Selected Controls Over the Property Tax Assessment Process

New York City Department of Finance

Executive Summary

Purpose

To determine if the New York City Department of Finance has sufficient controls to ensure the accurate determination of property tax valuations and assessments. We also determined whether all changes to the assessments were authorized. This audit focused on Tax Class 2 properties that are valued as income producing, based on income and expense data. The audit period was July 1, 2013 through May 31, 2016.

Background

The New York City Department of Finance (DOF) is responsible for assessing all real property throughout the City – approximately 1.05 million properties each year. Property in New York City is divided into four different classes, each treated differently under the law. The class of the property determines how property value is assessed. For Tax Class (TC) 2 properties, which include rentals, co-ops, and condos with more than three units, Market Value (MV) is determined by using income and expense data reported by those or similar rental properties. DOF acquires income (e.g., rent from conventional rental units) and expense (to maintain and operate property on a daily basis such as fuel, insurance) data for most rental and other income producing properties through annual submission of the Real Property Income and Expense (RPIE) form. RPIE information is used to determine MV for large rental buildings, co-ops, and condos (11 units or more), and income only is used for smaller rentals, co-ops, and condos (ten units or less).

For large rental properties, income and expense are adjusted to current year levels to capture market conditions, and the MV is determined by applying a capitalization rate (expected rate of return based on the income generated by the building) to the net operating income. Co-ops and condos, which do not produce rental income, are compared to similar rental buildings. For large co-ops and condos, MV is determined by using the net operating income of similar rental properties called comparable properties (comps). Comps are not used to value smaller co-ops and condos; instead, all smaller properties are valued by using available income information from small rental buildings in the area that file an RPIE using the Gross Income Multiplier method. Once the MV is determined, DOF calculates the Assessed Value (AV). The AV is based on a percentage of the MV. For TC 2 parcels, the percentage is 45 percent.

DOF Property Division (Property) assessors input data into DOF's Computer Assisted Mass Appraisal (CAMA) system to collect property-related information and perform valuation calculations. For co-ops and condos, assessors can select comps contained in CAMA. Once CAMA determines the MVs, the values are then transmitted to the Real Property Assessment Database (RPAD) to determine the AV for tax purposes.

In fiscal year (FY) 2016, there were 272,640 TC 2 properties with a total assessed value of $103.5 billion.

Key Findings

- We reviewed 508 parcels valued during FY 2014 to FY 2016 and found that Property did not conduct necessary inspections for 276 (54 percent) of them. Property inspections are required so that the assessor can make an informed determination of the value of the property when performing the assessment, including consideration of building alterations and new construction. Without the required inspections, DOF cannot be certain such changes are adequately considered when valuing a property.
- In certain instances, assessors did not use all of the comps selected by Property's Modeling Unit, changed valuation methods year-to-year, and/or valued relatively similar properties differently without any explanation of the basis for the changes. While we recognize that assessors are allowed to make adjustments per DOF's guidelines, without sufficient documentation of the rationale for such adjustments, the objectivity of the process can be compromised.
- 93 (39 percent) of 237 Global Changes and mass updates in the CAMA system did not include the User ID that executed the script (program logic/instruction code) in CAMA. Also, for 25 of 237 Global Changes and mass updates in CAMA, there was no record of the official that requested the script. Therefore, DOF is unable to ensure that all changes made within CAMA were authorized and warranted.

Key Recommendations

- Require field valuation employees to conduct and document the necessary periodic inspections of real property parcels, as prescribed.
- Ensure the reason for the valuation method selected for parcels is clearly documented in CAMA.
- Ensure that a User ID or Service ID is recorded for every Global Change and mass update.
- Prevent unauthorized data changes to properties by ensuring the requestors of all scripts are documented and that the executed scripts are what was requested and documented in the CAMA User Audit Table.

Other Related Audits/Reports of Interest

New York City Department of Finance: Reporting of Billboard Income (2011-N-2)
New York City Department of Finance: Reporting of Billboard Income (2015-F-17)

State of New York
Office of the State Comptroller

Division of State Government Accountability

July 11, 2017

Jacques Jiha, Ph.D.
Commissioner
New York City Department of Finance
One Centre Street
New York, NY 10007

Dear Commissioner Jiha:

The Office of the State Comptroller is committed to helping State agencies, public authorities, and local government agencies manage their resources efficiently and effectively. By so doing, it provides accountability for tax dollars spent to support government operations. The Comptroller oversees the fiscal affairs of State agencies, public authorities, and local government agencies, as well as their compliance with relevant statutes and their observance of good business practices. This fiscal oversight is accomplished, in part, through our audits, which identify opportunities for improving operations. Audits can also identify strategies for reducing costs and strengthening controls that are intended to safeguard assets.

Following is a report of our audit entitled *Selected Controls Over the Property Tax Assessment Process*. This audit was performed pursuant to the State Comptroller's authority under Article V, Section 1 of the State Constitution and Article 3, Section 33 of the General Municipal Law.

