
AUDIT REPORT



Real Estate Management System (REMS)

2001-DP-0003

SEPTEMBER 28, 2001

**OFFICE OF AUDIT
INFORMATION SYSTEMS AUDIT DIVISION**



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MEMORANDUM FOR: John C. Weicher, Assistant Secretary for Housing-
Federal Housing Commissioner, H

//SIGNED//

FROM: Benjamin K. Hsiao, Director, Information Systems Audit Division, GAA

SUBJECT: Audit Report of the Real Estate Management System (REMS)

We have completed an audit of HUD's Real Estate Management System (REMS). REMS is used to record and track critical information on multifamily housing projects. As Housing's official source for project management activity tracking, the system is a critical resource necessary to accomplish Housing's program mission. Our audit included an assessment of data reliability and an examination of controls to determine whether they offer adequate protection and minimize the potential for data loss and/or error.

Our audit concluded that the REMS application controls need strengthening. Stronger controls will improve REMS functionality and data reliability. To ensure prompt correction of the weaknesses identified in our report, we encourage the Department to provide Multifamily Housing with the authority to coordinate with other program offices as needed and adequate resources to take corrective action.

Our report contains specific recommendations to correct the deficiencies noted in our report. Within 60 days, please provide us a status report on each recommendation in this report, stating: (1) action taken; (2) the proposed corrective action and the date to be completed; or (3) why action is considered unnecessary.

Thank you for the assistance provided by your staff during our audit. Should you have any questions, please contact me at 708-3444, ext. 149 or Vanessa Nelson at 708-3444, ext. 198.

Attachment

Executive Summary

The Real Estate Management System (REMS) was designed to address weaknesses in disparate and decentralized systems used to manage and value HUD's vast multifamily housing portfolio. In the past, Multifamily Housing (MFH) servicing sites and HUBs relied on a collection of local databases and the Field Office Multifamily National System to track their individual property portfolios. However, these systems were not integrated and the data available was unreliable. Information in REMS is a critical asset and necessary for supporting MFH's overall program mission. Developed and implemented in FY 1998, REMS reportedly enabled the Department to successfully value and manage its vast multifamily housing portfolio using one system for the first time.

We reviewed the REMS to determine whether: (1) the system has adequate controls to ensure management can rely on REMS data, and (2) information is adequately protected against loss and/or error. During our audit, we determined that although REMS is a significant improvement over past MFH system development efforts, application controls need strengthening. Specifically, we found: (1) incomplete or erroneous data in REMS; (2) users do not utilize the system consistently or to its fullest potential; and (3) data is at risk of being lost or inaccessible due to inadequate change control procedures. To correct these deficiencies and to prevent reoccurrence, MFH should: (1) implement automated input controls and perform more frequent data quality reviews; (2) document operational procedures and provide end users with adequate training; and (3) formalize REMS change control test procedures.

Our report includes specific recommendations to the Deputy Assistant Secretary for Multifamily. However, we expect MFH to take the lead to ensure that all program areas using the REMS work together to strengthen management controls.

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Abbreviations

ARAMS	Automatic Renewal and Amendment Management Sub-System
CSMS	Comprehensive Servicing and Monitoring System
DARTS	Departmental Accounts Receivable/Tracking System
DEC	Departmental Enforcement Center
FOMNS	Field Office Multifamily National System
HEREMS	HUD Enterprise-wide Real Estate Management System
LAS	Loan Accounting System
LOCCS	Letter of Credit Control System
MARS	Multifamily Accounting Reporting and Servicing System
MFIS	Multifamily Insurance System (F47)
OIT	Office of Information Technology
OMHAR	Office of Multifamily Housing and Assistance Restructuring
PAS	Program Accounting System
PMS	Multifamily Property Management System
REAC	Real Estate Assessment Center
REMS	Real Estate Management System
SP	Stored Procedure
SQL	Structured Query Language
TRACS	Tenant Rental Assistance Certification Systems
UAT	User Acceptance Test

Introduction

The Real Estate Management System (REMS) tracks business and financial data associated with Multifamily Housing's (MFH) portfolio of insured and assisted properties. REMS data is classified as a critical asset and necessary for supporting MFH's overall program mission. Developed and implemented in FY 1998, REMS reportedly enabled the Department for the first time to successfully value and manage its vast multifamily housing portfolio. The REMS is a browser based client server application accessed via HUD's Intranet. Users of REMS include the MFH, the Departmental Enforcement Center (DEC), the Real Estate Assessment Center (REAC), and the Office of Multifamily Housing and Assistance Restructuring (OHMAR).

