PHAs resulted from HUD's preliminary
estimates being based on unverified estimates of PHAs'
characteristics (such as the number of PHA units and age of
projects) available at HUD's headquarters at the time.
However, to prepare the final allocations, HUD asked its
field offices to use their records to produce the needed
data and have the data verified by each PHA. The
verification process caused the underlying data to change,
resulting in revisions to PHAs' modernization needs.

GAO/RCED-92-259R, HUD's Modernization Allocation

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Even if the data verification process resulted in a PHA's having greater modernization needs, as determined by HUD's formula, its final allocation could decrease. This result occurs when, collectively, other PHAs' modernization needs increase to a greater extent, given that the total amount available for modernization funding remains unchanged. Thus, a single PHA cannot determine why its final Comprehensive Grant Program allocation is different from its preliminary estimate unless it knows how all other PHAs' modernization needs changed.

BACKGROUND

Public housing is owned and operated by over 3,400 PHAs and Indian Housing Authorities (referred to in this letter as PHAs, collectively) under agreements with HUD. About 1.3 million families live in public housing. HUD provides financial assistance to PHAs to build, operate, and modernize public housing. In fiscal year 1992, HUD plans to provide about $2.7 billion to help PHAs modernize their public housing projects, about $2 billion of which is for the Comprehensive Grant Program.

Prior to fiscal year 1992, PHAs competed with other PHAs in their area for modernization funds. In November 1990 the Congress passed the National Affordable Housing Act (P.L. 101-625), which requires, in part, that HUD allocate modernization funds to PHAs by using a needs-based formula starting in fiscal year 1992. The act requires that HUD's allocation formula include PHA, community, and project characteristics, such as the (1) average number of bedrooms in a project, (2) proportion of units available for occupancy to very large families, (3) extent to which units are in high-rise elevator projects, (4) age of projects, (5) cost of rehabilitating property in the area, and (6) extent of population decline from 1970 to 1980. The act also allows HUD to include any other factors that it considers appropriate, provided, however, that if it establishes any new criteria or amends criteria set out in the act, HUD must do so through rulemaking.

In fiscal year 1992, HUD is to allocate funds using a needs-based formula for each PHA with 500 or more units. For fiscal year 1993 and subsequent years, HUD is to use

the needs-based formula for PHAs with 250 or more units.[1]
According to HUD, 427 PHAs have 500 or more units.

To implement the requirements of the act, HUD issued
proposed regulations to establish the Comprehensive Grant
Program on April 26, 1991 (56 FR 19434). The proposed
regulations generally outlined what variables HUD planned
to use, how it planned to define certain variables, and
what numeric coefficient weights would be attached to
certain variables.[2] In response to public comments on its
proposed regulations, HUD made several changes to the
proposed regulations, including how it calculated certain
variables, and issued its final regulations on February 14,
1992 (57 FR 5514). (Several of these changes are discussed
later in this letter.) These final regulations were the
basis for HUD's final allocation of fiscal year 1992
Comprehensive Grant Program funds.

HUD's comprehensive grant allocation formula is based on a
statistical technique that estimates individual PHAs'
modernization needs. As specified in the act, these needs
are composed of backlog and accrual needs.[3] From these
estimates, a total modernization need for each PHA is
calculated, and from that, each individual PHA's share of
the total need is derived. The relative share, when
multiplied by the total amount available for the
Comprehensive Grant Program, determines the grant
allocation for a PHA.

HUD PROVIDED PHAs WITH PRELIMINARY
ALLOCATION ESTIMATES AS PLANNING AIDS

To help PHAs plan their comprehensive grant activities,
HUD, in December 1991, notified PHAs of a preliminary
estimate of the amount that might be available for their
comprehensive grant activities. The preliminary estimate

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[1]PHAs with fewer than the 500 units in fiscal year 1992 and
250 units in fiscal year 1993 compete with other PHAs in
their area for modernization funds.