This audit's results and recommendations are resources for you to use in effectively managing your operations and in meeting the expectations of taxpayers. If you have any questions about this report, please feel free to contact us.

Respectfully submitted,

Office of the State Comptroller
Division of State Government Accountability

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State Government Accountability Contact Information:
Audit Director: Carmen Maldonado
Phone: (212) 417-5200
Email: StateGovernmentAccountability@osc.state.ny.us
Address:
    Office of the State Comptroller
    Division of State Government Accountability
    110 State Street, 11th Floor
    Albany, NY 12236

This report is also available on our website at: www.osc.state.ny.us

Background

The New York City Department of Finance (DOF) is responsible for assessing all real property throughout the City – approximately 1.05 million properties each year. According to the Property Tax Guide (Guide), used by DOF assessors as their guidelines for conducting assessments, property in New York City is divided into four different classes, each treated differently under the law. The class of property determines how property value is assessed. Property classes and their definitions are detailed as follows:

- Class 1 - One- to three-unit residential properties;
- Class 2 - Residential property with more than three units, including co-ops and condos;
- Class 3 - Utility company equipment and special franchise property; and
- Class 4 - All other real property, including office buildings, factories, stores, hotels, and lofts.

This audit focused on Tax Class (TC) 2 properties. TC 2 is broken into sub-classes. TC 2a includes four- to six-unit rental buildings, TC 2b includes seven- to ten-unit rental buildings, TC 2c includes two- to ten-unit co-ops or condos, and TC 2 includes 11 units or more. The Guide states that Market Value (MV) should be determined by using income and expense data (rather than sales data only) reported by those or similar rental properties. DOF acquires income (e.g., rent from conventional rental units) and expense (to maintain and operate property on a daily basis such as fuel, insurance) data for most rental and other income producing properties through annual submission of the Real Property Income and Expense (RPIE) form. RPIE information is used to determine MV for large rental buildings, co-ops, and condos (11 units or more), and income only is used for smaller rentals, co-ops, and condos (ten units or less).

For large rental properties, incomes and expenses are adjusted to current year levels to capture market conditions, and the MV is determined by applying a capitalization rate (expected rate of return based on the income generated by the building) to the net operating income. For co-ops and condos, which are not income producing, the RPIE data collected from rental buildings is used to value them. For large co-ops and condos, MV is determined by using the net operating income of similar rental properties, called comparable properties (or "comps"). Comps are not used to value smaller co-ops and condos; instead, all smaller properties are valued by using available income information from small rental buildings in the area that file an RPIE using the Gross Income Multiplier method.

Once the MV is determined, DOF calculates the Assessed Value (AV). The AV is based on a percentage of the MV, which is 45 percent for TC 2 properties. Other factors also affect the AV for these properties. For instance, for properties with ten units or fewer, State law limits increases in AV to 8 percent over the previous year, and to 30 percent over five years. In addition, for TC 2 properties with more than ten units, the Guide requires DOF to phase in changes to the AV over a five-year period. Therefore, only 20 percent of the change is applied each year of the five-year period.

DOF Property Division (Property) assessors input data into DOF's Computer Assisted Mass Appraisal (CAMA) system to collect property-related information and perform valuation calculations. For co-ops and condos, assessors can select comps contained in CAMA. Once CAMA determines the MVs, the values are transmitted to the Real Property Assessment Database (RPAD) to determine the AV for tax purposes.

Audit Findings and Recommendations

We found 54 percent of TC 2 parcels reviewed were not inspected at least every third inspection cycle, as otherwise required. Without the required inspections, DOF officials cannot be adequately assured that changes to buildings (such as additional amenities and/or new construction) were fully considered when valuing properties. Further, assessors did not use all of the comps selected by the Modeling Unit, changed valuation methods year-to-year, and/or valued relatively similar properties differently without any formal explanation of the basis for the changes. Although assessors can make these adjustments per DOF's guidelines, without sufficient documentation of the rationales for the adjustments, the objectivity of the valuation process can be compromised.

In addition, DOF has policies and procedures to help ensure the accuracy of the tax assessments and to ensure that changes to assessments are authorized. The CAMA system, which DOF uses for property tax valuations, was designed to have a user audit trail (Audit Table). The Audit Table was intended to record any action performed on a particular parcel. Also, assessors should populate CAMA's Property Notes section with the edits they make to parcel data. However, we found that these policies and procedures were not always followed. For example, the change control process for Global Changes (or changes that impact a group of parcels) did not ensure that such changes were reflected within the Audit Table or could be associated with a specific user. Therefore, DOF was unable to adequately ensure that all changes made within CAMA were properly authorized and warranted.