Audit Objective

The objective of our audit was to determine whether controls over input, data processing, and output activities are adequate to ensure the integrity and reliability of Multifamily Housing data sourced in the REMS application.

Audit Scope and Methodology

We performed our audit in accordance with Generally Accepted Government Auditing Standards (GAGAS). Accordingly, we included tests of records and other auditing procedures that we considered necessary to meet the audit objective. We performed our audit fieldwork at HUD Headquarters, eight MFH HUBs or servicing sites, and two DECs. During our audit, we interviewed 48 MFH and DEC personnel and persons under contract to provide ongoing maintenance and operation of the REMS application. As part of our audit planning, we identified and obtained applicable laws, regulations, policies, and handbooks. In addition, we reviewed REMS system documentation and planning documents.

Audit Period

The audit covered the period of July 1999 through May 2001. We performed our audit fieldwork from July 2000 to May 2001.

REMS Functionality and Reliability Can Be Improved By Strengthening Application Controls

Office of Management and Budget (OMB) Circular A-127 requires program officials to establish internal controls that ensure resources (data) are safeguarded against waste, loss, and misuse; and reliable data are obtained, maintained, and disclosed in reports. Application controls relate to individual applications and help ensure that transactions are valid, properly authorized, and completely and accurately processed and reported.

MFH has not established adequate controls over the REMS application. Specifically, MFH has not: (1) implemented data input controls nor performed data entry reviews in a timely manner; (2) documented operational procedures nor provided end users with adequate training; or (3) formalized its change control procedures. As a result, REMS data is incomplete and/or erroneous, users are unable to utilize the system consistently or to its fullest potential, and users had to reenter data after system modifications.

REMS Data Quality Needs Improvement

Quality of REMS Data affects Reliability and Usefulness

According to HUD's Information Resource Management (IRM) Policies Directive 2400.1 REV 1, Chapter 3-1(k), the official whose program an information system supports is responsible and accountable for the products of that system and for the timeliness, security, and quality of data in the system. MFH did not monitor REMS data quality in a timely manner thereby limiting reliability and usefulness of REMS data.

The REMS is the Department's official source for project management and tracking information. Therefore, the quality of its data significantly affects management decision-making and reporting. To determine the accuracy and reliability of REMS data, we performed procedures to evaluate data entered by REMS users as well as procedures used to transfer data from feeder systems.

The REMS database was initially loaded with information from the 10 systems listed in Table 1 below.

• F47	Multifamily Insurance System (MFIS)
• FOMNS	Field Office Multifamily National System
• GEO	Group 1 mapping software (used to geocode or pinpoint physical location of primary addresses for properties)
• HP	Housing Professional (Enforcement Center)
• LAS	Loan Accounting System (for direct loans)
• LOCCS	Letter of Credit Control System
• MARS	Multifamily Accounting Reporting and Servicing System
• PAS	Program Accounting System (through TRACS for capital advances, and for contract and budget authority for subsidy contracts)
• PMS	Multifamily Property Management System
• TRACS	Tenant Rental Assistance Certification System

(Table 1: REMS Source Systems)

Systems phased out as part of the REMS implementation include FOMNS and HP. REMS users can update some data directly in REMS; however, information owned by and received from other systems can only be changed in those systems. TRACS and F47 continue to be the source for certain contract and insurance data (Section 8 contract/rent and FHA insurance and/or mortgage information – updated nightly). Data from LAS, LOCCS, MARS, PAS, and PMS are updated in REMS monthly. Systems with real-time interfaces to REMS are listed in Table 2 below.