[2]A coefficient is a constant factor applied to a formula
variable. For example, in the formula $z = 2x + y$, the
variables x and y have coefficients of 2 and 1,
respectively.

[3]Backlog needs represent repairs and replacement of
existing physical systems. Accrual needs represent ongoing
and potential modernization needs.

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was based on unverified data on PHA project
characteristics, such as the number of units administered
by the PHA and the age of its projects, from several
sources available to HUD's headquarters. In order to base
final allocations on actual characteristic data, HUD's
headquarters requested that its field offices compile
actual data (called Formula Characteristic Reports) from
their records and send these reports to PHAs. HUD
requested that PHAs review these data, correct them as
needed, and certify the data as to their accuracy. The
verified data would serve as the basis for determining a
PHA's final share of the national Comprehensive Grant
Program allocation. HUD informed PHAs that their final
allocation could change from their preliminary estimate as
a result of HUD's use of validated data.

In May 1992 HUD sent its final allocation amounts to PHAs
and informed them that the final allocation amount may
differ from the preliminary amount because of (1) improved
data that the PHAs had submitted, (2) changes in the way
that it counted past modernization funding in determining
PHAs' total PHA modernization needs (discussed later in
this letter), and (3) a $129 million reduction in funding
available for comprehensive grant activities. Allocations
for some PHAs changed, and some had substantial increases
or decreases. The Director of the HUD office administering
the Comprehensive Grant Program told us that had HUD known
the degree of error associated with using the estimated
data for the preliminary estimates, it would have tried to
collect more accurate data on PHAs' characteristics before
providing preliminary estimates to PHAs. Table 1 shows how
selected PHAs' final allocations changed to varying
degrees, both up and down.

Table 1: Selected Preliminary Estimates and Final
Allocations

Dollars in millions

PHA	Preliminary estimate	Final allocation	Percent change
Cuyahoga, Ohio	$25.6	$33.3	+30
Mobile, Ala.	7.1	8.1	+14
Akron, Ohio	9.7	9.8	+1
Detroit, Mich.	30.2	27.0	-11
Manchester, N.H.	1.6	1.3	-19

Source: HUD.

NO EVIDENCE FOUND THAT HUD IMPOSED
CONSIDERATIONS OTHER THAN ITS REGULATIONS
IN ARRIVING AT ALLOCATION AMOUNTS

On the basis of our limited work, we found no indication
that HUD imposed special conditions on some PHAs to limit
or expand their Comprehensive Grant Program funding outside
of the formula allocation process. In order to determine
whether HUD imposed considerations other than those
provided for in its regulations in arriving at allocation
amounts, we reviewed whether (1) HUD's computer formula
conformed to HUD's regulations; (2) the allocation amounts
derived from the computer calculations were consistent with
the amounts sent to PHAs; and (3) on the basis of limited
checking, data values accurately reflected those submitted
by PHAs.

Computer Formula Used Appears to Be
Consistent With HUD's Regulations

Our review of the computer programs that HUD used to
allocate modernization funds did not reveal procedures that
would alter a PHA's relative share of modernization from
that specified by the final regulations and supporting
documentation. To assess the degree to which HUD
established and implemented a process to allocate
modernization funds using the formulas stipulated in its

final regulations, we examined planning and design documents supplied by HUD and its contractor, Management Technologies, Inc., describing the process for calculating PHA allocations and the computer programs that HUD officials told us were used to calculate preliminary and final grant allocations. During our review of the programs that HUD's officials told us were used to calculate final grant allocations, we identified programming statements that were consistent with formula characteristics and numerical weighing factors (coefficients) given in HUD's final regulations and supporting documentation.