Assessing and Valuating Real Property Parcels

Required Parcel Inspections

New York City Administrative Code 11-207 prescribes the duties of assessors in assessing property: "In performing their assessment duties, the assessors shall personally examine each parcel of taxable real estate during at least every third assessment cycle, and shall personally examine each parcel of real estate that is not taxable during at least every fifth assessment cycle, as measured from the last preceding assessment cycle during which such parcel was personally examined." Further, according to the Assessor's Guidelines, the New York State Office of Real Property Tax Services has allowed the substitution of Pictometry for physical field visits. Pictometry provides high resolution aerial imagery and analytical tools for assessment.

We reviewed 508 parcels valued during fiscal years (FY) 2014 to 2016. We examined CAMA records for these parcels and found that Property did not conduct the necessary inspections for 276 (54 percent) of them. Further, for 203 of these parcels, the last inspection was done more than ten years ago, and 29 others did not have any indication an inspection was ever performed based on the properties' CAMA notes. In addition, there was no evidence of the use of Pictometry as a substitution for inspection site visits.

In response to our preliminary findings, DOF officials indicated that an Administrative Inspection Project was undertaken in May 2015, with the goal to visit every parcel within New York City.

We reviewed the information provided to us, however, and found no indication in CAMA of the visits within the required timeframe for the aforementioned 276 parcels. According to additional documentation provided by Property, 87 (of the 276) parcels were visited by assessors in May and June of 2015. Thus, there was no evidence, either within CAMA or from other sources, that 189 (276-87) of the selected parcels were visited, as otherwise required.

Periodic inspection of the parcels is necessary so that the assessor can make informed determinations of properties' MVs, including consideration of alterations and new construction. Without the required physical inspections, DOF's ability to adequately assess properties is limited. Further, this increases the risk that valuations are materially incorrect, thereby unfairly rewarding or penalizing certain property owners.

Assessment Methods

Comparable Parcels

Each year, Property's Modeling Unit identifies comparable parcels based on TC, building class, the distance between peer parcels, age, and gross area (among a range of descriptive and locational characteristics) to value co-ops and condos. Assessors are allowed to choose from additional, alternative comps and may also override CAMA and select their own comps.

Experienced assessors can use their knowledge of the valuation process to decrease or increase the MV by changing the comps selected. For example, for Tax Year 2015-16, one assessor did not use the comps selected by CAMA, and instead used 3 of the 20 alternative comps provided. This decreased the MV by 8 percent. DOF officials pointed out that this assessor has over 30 years of experience. However, while DOF allows assessors this discretion, there was no reason posted to CAMA for the adjustments. Without any explanation of the decision made, there is limited assurance to the public that it was justified.

In addition, in multiple instances, assessors overrode the comps selected by the Modeling Unit and selected their own custom comps. An assessor informed us that assessors usually override the Modeling Unit comps because they do not adequately reflect the characteristics of the subject parcel. We reviewed a sample of ten parcels where the comparable parcels were chosen by the assessor and the Modeling Unit. Some of the inconsistencies in the parcels selected included the distance between the comp and the subject parcels, the respective ages of the parcels, and the choice of regulated properties as comps for unregulated subject parcels. By selecting parcels that differ considerably from the comps without explanation, property owners lack assurance that the process was sufficiently objective.

Changes in Valuation Methods

We also reviewed the assessment methods used by assessors for 218 parcels over time. For 141 of the parcels, there was a change in valuation method from FY 2015 to FY 2016, often with no reason provided in CAMA's Property Notes section. We determined that 81 (57 percent) of the 141 parcel changes were made without an explanation, while 60 had information in the

Property Notes section explaining the assessor's edits. Examples of the 81 unexplained changes are detailed in the following narratives:

- For 14 parcels, Trend (the carry-over of the MV from the previous year) was used, and therefore, the parcels' MVs remained unchanged. In contrast, for properties that were not Trended, the percent change in MV for TC 2 parcels from FY 2015 to FY 2016 was 8.6 percent. We found 209 TC 2 parcels (totaling $817 million) that were Trended. In response to our preliminary finding, DOF stated that Trended properties represent less than 1 percent of the population of TC 2 parcels. Moreover, DOF stated that a lack of change in a parcel's value is not a concern, because while most parcels experience an increase or reduction in value from year to year, there "are always going to be parcels with values which remain flat." However, our primary concern is not with the lack of change in a parcel's value; but rather, the lack of explanation of why certain properties were Trended and others were not. Again, without sufficient documentation, it is unclear that the process was sufficiently objective.
- Also, RPIEs were filed for 15 parcels, but they were not used by assessors to determine the parcels' MVs. DOF officials stated that assessors do not always use RPIEs to perform valuations, and as such, officials were not concerned. Nevertheless, there was no comment by the assessor in the Audit Table stating why the RPIEs were not used. Moreover, for nine of these parcels, RPIEs were used in a prior year. However, there were no explanations why it was appropriate to use RPIEs for these properties in one year, but not another.