• ARAMS	Automated Renewal and Amendment Management Subsystem (a subsystem of TRACS that handles the processing of contract renewals)
• DAP	Development Application Processing
• MDDR	Multifamily Delinquency and Defaults Reports
• PRe	Portfolio Reengineering (PRe) system
• FASS	Financial Assessment Subsystem for annual financial statements
• PASS	Physical Assessment Subsystem for physical inspection information

(Table 2: REMS Real-time Interfaces)

REMS Users Identify and Correct Erroneous Data

According to 34 of the 48 (71%) project managers and enforcement analysts interviewed, they have experienced incidents of erroneous data when using the REMS. There was a consensus that the problem has diminished since the completion of two data clean-up exercises. During these exercises MFH servicing site personnel examined every property record in REMS against the source files and corrected data errors when found. All of the end users interviewed stated that they make every attempt to correct data entry errors when found.

Data Quality Tests Results

We selected a sample of REMS data elements and examined them to determine whether the values were consistent with HUD business rules. According to the “REMS Data Quality Plan Phase I – Draft” dated September 21, 2000, 96 REMS data elements are classified as critical. We judgmentally selected 36 data elements entered directly in the REMS by end users. The data elements selected are contained in the following REMS tables: (1) Property, (2) Financial Instrument, (3) Physical Inspection Review, (4) Participant, and (5) Address.

We evaluated the 36 data elements selected against the applicable business rules as indicated in the Data Quality Plan. Our analysis identified 91 instances where the data did not meet the business rule criteria. However, after further evaluation, we determined that some of the errors identified were relatively minor, either due to the low error rate or improper classification of the data element as critical. We provided a list of 28 data elements and 59 instances where the data did not meet the business rule in Appendix B. We also found several data elements on the list of critical data elements whose critical nature was not readily apparent and suggest that MFH reevaluate its REMS critical data elements.

However, we found six data elements where the percentage of error, values not conforming to the applicable business rule, ranged from 1.7% to 18.67% thus warranting management attention and corrective action. Table 3 on the following page summarizes the errors found in the **property** and **financial_instrument** tables. Two data elements in the **property** table, **dwelling_building_count** and **first_fy_expiration_data**, had error rates of 10.78% and 18.67%, respectively. The other four, had error rates ranging from 1.7% to 6.43%.

Data Element	Business Rule	Records Examined	Errors	
PROPERTY				
Dwelling_building_count	Zero is not a valid value	63,463	6,844	10.78%
financial_statement_fiscal_yr	Valid values are 0331, 0630, 0930, and 1231	63,463	2,437	3.84%
	Value cannot be null or blank for active properties when a financial statement is required		1,084	1.7%
financial_statement_req_ind	Value equals Y if it is associated with an insured mortgage, 202/811 capital grant, or is HUD-Held		1,269	2%
first_fy_expiration_date	Value cannot be null or blank for properties with active assistance contracts where a financial stmt is required		11,850	18.67%
scattered_site_indicator	Valid values are Y, N and null		1,195	1.88%
	Value cannot be null or blank for all active properties		4,081	6.43%
FINANCING INSTRUMENT				
primary_loan_code	Active insured mortgages must have a value of 1,2,3,or 4 for this data element	57,667	1,360	2.35%

Table 3: REMS Data Quality Test Results

MFH Addressing Data Quality Problems

After completion of our audit fieldwork, MFH implemented its Data Quality Information System (DQIS), an application that tracks REMS data quality. HUD Headquarters, HUB, and servicing site staff wishing to view reports on REMS data quality will use DQIS. One of the objectives of the system is to facilitate communication of data quality issues to HUD Headquarters in an automated and timely manner. Based on our limited review of the DQIS plans and stated objectives, MFH is clearly taking a proactive approach to addressing its known data quality problems.