HUD's regulations describe the variables to be used and the coefficient weights that will be applied. The regulations do not exhaustively define the formula. The regulations state that in construing all terms used in the statutory indicators for estimating backlog and accrual needs, HUD uses meanings cited in an appendix to its April 1990 "Report to Congress on Alternative Methods for Funding Public Housing Modernization." The appendix to the 1990 report provides an additional explanation of the formula's construction, including an explanation that the values of several factors will be capped for all PHAs where certain data values exceed preestablished levels. This information is also contained in HUD's March 1992 Comprehensive Grant Program Handbook, which is supplied to PHAs.

Allocation Amounts Sent to PHAs Were
Consistent With Calculated Amounts

Our review of the allocations that HUD sent to PHAs did not reveal differences between the allocations produced by the formula process and the final allocations to PHAs. We compared the final allocations produced from HUD's grant allocation process with those that HUD sent to PHAs so that we could determine whether these amounts differed. Any discrepancies between these figures could be attributed to actions by HUD to allocate funds differently than as specified in its formula. We did not find any such discrepancies.

No Evidence Found That Data Values
Used Were Inappropriately Changed

Allocations can also be affected when data values, such as the number of units in a PHA or the bedroom size distribution at each of a PHA's projects, are incorrect. HUD's officials told us that PHAs sent verified Formula Characteristics Reports to HUD's field offices, which HUD's field offices computerized and sent to HUD's headquarters.

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HUD's headquarters officials told us that they reviewed the data for reasonableness, and when necessary, returned the data to their field offices for resolution with PHAs.

The quality of the data that HUD used depended on (1) the quality of the data submitted by PHAs, (2) how accurately HUD's field offices entered the data into their computerized data bases, and (3) HUD's review of the data for reasonableness and consistency. The quality of the data also depended on whether the data were otherwise compromised. We could not assess the overall quality of the data used in the short time available to us because of (1) the number of PHAs receiving Comprehensive Grant Program funds (over 400), (2) the number of data values per project (12 data elements for each project and, for example, the fact that the Newark, New Jersey, PHA reported on 28 projects) and other data for the PHA that had to be verified, and (3) the fact that HUD's field offices and PHAs are located throughout the nation.

We examined the two examples cited in your letter of July 1 in which the Newark, New Jersey, and Detroit, Michigan, PHAs "lost" large numbers of units. In both instances, we found substantiated explanations as to why the unit counts changed.

For the Newark PHA, we found that HUD's headquarters used an estimated figure of 10,989 units when it prepared the PHA's preliminary estimate. In December 1991, HUD's headquarters asked its regional and field offices to use their records to complete Formula Characteristics Reports, which were to be sent to PHAs for their verification. The Formula Characteristics Report prepared by HUD's Newark office listed the Newark PHA's unit count as 11,996 units. In reviewing the report, the Newark PHA informed HUD that the unit count was 10,689. For the most part, the difference was due to units that the PHA excluded from its count representing several projects that were being demolished and an 864-unit project that it wanted to demolish. HUD's field office accepted all of the PHA's revisions to its data except for the PHA's exclusion of the 864-unit project from its unit count. In this case, a PHA official confirmed that the PHA had not yet fulfilled all of HUD's conditions needed in order to obtain HUD's approval for demolishing the 864-unit project. As a result, the final unit count that HUD used in calculating the Newark PHA's final allocation was 11,553 (10,689 + 864).

Similarly, in our discussions with the Detroit PHA and HUD's field office officials and our review of documents, we found that HUD's headquarters based its preliminary allocation estimate on a figure of 9,638 units. As part of the data verification effort, HUD's Detroit field office provided the Detroit PHA with a figure of 8,684 units. The PHA submitted a revised total of 8,744 units, which HUD used in calculating the Detroit PHA's final allocation.

We also discussed selected data on HUD's final Formula Characteristics Reports with officials from the Seattle and King County, Washington, PHAs. They told us that these selected data (unit counts and amount of previous modernization funding) were accurate, to the best of their knowledge.