Assessments of Similar Properties within the Same Block

To test Property's assessment of seemingly similar parcels, we reviewed four parcels in the Upper West Side located on the same block. The four parcels were in the same building class and were built in 1910. Moreover, all had similar numbers of stories, units, and gross building area.

Our review showed that one (Parcel 1) of the four parcels was valued by an assessor, based on a filed RPIE for both FY 2014 and FY 2015. The assessor determined that the MV increase was 9 percent. When we reviewed the remaining three parcels that are all within .1 mile from the subject parcel, we found that various approaches (such as Import and Override) were used to value these parcels.   Not surprisingly, there was also a variation in the assessment of MVs as follows:

- Parcel 2 is 549 feet from the subject parcel and its MV increased by 5 percent.
- Parcel 3 is 529 feet from the subject parcel and its MV increased by 14 percent.
- Parcel 4 is 506 feet from the subject parcel and its MV remained the same.

Parcels 1 and 3 were valued by the same assessor for FY 2015. Parcels 2 and 4 were valued by the Modeling Unit. All four parcels had RPIEs filed for FY 2014 and FY 2015; however, they were not always used to assess the MV for these parcels. In fact, of the eight filed RPIEs for these properties, DOF assessors used them in only three instances. As a result of the varying approaches, there appears to be material disparities in the assessments of the four similar parcels.

In response to the preliminary finding, DOF stated that there were "disparities in building characteristics, lease terms, rent stabilization vs. market rent, average unit size, number and size of commercial units, Tax Commission actions, etc." However, DOF did not provide details of the purported differences and how they impacted the four parcels' respective valuations.

Recommendations

1. Require field valuation employees to conduct and document the necessary periodic inspections of real property parcels, as prescribed.

2. Ensure the reason for the valuation method selected for parcels is clearly documented in CAMA.

Quality Assuring the Assessment and Valuation Process

According to DOF, the Quality Assurance Unit (QA) spends more than 50 percent of its time reviewing MVs during the valuation season. QA review is triggered when the MV of a parcel undergoes an "extreme change," which is defined by DOF as an increase or decrease of 30 percent or more from one year's valuation to the next. QA is responsible for preparing and distributing the list of extreme changes for review, tracking and reporting on reviews completed and participating in meetings to discuss issues and review results. The extreme change parcels are reviewed by either supervisors (for extreme changes between 30 and 50 percent) or DOF's Assessment Review Team (for changes greater than 50 percent). The supervisors that review the extreme changes may be within the same district as the assessors whose parcels they are reviewing, whereas the Assessment Review Team is a separate group within DOF.

Documentation provided shows the Assessment Review Team reviewed 7,444 parcels in FY 2015 and FY 2016. The reviews were performed based on parcels highlighted in reports run by QA. We note, however, that the same QA reports indicated that 9,759 parcels were reviewed by supervisors, who may have reviewed the parcel initially, during the same two-year period. We questioned whether there was sufficient independence when QA identified an extreme change and the supervising assessor that had already reviewed this property was asked to do so again. DOF responded, "There are thousands of reviews which take place each year by non-borough supervisors to ensure the independence."

We did not question the need for the supervisors to review parcels with extreme changes, but we do question why such parcels are not necessarily reviewed by a different supervisor to ensure independence. DOF stated that due to time constraints for issuing the property tax roll, not all properties are initially reviewed by a supervisor. However, there was a risk that a supervisor who initially reviewed the parcel was asked to review it a second time. In such instances, we maintain that the QA review was not independent.

Recommendation

3. Ensure that supervisors who review parcels with extreme changes pursuant to QA instruction are independent from the initial review process.

Computer Assisted Mass Appraisal System Controls

Structured Query Language Changes

Edits are sometimes made in CAMA through Global Changes and mass updates which are executed through Structured Query Language (SQL) scripts and are applied to a group of parcels. However, DOF had no written policies and procedures for performing and documenting Global Changes. In response to the preliminary finding, DOF agreed that formal documentation of this process would be helpful. Also, officials stated that executed scripts and logs that contain information (such as when the script was created, who requested it, and who wrote it) are saved. User IDs may be an individual employee's ID, or a Service ID, such as "MDL" for Modeling.

Further, the Office of the New York City Comptroller's Internal Control and Accountability Directive 18 states, "Audit trails maintain records of a variety of system events and activities. Every data entry or change, all modifications of system software or application software, and changes in the authorized use of a system's physical resources should result in the recordation of the event so that management or auditors can trace any change back to its source. At a minimum, the audit trail should record the user ID associated with the event, date and time information, and session data and program and file usage."

In addition, according to the National Institute of Standards and Technology, an information system's audit records should contain information that establishes what type of event occurred, when the event occurred, where the event occurred, the source of the event, the outcome of the event, and the identity of any individuals or subjects associated with the event. In addition, New York City's Change Management Policy states that there must be appropriate segregation of duties between the requestor, reviewer, approver, and implementer. Compliance with internal control policies and requirements should be adequately documented.