**Automated Edits Would
Reduce Date Entry Errors**

The use of automated edit procedures would strengthen data input controls. During our data quality test, we found 11,850 instances where the first_fy_expiration_date data element was null or blank when it should not have been. An automated edit routine would require the end user to enter a value for this critical field before exiting and updating the record. For example, when a data element is required, the system can prompt the end user to enter a valid value by posting a message to the screen at the end of a data entry session.

Another approach to controlling data input is the use of pull down tables limiting entry of data to a set of valid values contained in a master list. This approach would work well for the scattered_site_indicator data element in the Property table. Our data quality tests found that although the business rule indicates the valid values for the scattered_site_indicator data element should be Y, N, or Null, there were 1,195 instances where the value was "u." Using a master list that only allowed values of Y, N, or Null would have prevented or significantly reduced the input errors for this data element.

**Batch Procedures Examined
Function Correctly**

REMS data originating from external applications are made available using one of two methods; batch updates on a nightly, weekly and monthly cycle, and real-time interfaces that either enable users to view data from non-integrated database applications or share data between integrated database systems. Batch updates are made using stored procedures, a set of Structured Query Language (SQL) statements stored in the database, that process data and then saves it to the REMS database. Stored procedures are advantageous in that they can contribute to the preservation of data integrity by ensuring consistent entry of data.

We obtained copies of the system interface stored procedures and system scripts for the Comprehensive Servicing and Monitoring System (CSMS) and Tenant Rental Assistance Certification System (TRACS). Based on our evaluation of the stored procedures, system scripts, and interviews with the developers to determine the expected results, we developed a series of logic tests. Using SQL-Programmer, software used to view, modify, and test database objects, we ran our logic tests to evaluate the stored procedures. We found that the system interfaces for MARS and TRACS are correctly updating the REMS

tables in accordance with the logic of the stored procedures for each application.

Procedures should be Documented and Distributed

OMB Circular A-123 requires that management controls include policies and procedures to reasonably ensure: (1) programs achieve their intended results; (2) resources are used consistent with agency mission; (3) programs and resources are protected from waste, fraud, and mismanagement; (4) laws and regulations are followed; and (5) reliable and timely information is obtained, maintained, reported, and used for decision making.

Operating Procedures would Improve Consistency and Accuracy

MFH and the DEC did not provide adequate procedural guidance to REMS users. To determine whether REMS is operating and used as intended, we interviewed HUD personnel at eight Multifamily Program Centers and two DEC's. We asked the REMS users a series of questions and encouraged them to freely express their overall opinions and concerns related to REMS. Although designed to enable users to quickly and easily review and maintain data, many REMS users stated that they find the system cumbersome to use. Several expressed confusion or a limited understanding of how they should use REMS. Some of the concerns expressed include:

- a need to update the user manual to reflect changes in recent releases;
- the system has been complicated by added functionality making it difficult to navigate; and
- users are unsure what data should be entered for each type of activity (e.g., beginning and ending dates).

User Guide Should be Supplemented With a Procedural Guide

During our field office visits, we asked the users whether they received guidance or instructions on how to use REMS. All of the users stated that the instructions received were limited to the REMS User Guide, periodic conference calls to review modifications to the system, and personal on the job training. Although recently updated, the REMS User Guide, dated July 2001 still does not provide specific guidance on how users should use REMS to perform their

job functions. Both the previous and the current guide primarily contain descriptions of available screens and data fields and lack specific procedural guidance for project management and enforcement activities.

MFH and the DEC should develop and document guidelines detailing specific operational procedures for REMS users to follow. Such guidance would help to alleviate the user concerns identified above. In the absence of written procedures, management cannot ensure the reliability of data entered by project managers and enforcement analysts. Detailed policies and procedures will improve continuity and accuracy of data and result in improved efficiency in the performance of duties.

Users Need Additional Training & Support

The HUD Information Resource Management (IRM) Policies, Directive 2400.1, Chapter 3-1(n) requires that users of HUD's automated systems receive training and Chapter 2-1(i) states that training should ensure they appropriately safeguard information resources. Directive 2400.1, Chapter 4-1(h) states that Microcomputer and office automation processing technology and systems will be utilized to improve productivity and responsiveness in the execution of program functions wherever applicable and cost-effective.