DIFFERENCES BETWEEN PRELIMINARY ESTIMATES AND FINAL ALLOCATIONS EXIST FOR SEVERAL REASONS

The differences in the preliminary estimates and final allocations that PHAs received are due to several, often interrelated, factors:

- HUD used more precise data on PHA characteristics for the final allocation.

- PHAs' data changed, causing a change to each PHA's relative share of the fixed amount of funding available for Comprehensive Grants.

- HUD's final regulations changed the way in which it counted past modernization funding.

HUD Substituted Actual Data for Estimated Data in Its Final Allocation

As described earlier in this letter, HUD's preliminary allocation was based on unverified data on PHA characteristics from several headquarters sources. HUD officials told us that the unverified data were the best available at the time. Also, HUD officials told us that when the preliminary allocation estimates were calculated, some data were only readily available for PHAs as a whole and not for their respective projects. Consequently, HUD used aggregate PHA data as proxies for data on developments in several instances where the formula called for using development-specific information. To obtain more complete data on which to base its final allocations, HUD's headquarters requested its field offices to compile data on PHA characteristics and send them to individual PHAs for

their verification as to the accuracy of the data. Our earlier discussion of changes to Newark and Detroit PHAs' data stemming from the verification process provides an example of the substitution of actual for estimated data.

Change in an Individual PHA's Allocation Also Reflects Changes in Other PHAs' Modernization Needs

An individual PHA cannot determine the basis for changes to its final Comprehensive Grant allocation unless it knows how other PHAs' modernization needs changed and how total modernization needs changed after the preliminary allocations were made. This result occurs because HUD's allocation system produces an estimate of modernization needs for each PHA and the total needs for all PHAs are greater than available funding. As a result, the allocation is based on a PHA's relative share of total modernization needs. Changes in a PHA's data can lead to a change in the PHA's modernization needs. This, in turn, can alter all other PHAs' relative shares. Table 2 illustrates how changes to PHAs' relative shares can affect PHAs' modernization allocations.

Table 2: Hypothetical Examples of Changes to Relative Shares

Dollars in millions

PHA	Preliminary needs estimate	Preliminary allocation	Final needs estimate	Final allocation
A	$10	$0.75	$20	$1.20
B	10	0.75	11	0.66
C	10	0.75	10	0.60
D	10	0.75	9	0.54
Total	$40	$3.00	$50	$3.00

In our simplified example, only four PHAs exist, and each PHA has (unverified) modernization needs of $10 million, for a "nationwide" total of $40 million. However, only $3 million is available for modernization funding. Because

each PHA has an equal need, each PHA's preliminary allocation is one-quarter of the $3 million total, or $750,000. Assume that as a result of verifying modernization needs data, PHAs' modernization needs changed and the total modernization needs increased from $40 million to $50 million. However, assume that the total amount available for modernization remained at $3 million. Because PHA A has the greatest needs (40 percent of the "national" total), it would receive the greatest amount, 40 percent of the total amount available ($1.2 million). Also, even though PHA B's modernization needs would increase by $1 million, its final allocation would decrease from $750,000 to $660,000 because PHA A's needs would increase much more. Also, PHA C's modernization needs would remain unchanged, but its share of the total funds would decrease to $600,000. Finally, even though PHA D's modernization needs would decrease by 10 percent, its final allocation would decrease by almost 30 percent (from $750,000 to $540,000).

HUD Changed the Way It Calculated Certain Deductions

After HUD sent its preliminary estimates to PHAs in December 1991, it changed the way in which it deducted the amount of past modernization funding to determine overall Comprehensive Grant Program funding needs for a PHA. The approach used in making final allocations is consistent with HUD's final regulations and supporting documentation. This change was made on the basis of public comments to its April 26, 1991, proposed regulations. HUD's explanation of the basis for its change and the revised method for calculating past modernization funding to be deducted from Comprehensive Grant needs are contained in HUD's February 14, 1992, final rule. Among other things, in the final rule, HUD (1) changed from 60 to 40 percent the percentage of the Major Reconstruction of Obsolete Projects (MROP) modernization funding deduction from a PHA's modernization needs and (2) accounted for MROP funding at a project-level basis rather than on a PHA-wide basis. (The overall Comprehensive Grant Program formula determines modernization needs for each development, and then for the PHA as a whole.)