However, the change control process for Global Changes did not ensure that changes made to parcels were reflected within the Audit Table or could be associated with a specific user. Therefore, DOF could not ensure that all changes made within CAMA were authorized and warranted.

The Audit Table should indicate the User ID of the person who executed the script. We requested 237 SQL scripts and logs that were implemented between July 2014 and January 2016. However, DOF could not locate 20 logs and 11 scripts. Our initial examination also showed that DOF did not have the email authorization for 19 SQL changes (17 scripts and 2 individual changes). In response, DOF officials stated that supporting records did exist; however, they were not readily accessible and DOF had to search through its archives to produce this information. Our initial request for authorizations was made on July 8, 2015. DOF produced the information on November 21, 2016,

16 months after the request was made. In their response, DOF acknowledged the need to have such documentation readily accessible and stated several changes were made to address these concerns.

DOF noted that a User ID or Service ID should be associated with every change. However, we found that the User ID that executed the script in CAMA was not identified for 93 scripts. Consequently, in the absence of the User ID in the logs, we could not determine who executed the change, although the log indicated the date and time of execution and number of records changed in the CAMA system. Moreover, when we reviewed the Audit Table for 51 parcels that were subject to an inadequately documented Global Change, we found no indication in the Audit Table that the change was made.

In addition, we could not identify the DOF official who requested 53 scripts because the scripts did not include the official's name, as otherwise required. Further, 61 scripts without User IDs had Property Identification in the body of the script, but none of the executed changes were posted to the Audit Table. In response to our findings, DOF provided documentation to identify the officials who requested 28 of the 53 scripts. However, there was no authorization for the creation of the remaining 25 (53-28) scripts.

According to the scripts and logs we reviewed, there were 8.56 million changes to parcels in the CAMA database. However, when we reviewed the Audit Table, we found no references to the changes. Therefore, changes were made without sufficient accountability or traceability within the system. In response to the preliminary finding, DOF stated that in some instances, this occurs when "rolling Vision (CAMA) data over and starting a new year." Further, officials stated that "recording these in the Audit Table would increase the volume dramatically and make the audit trail, used by assessors for valuation, difficult to read and understand."   Although this explanation is plausible, DOF officials provided no documentary support for it. Moreover, under such circumstances, officials should develop alternative mechanisms (compensating controls) outside of the Audit Table to document support for CAMA database changes.

Adding and Removing Users

CAMA's Access Security protocol states, "Managers of prospective users of the CAMA system (DOF and non-DOF employees) must submit a request form and receive approval for an employee to receive access. All requests are submitted to and approved by the Property Division's Administrative Assessors. Each approved user is assigned to one of thirteen streamlined VISION groups, ex. Assessor, Modelers, Supervisor, and each group has corresponding permissions."

An employee may require certain permissions in addition to those associated with their user group. If a user requires an additional permission outside their existing group, a request must be submitted. According to the Access Security protocol, "Additional permissions may be necessary if an employee has been assigned to a special project or an assessor is performing work for a different borough. The duration of any additional permission granted is determined by the Administrative Assessor. Temporary permission requests and corresponding termination dates are tracked by Property Security Administrator. Some Property Division employees have permanent additional permissions."

We reviewed a sample of 58 CAMA users (from a population of 80 users) who were added or removed from CAMA in FY 2015. We found two users were granted unauthorized permissions outside their CAMA user groups. Also, the CAMA access of four users was not authorized according to CAMA Access Security policies and procedures. The CAMA request access forms for one user were not signed by a Property Administrative Assessor. In addition, CAMA access forms of three other users did not have authorizers' signatures. In response to the preliminary finding, DOF provided an additional form with an authorizer's signature for one of the three users.

In addition, Access Security protocol states, "The CAMA accounts of employees that have separated from DOF must be disabled. The agency's Employee Services Division sends a weekly separations memorandum via email to DOF's Property Security Administrator. The memorandum lists the employees that have recently separated or are on leave from the agency. The accounts of CAMA users that are listed in the memorandum are disabled and an email confirming this action is sent to the QA Unit to be recorded. Disabled accounts remain on record in the system, which prevents the recycling of three character user id. Additionally, the last user group and permissions of the separated employees are also retained."

Also, according to Property's Security Administrator, Human Resources (HR) separation memoranda are received on Friday and the processing is usually completed on Monday or Tuesday of the following week. According to the Council on Cybersecurity in The Critical Security Controls for Effective Cyber Defense Version 5.0, "A process for revoking system access by disabling accounts immediately upon termination of an employee or contractor should be established and followed."

However, for three former employees, the forms to disable the employees' accounts were signed at least ten days after HR issued the separation memoranda. For one of the employees, the form was signed 66 days after the separation memorandum was issued.