REMS Usage Varies in the Field

We found that the utilization of REMS features vary from office to office due to limited knowledge and skill of REMS and MS Access and lack of technical support. HUD has not provided REMS users with adequate training and field office personnel require additional support to ensure full utilization of REMS functionality.

During our review, we observed that many of the system users have only a limited understanding of REMS and its system interfaces. Several users stated that they are unsure whether they are entering data in REMS properly or whether the interface systems are functioning as intended. For example, data from TRACS is updated nightly in REMS through an automated batch process. However, some of the end users are unaware of this and assumed that the interface is real-time; meaning changes in one system

would be reflected in the other instantaneously or within a short period. As a result, users are wasting time verifying the transfer of data from one system to another and trying to manually update both systems.

REMS users need additional training to ensure they are aware of proper procedures and have a better understanding of how the REMS interfaces with other HUD systems. Poorly trained employees are threats to data security and system reliability. All personnel responsible for entering data in a critical system should be knowledgeable about and follow procedures.

Alternate Databases and Spreadsheets are Used to Track Property

Although REMS has features designed to enhance the productivity of project managers and management officials, many of the features go unused because of lack of knowledge or skills to use them. As a result, a number of the field offices still maintain stand-alone local systems to monitor and track their housing portfolio.

Personnel at 50% of the MFH offices visited maintain additional systems to track project management activities. We found that the field offices use spreadsheets or databases to track and tally project management data such as project names, mortgage amounts, number of units, Section-8 contract expirations and renewals, and data for reporting Business Operating Plan goals. When asked why the stand-alone systems are used, the most common response was the stand-alone systems were easier to access or personnel lack confidence in the REMS data. The managers of several of these offices stated that they are slowly moving away from relying on these stand-alone systems as they gain confidence and become more proficient in using REMS.

To increase the utilization of REMS features, users need additional training in HUD's standard desktop software. Training in Microsoft Access would be helpful particularly, for those who want and need to create and generate reports from REMS. Several project managers stated that they feel their productivity would increase if they were able to run their own reports.

Configuration Change Evaluation & User Acceptance Testing Needs Improvement

Configuration management is the process of organizing and managing changes to the components of software. Change evaluation is an important aspect of the configuration control process. Evaluation involves providing an analysis of changes in terms of impact to system functionality, interfaces, utility, cost, schedule, and contractual requirements. The analysis also includes the potential impact on reliability, maintainability, transportability, and efficiency.

User Acceptance Test
Process did not Prevent Data
Loss and Duplication

MFH has documented configuration management policies and procedures for the REMS development team. However, the current process did not prevent apparent data loss and duplicate data entry efforts after implementation of two prior releases. During our audit, MFH and the DEC users informed us of instances when operations were affected after the implementation of a new release. The changes affected their ability to extract or review information from REMS and resulted in loss of data. In the latter instance, end users were required to review case files and re-enter data in the system.

Communication of Changes
& Data Loss

One problem reported occurred after implementation of a new release in June 2000. Changes made to the Physical Inspection Report tables were inadequately communicated. MFH users with reports set up in MS Access were no longer able to run their reports until they made changes to their report queries to coincide with the table changes. In this instance, the change request process did not work due to a failure to: (1) identify in advance what affect the change would have on interfacing systems and/or (2) communicate the change and the resulting impact to those affected.

Another instance involved the association of multiple physical inspection reports with their respective project manager's physical inspection actions and recommendations. After a change to the module used to track physical inspection report progress, field office users

were unable to view inspections performed on their projects.

During our review, we learned from personnel at the Enforcement Centers that the September 2000 release resulted in major problems. Some of the enforcement tracking data entered before the new release was lost while some of the reports from REMS showed duplicate information. At the time of our site visit, the DEC analysts we spoke with were in the process of reentering data lost.