Your letter of July 1 noted that the (1) Seattle, Washington, PHA previously received a small amount of MROP funding but its final allocation was 12.9 percent less than its preliminary allocation and (2) the King County, Washington, PHA had received no prior MROP funding in the recent past, yet its final allocation was 16.8 percent less than its preliminary allocation. All else being equal, one

would expect that the King County PHA's allocation would have decreased less than the Seattle PHA's allocation because King County had less funds deducted because of previous modernization funding. However, as discussed previously, an individual PHA cannot determine why its allocation changed unless it knows how its and all other PHAs' modernization needs changed. This result occurs because a change to an individual PHA's allocation is based, in part, on the degree to which other data on its characteristics changed. We found that the Seattle and King County PHAs had data values, other than previous modernization funding, that changed. Also, since other PHAs' data on their characteristics changed, these other changes affect the relative share of the fixed amount of funds that the Seattle and King County PHAs are allocated.

SCOPE AND METHODOLOGY

To perform our work, we reviewed the National Affordable Housing Act's provisions relating to the Comprehensive Grant Program's allocation requirements and the legislative reports leading up to the act's passage. We also reviewed HUD's proposed and final implementing regulations, its April 1990 "Report to Congress on Alternative Methods for Funding Public Housing Modernization," and its March 1992 Comprehensive Grant Program Handbook.

We interviewed officials and reviewed documents in HUD's Office of Construction, Rehabilitation, and Maintenance relating to the fiscal year 1992 Comprehensive Grant Program allocation process. In addition, we contacted HUD's field office officials and obtained documents from its Detroit, Michigan; Newark, New Jersey; and Seattle, Washington, field offices on the data cleanup activities they undertook. We also discussed data submissions with officials at the Detroit, Newark, Seattle, and King County PHAs. Finally, we met with representatives from Management Technologies, Inc.--a data systems contractor to HUD--to discuss its role in preparing the allocations.

To determine whether the allocation formula was consistent with the description in HUD's February 14, 1992, final regulations, we obtained the computer-programming code and compared it with the regulatory description of the formula. We did not attempt to determine the statistical validity of HUD's modernization formula.

To determine whether the formula allocation amounts to individual PHAs were consistent with the amounts allocated to PHAs, we compared a listing of allocation amounts

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generated by the computer formula and data base with the
notifications of final comprehensive grant allocations that
HUD sent to PHAs.

To test the quality of the data used by HUD and the process
of how final data were compiled, we obtained copies of
Formula Characteristic Reports from HUD's headquarters
officials and discussed them with HUD's field office and
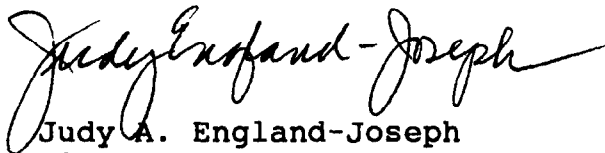PHA officials who helped determine final data values.

We discussed the information presented in this letter with
officials at HUD's Office of Construction, Rehabilitation,
and Maintenance, who agreed with its contents. Specific
comments from these officials are incorporated in this
letter where appropriate. We performed our review in July
1992.

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Copies of this letter are being sent to congressional
committees interested in housing matters; the Secretary of
Housing and Urban Development; the Director, Office of
Management and Budget; and other interested parties. We
will also make copies available to others upon request.

If you or your staff have any questions about this
information, please contact Dennis W. Fricke, Assistant
Director, at (202) 566-1132. I can be reached at
(202) 275-5525.

Sincerely yours,

Judy A. England-Joseph
Director, Housing and Community
   Development Issues

(385352)