Remote Access Capability

According to the policy of the New York City Department of Information Technology and Telecommunications (DoITT), remote "users must protect the confidentiality and integrity of data that is accessed remotely. This includes, but is not limited to, ensuring that City data is either erased from the remote device after use or appropriately protected based on the level of sensitivity of the information." In addition, "Modems, or modem type devices on desktops, laptops, and servers are not authorized entry points."

CAMA has remote access capabilities. When questioned about remote access, DOF officials stated that they were unaware of the employees who had access to (or used) the system's remote access capabilities; however, CAMA logs a user's actions via the Audit Table. As previously noted, 8.56 million changes were made in CAMA without the User ID in the Audit Table. Moreover, the Office of the New York City Comptroller's Internal Control and Accountability Directive 18, 8.1.3, states that "Access Control - Personal Computers (PC) - Information stored on a local PC hard disk or laptop, is subject to hazard even if access control or other software is installed."

Subsequently, DOF officials stated that DOF does not support dial-up networks and that remote

users connect to the network using a terminal server only. However, officials did not provide any documentation to support this statement. Officials also stated that DOF has a formal policy for remote access, but did not provide it to us.

Recommendations

4. Develop and implement policies and procedures for documenting Global Changes and mass updates, and comply with the Office of the New York City Comptroller's Internal Control and Accountability Directive 18.

5. Ensure that scripts and authorizations for scripts are kept in a secured folder to prevent unauthorized updates. The logs should be retained for a period of time to aid later review or investigation.

6. Ensure that a User ID or Service ID is recorded for every Global Change and mass update.

7. Prevent unauthorized data changes to properties by ensuring the requestors of all scripts are documented and that the executed scripts are what was requested and documented in the CAMA User Audit Table.

8. Ensure DOF officials document justifications for granting users additional permissions outside those normally granted for their respective user groups. Also, ensure that Property Administrative Assessors approve CAMA access requests to add users.

9. Disable accounts of employees immediately upon their separation from DOF.

10. Establish a formal policy for remote access and disseminate it to all remote users. Also, actively monitor the use of remote access.

Audit Scope, Objectives, and Methodology

To determine if DOF has controls to ensure the accurate determination of property tax assessments and whether all changes to the assessments were authorized. This audit focused on TC 2 properties that are valued as income producing, based on income and expenses. The audit covers the period July 1, 2013 through May 31, 2016.

To accomplish our objectives, we reviewed policies, procedures, and guidelines related to property tax assessments. We interviewed DOF as well as DoITT officials and employees to obtain an understanding of the internal controls related to both CAMA and our audit objectives. We selected a judgmental sample of 218 of the 272,640 TC 2 properties in the CAMA system in FY 2016 and reviewed the assessment methods. We focused our sample on properties where the market value did not change, or the market values decreased over two valuation periods. The sample covered all five boroughs of New York City. We also used mapping software to show the relation between changes in market values and the valuation methods used. We reviewed the CAMA system for assessor notes regarding these properties.

Regarding CAMA system change controls, we reviewed 237 of 340 SQL scripts and associated logs. Regarding CAMA system access, we judgmentally sampled 25 of the 47 DOF users who were granted access during the audit period. (Note: DOF granted five auditors read-only access to review property records during the audit's fieldwork, and the auditors were excluded from the sample selected.) Further, we reviewed all 33 CAMA users whose accounts were disabled.

We conducted our performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objective. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective.

As is our practice, we notified DOF officials at the outset of the audit that we would be requesting a representation letter, in which management would provide assurances, to the best of their knowledge, concerning the relevance, accuracy, and competence of the evidence provided to the auditors during the course of the audit. The representation letter is intended to confirm oral representations made to the auditors and to reduce the likelihood of misunderstandings. In this letter, Agency officials assert that, to the best of their knowledge, all relevant financial and programmatic records and related data have been provided to the auditors. Agency officials further affirm that either the Agency has complied with all laws, rules, and regulations applicable to its operations that would have a significant effect on the operating practices being audited, or that any exceptions have been disclosed to the auditors. However, DOF officials have not provided a representation letter in connection with this audit. As a result, we lack assurance from DOF officials that all relevant information was provided to us during the audit. Furthermore, we note that DOF took over 16 months to provide some of the supporting documentation auditors requested.

In addition to being the State Auditor, the Comptroller performs certain other constitutionally and statutorily mandated duties as the chief fiscal officer of New York State. These include operating the State's accounting system; preparing the State's financial statements; and approving State contracts, refunds, and other payments. In addition, the Comptroller appoints members to certain boards, commissions, and public authorities, some of whom have minority voting rights. These duties may be considered management functions for purposes of evaluating organizational independence under generally accepted government auditing standards. In our opinion, these functions do not affect our ability to conduct independent audits of program performance.