Officials in the MFH Office of Program Systems Management informed us that data was not actually lost during these situations. They stated this was actually a data conversion problem, meaning the original data was still available, but not visible to the REMS users due to changes made in the system. Regardless of the technical reason for data duplication or missing data, these types of problems are indicative of both inadequate planning and poor test procedures. During the change evaluation process, the development team and program officials must make every effort to determine in advance how the change will affect the existing system and the related data.

Formalize the User
Acceptance Test Process

During our audit, we requested copies of the user acceptance test (UAT) results; however, MFH Program Systems Management personnel were unable to locate any for our review. When we made inquiries about the UAT procedures, MFH stated that the process is informal and the current process for authorizing implementation of a new release after UAT is via an email exchange to the development team. Although the use of automation to communicate decisions is not problematic, there should be a process to retain these communications as needed along with the results of the UAT.

Without a UAT plan and procedures to control and document the results, there is greater risk that the changed product will not function as required. One of the EC analysts we spoke with participated in the tests of the new release. They stated that several problems were identified during the tests; however, it was implemented anyway. Changes should not be introduced into the production environment until properly tested and problems are corrected.

Recommendations

We recommend that the Deputy Assistant Secretary for MFH:

1. Review the REMS data elements currently classified as critical to ensure the list is complete and remove any that are improperly classified.
2. Complete an analysis of REMS to identify opportunities to include automated edit procedures. Include a cost-benefit analysis to determine whether it would more cost effective to add edit routines during the data entry process.
3. Document REMS operational policies and procedures and distribute to REMS users.
4. Develop a REMS training program to ensure users: (1) gain a clear understanding of how REMS and its feeder systems operate and interact with one another, and (2) receive training prior to the implementation of new system releases.
5. Work with the Office of Information Technology and contractors to formalize user acceptance test procedures.
6. Make hands on training in HUD's standard desktop software available to all REMS users.

Auditee Comments

On August 29, 2001, we issued a draft report to the Assistant Secretary for Housing-Federal Housing Commissioner. We subsequently met with MFH Officials who informed us that both MFH and the DEC concur with the findings and recommendations offered in the draft report. A formal response was not provided before issuance of our final report. MFH Officials agree to provide a formal response stating actions taken or proposed corrective actions and completion dates for each recommendation included in this report within 60 days.

Data Quality Tests Results

Data Element No.	Data Element	Business Rule	Records Examined ¹	Exceptions ²	Diff Prop ID ³	Diff Active Property ⁴
33	accepted_date	Value equals or succeeds 09/01/1998	63,463	2	2	1
		Value is not a future date		2	2	2
		Value succeeds the Referral Receipt Date value		484	377	359
63	Dwelling_building_count	Zero is not a valid value	63,463	33,999	33,999	6,844
43	financial_statement_fiscal_yr	Valid values are 0331, 0630, 0930, and 1231	63,463	2,974	2,619	2,437
		Value cannot be null or blank for active properties when a financial statement is required		1,075	1,186	1,084
44	financial_statement_req_ind	Value equals Y if it is associated with an insured mortgage, 202/811 capital grant, or is HUD-Held	63,463	1,573	1,573	1,269
37	first_fy_expiration_date	Value cannot be null or blank for properties with active assistance contracts where a financial stmt is required	63,463	18,650	11,850	11,850
27	occupancy_date	Value is not a future date	63,463	1	1	1
		Value is not before 6/27/1934, except for 01/01/1900		8	1	1
		Value cannot be null, blank, or equal to 01/01/1900 for all post development pipeline properties		2,673	2	2
30	property_name	Value cannot be null or blank	63,463	1,182	1,182	256
		Value contains more than three characters		215	215	183
		Value contains at least one a,e,i,o,u,or y		1,382	200	135

¹ Records Examined – number of records contained in the table analyzed against the business rule

² Exceptions – number of exceptions (not conforming to the business rule) identified

³ Diff Prop ID – number of exceptions to the business rule noted where the record is associated with a valid property ID

⁴ Diff Active Property – number of exceptions to the business rule noted where the record is associated with a valid property ID and the property is active