Authority

This audit was performed pursuant to the State Comptroller's authority under Article V, Section 1 of the State Constitution and Article 3, Section 33 of the General Municipal Law.

Reporting Requirements

We provided draft copies of this report to DOF officials for their review and formal comment. We considered their comments in preparing this final report and have attached them to it. In their response, DOF officials agreed or partially agreed with nine of the report's ten recommendations. Officials also provided clarifications of certain policies and practices related to property valuation. Where adequately supported by documentation, we revised our report to strengthen its technical accuracy based on DOF's clarifications. Further, our rejoinders to certain DOF comments are included in the report's State Comptroller's Comments.

Within 90 days after final release of this report we request the Commissioner of the New York City Department of Finance report to the State Comptroller advising what steps were taken to implement the recommendations contained herein, and where recommendations were not implemented, the reasons why.

Contributors to This Report

Carmen Maldonado, Audit Director
Abe Fish, Audit Manager
Daniel Raczynski, Audit Supervisor
Lisa Duke, Examiner-in-Charge
Urszula Boczon, Senior Examiner
Menard Petit-Phar, Senior Examiner

Division of State Government Accountability

Andrew A. SanFilippo, Executive Deputy Comptroller
518-474-4593, asanfilippo@osc.state.ny.us

Tina Kim, Deputy Comptroller
518-473-3596, tkim@osc.state.ny.us

Brian Mason, Assistant Comptroller
518-473-0334, bmason@osc.state.ny.us

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To improve government operations by conducting independent audits, reviews and evaluations of New York State and New York City taxpayer financed programs.

Agency Comments

NYC
Department of Finance

Property Division
66 John Street, 12ᵗʰ Floor
New York, NY 10038
Tel. 212.291.4797
Fax 212.489.3026

Timothy Sheares
Deputy Commissioner

May 10, 2017

Carmen Maldonado
Office of the State Comptroller
Division of State Government Accountability
59 Maiden Lane, 21ˢᵗ floor
New York, NY 10038-3804

Re: Draft Report - Selected Controls Over the Property Tax Assessment Process 2015-N-1

Dear Ms. Maldonado,

The Department of Finance (DOF) appreciates your audit of selected controls over the property tax assessment process, as we constantly work to improve our procedures. We have reviewed the findings and addressed specific inaccuracies and misunderstandings in the report. Property valuation in New York City is very complex due to legal requirements, the diversity of property types and the sheer volume of parcels. We appreciate the suggestions for improvements and provide discussion in areas where we agree that further review or procedural changes are warranted.

Assessing and Valuating Real Property Parcels

Required Parcel Inspections

The Draft Report identified 189 parcels where there was no documentation of field visits during the recent three year period or, in some cases, for many years. As explained by DOF, prior to the Administrative Inspection Project (AIP) assessing staff conducted extensive field work covering all parcels citywide. These inspections were not, however, recorded consistently in CAMA until AIP. When an inspection was done as part of an assessor's annual "neighborhood survey" in their district, the assessor was not required to make a separate entry into CAMA. Only those with changes would require a specific note.

While DOF recognizes the importance of thoroughly documenting all parcel inspections, the standard set forth by the New York State Office of Real Property Tax Services (ORPTS) does not require parcel-level documentation. Annual reassessment municipalities are required to certify their inspection plan on form RP-1573 and submit this certification to ORPTS.

Although DOF has already met the New York State standard, the new Administrative Inspection Project will provide better documentation of these inspections to more directly demonstrate the agency's compliance with the law. As of the date of the Draft Report, two years of the first 3-year cycle were complete with a total of 580,000 parcels seen. 2017 is the third year of AIP and all remaining parcels will be seen.

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*See State Comptroller's Comments, page 26.

Assessment Methods

Comparable Parcels

DOF agrees that property notes by the assessors are important. DOF currently requires assessors to add a note when any comparable parcels are added outside the initial selection by CAMA. For FY18 the compliance rate is 81%. The Quality Assurance Unit, as part of its routine work, will continue to monitor notes compliance and provide compliance reports to supervisors. We expect the note compliance rate to continue to increase in upcoming years.

Valuation of real property is a professional discipline requiring knowledge, experience and a great attention to detail. All of the major industry groups as well as the State of New York Office of Real Property Tax Services (ORPTS) recognize that valuation is an "opinion of value" and that the concept of value is truly a range, not one number.

The Modeling Unit generates a listing of comparable candidates in a uniform manner. Comparability is based on tax class, building class, distance, age, gross building area, among other descriptive and locational characteristics. Assessors have access to other tools, data, and information on the internet which they can consider to select more appropriate comparables if necessary.

Changes in Valuation Methods

The Assistant Commissioner, Director of Field Valuation and other policy makers determine the parcels to be assigned to assessors or Modeling (import, comp rent, trends). The decisions to employ one methodology over another are deliberate and carefully considered by Property Division managers, and are based on statistical analysis and many factors including staffing, the RPIE filer population, any enhancements or improvements to guidelines or modeling and time constraints. In the Guide to Assessment Policies and Procedures ("Assessor Guide") each of the available valuation options are described in detail and updated annually for accuracy.