Data Element No.	Data Element	Business Rule	Records Examined ¹	Exceptions ²	Diff Prop ID ³	Diff Active Property ⁴
75	property_prev_restruct_ind	Identify properties with a property_prev_restruct_ind value is blank or null, and the property is associated to an active assist contract	63,463	4,453	3,901	3,901
		Identify properties with Property Previously Restruct_ind values not equal to blank or null and is not associated with any active contracts.		28,938		552
76	referred_by_code	Identify Value cannot active properties with a referred_by_code value that does not exist in the EC Referral Org Ref table	63,463	33,269	4	3
34	referred_date	Value is not a future date	63,463	2	2	2
		Value equals or succeeds 09/01/1998		8	8	6
		Value precedes the Accepted Date		484	484	454
79	scattered_site_indicator	Valid values are Y, N and null	63,463	1,310	1,310	1,195
		Value cannot be null or blank for all active properties		4,081	4,081	4,081
4	annual_dist_earned_amt	Valid values are less than 500,000,000.00	57,667	1	1	1
22	current_status_detail_code	Value equals 06 when HUD-Held Indicator equals "Y"	57,667	77	77	77
		Value equals 08 when HUD owned indicator equals "y"		3	3	3
68	primary_loan_code	A property ID can relate only to one active insured mortgage with a value of 1	57,667	10	10	10
		Active insured mortgages must have a value of 1,2,3,or 4 for this data element		1,360	1,360	1,360
65	physical_insp_rating_code	This data element must contain data if Date Conducted contains data	136,497	13	13	7
		This data element must contain data if Reviewer contains data		22	22	9
		This data element cannot contain data if Date of Initial Occupancy is blank, null, or equal to 01/01/1900		10,969	10,969	4,883
		This data element cannot contain data if number of buildings is blank null, or equal to zero		8,057	8,057	2,340

Data Element No.	Data Element	Business Rule	Records Examined ¹	Exceptions ²	Diff Prop ID ³	Diff Active Property ⁴
25	physical_insp_report_date	This data element must contain data if overall rating contains data	136,497	37,012	37,012	29,991
		This data element must contain data if Reviewer contains data		37,034	37,034	30,000
		This data element cannot contain data if Date of Initial Occupancy is blank, null, or equal to 01/01/1900		5,106	5,106	3,273
		This data element cannot contain data if Number of Buildings is blank, null or equal to zero		2,830	2,830	1,245
47	indv_first_name	This data element must contain data if the Organization Name does not contain data	93,510	82	56	26
		Value does not contain certain special characters		57	54	3
52	indv_last_name	This data element must contain data if the Organization Name does not contain data	93,510	81	55	25
54	legal_structure_code	Value cannot be null, blank, or 00 for participants of active, insured properties or active financing instruments with a financial statement required	93,510	24,770	1	1
64	org_name	This data element must contain data if First Name and Last Name do not contain data	93,510	81	55	25
		Value contains at least one a, e, i, o, u, or y		1,619	305	213
89	tax_id	Value cannot be null or blank	93,510	51,704	48,576	1,256
		Value contains exactly nine digits		121	70	55
9	city	Value cannot be null or blank	308,449	4,419	114	81
		Value contains at least one a, e, i, o, u, or y		4,697	8	7
		Value contains more than 3 characters, except for NY and LA		48	2	2
61	msa_code	Value contains numeric characters	308,449	35	35	34
62	msa_name	Value must not contain suspicious characters or character strings	308,449	49	49	49

Data Element No.	Data Element	Business Rule	Records Examined ¹	Exceptions ²	Diff Prop ID ³	Diff Active Property ⁴
83	State	Cannot be null or blank	308,449	4,057	81	49
		Value is found in State_Reference. State_Code		473	242	55
		Value is not identical to Zip-5		3,913	2	1
84	Street_address	Value cannot be null or blank	308,449	15,117	9,372	179
		Value is not the identical to the Street2_address value		142	4	3
		Value contains more than 3 characters		58	8	4
85	Street2_address	This data element can only contain data if Street_address contains data	308,449	356	7	7
		Value does not contain an ampersand, www, .com, .edu, .mil, .gov,.net,.net, or .org		66	54	52
96	zip_code	Value cannot be null or blank	308,449	15,145	9,997	370
		Value must contain exactly 5 digits		14,667	13	6
		Values of 00000, 11111, 33333, 66666, 77777, 88888, or 99999 are not entered		908	534	109

Distribution

Secretary, S (Room 10000)
Deputy Secretary, SD (Room 10100)
Chief of Staff, S (Room 10000)
Deputy Assistant Secretary for Administration, A (Room 10158)
Assistant Secretary for Congressional and Intergovernmental Relations, S (Room 10120)
Deputy Chief of Staff for Policy & Programs, S (Room 10124)
Deputy Chief of Staff for Intergovernmental Affairs, S (Room 10214)
Senior Advisor to the Deputy Secretary, S (Room 10100)
Executive Officer for Administrative Operations and Management, S (Room 10220)
General Counsel, C (Room 10110)
Assistant Secretary for Housing/Federal Housing Commissioner, H (Room 9100)
Acting Assistant Secretary for Policy Development and Research, R (Room 8100)
Assistant Secretary for Community Planning and Development, D (Room 7100)
President, Office of Government National Mortgage Association, T (Room 6100)
Acting Assistant Secretary for Fair Housing and Equal Opportunity, E (Room 5100)
Director, Office of Departmental Equal Employment Opportunity, U (Room 2134)
Acting Assistant Secretary for Public and Indian Housing, P (Room 4100)
Director, Office of Departmental Operations and Coordination, I (Room 2124)
Chief Financial Officer, F (Room 2202)
Chief Information Officer, Q (8206 L'Enfant Plaza)
Director, Enforcement Center, V (200 Portal Building)
Acting Director, Real Estate Assessment Center, X (800 Portals Building)
Director, Office of Multifamily Assistance Restructuring, Y (4000 Portal Building)
Assistant to the Secretary and White House Liaison, S (Room 10216)
Press Secretary/Senior Communications Advisor to the Secretary, W (Room 10226)
Acting Inspector General, G (Room 8286)
Director, Office of Information Technology, QTAM (Room 4160)
Acquisitions Librarian
Sharon Pinkerton, Senior Advisor, Subcommittee on Criminal Justice,
Drug Policy & Human Resources, B373, Rayburn House Office Bldg.
Washington, DC 20515
Cindy Fogleman, Subcommittee on Oversight and Investigations
Room 212, O'Neil House Office Bldg.
Washington, DC 20515
Stanley Czerwinski, Associate Director, Housing and Telecommunications Issues
United States General Accounting Office, 441 G Street, NW, Room 2T23
Washington, DC 20548
Steve Redburn, Chief Housing Branch, Office of Management and Budget
725 17th Street, NW, Room 9226, New Executive Office Bldg.
Washington, DC 20503

Distribution

Linda Halliday, Department of Veterans Affairs, Office of Inspector General
810 Vermont Ave., NW, Washington, DC 20420

William Withrow, Department of Veterans Affairs, OIG Audit Operations Division
1100 Main, Rm 1330, Kansas City, Missouri 64105-2112

George Reeb, Assistant Inspector General for Health Care Financing Audits
N2-25-26, North Bldg., 7500 Security Blvd., Baltimore, MD 21233-1859

The Honorable Fred Thompson, Ranking Member, Committee on Governmental Affairs
340 Dirksen Senate Office Bldg., United States Senate, Washington, DC 20510

The Honorable Joseph Lieberman, Chairman, Committee on Government Affairs
706 Hart Senate Office Bldg., United States Senate, Washington, DC 20510

The Honorable Dan Burton, Chairman, Committee on Government Reform
2185 Rayburn Bldg., House of Representatives, Washington, DC 20515

The Honorable Henry A. Waxman, Ranking Member, Committee on Government
Reform, 2204 Rayburn Bldg., House of Representatives, Washington, DC 20515

Andy Cochran, House Committee on Financial Services, 2129 Rayburn H.O.B
Washington, DC 20515