Parcels are assigned to assessors with directions of which parcels to be valued using specific methodologies. The methodology can be changed by assessors as long as it fits within directions from management, detailed in the Assessor Guide or other instructions. Assessors are directed to provide a note if they change the methodology of parcels assigned to them that year. When parcels are reviewed by supervisors or Assessment Review, part of their review is determining if an assessor note was required. In cases where a note is missing, often an experienced assessor or manager can immediately see the reason.

RPIE filings are crucial for tax class 2 and 4 valuations, as they are used both on individual parcels and collectively for guidelines. In certain circumstances Property is prohibited from using a filed RPIE (e.g. condos and cooperatives). In other cases the RPIE submitted cannot be used because it is incomplete, misleading or consolidated in such a way that the assessor is compelled to reject it in favor of a more defensible approach. Collectively, RPIEs are the source for establishing valuation guidelines for income properties. While each filer is not valued by its filing, it is valued consistently as properties in the same BCATS (building category groups) with the same income will be valued similarly, using the same maximum expense ratio and capitalization rate.

Consistent modeling/valuation between periods is desirable if conditions are stable but not always possible because in a dynamic real estate market where the interests of buyers, sellers, lessors and

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lessees are constantly changing, macro and microeconomic forces are often at odds with one another. Capturing this change requires a flexible approach and that approach many need to change depending on the economic environment. Professionals in valuation understand that the assessment of real estate assets is not constant and that perpetuating a singular value approach could lead to inaccuracy and even greater tax inequity.

The RPIE filing population, for example, is constantly changing from one year to the next. Assessors may not have an RPIE to work with this year because the property may have sold, been under construction, rendered entirely vacant or owner occupied, etc. As a result, a new valuation methodology may be required such as Import or Comp Rent to produce a value.

Assessments of Similar Properties within the Same Block

Varying approaches are acceptable and even necessary when there are significant differences between parcels. In the sample provided there are disparities in building characteristics, lease terms, rent stabilization vs. market rent, average unit size, number and size of commercial units, Tax Commission actions etc. While their parcels may appear to be comparable in terms of building class and location, it is an oversimplification to not recognize the important differences between these parcels. One of these parcels has 7 total units while another has 16. With more than twice as many units for rent it is unlikely that the two income properties are comparable. Moreover, the filings themselves in FY14 suggest a substantial difference in economics for each property. One of the lots filed a net operating income (NOI) of approximately $120,000 while another had a filed NOI of approximately $950,000. It would be inconsistent with common assessment practice to compare these two parcels with significant lease differences.

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Quality Assuring the Assessment and Valuation Process

The Draft Report expresses some concern of independence of reviews for parcels that were reviewed more than once by the same supervisor. As described by the Draft Report, there are two major review tracks during the Tentative Period, those reviewed by supervisors and those reviewed by the Assessment Review Unit. Multiple review lists are sent out to each group during this period. In addition, supervisors can identify other parcels for review based on their judgment as a supervisor. A supervisor may choose parcels valued by a new assessor or in an area of valuation where the supervisor has previously seen errors, or particularly complex parcels /developments or new construction.

Reviewing the assessors' work and providing feedback is an invaluable part of a supervisor's work. Some examples of where this is desirable and part of good supervisory practices include: (1) A new building constructed over two years, with the supervisor checking to make sure the assessor has valued it correctly at each point in the process; (2) Training - a supervisor reviews a parcel, returns it to the assessor to correct, then the supervisor review it again to ensure that the changes were made properly; (3) The supervisor with experience in a particular borough has more in-depth of knowledge about complex parcels such as consolidated RPIE filers with multiple parcels or high value properties.

In addition to the two review streams (supervisors and Assessment Review), there are many other checks as part of the process that provide independence. During the Change-by-Notice Period (CBN) several thousands of parcels are reviewed through the Request for Review process (RFR). When property owners submit an RFR for DOF to review their parcels, an assessor and supervisor different from the original assessor and supervisor perform the review, as well as an Assessment Review assessor.

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The Tax Commission and other judicial entities also review applications submitted to them, performing another independent review. In addition, highly skilled professionals trained in statistics, data analysis and mapping who work in Quality Assurance, Modeling, Property Reporting Group, Property Analysis Group and others perform analysis throughout the year to identify issues, errors and anomalies in the roll. Research on this analysis is often at the parcel level.

Computer Assisted Mass Appraisal System Controls

Structured Query Language Changes

The Draft Audit incorrectly identifies the Structured Query Language Changes (SQLs) which are part of DOF's business process as being subject to Directive 18 (event or database changes). The SQLs are changes to the data in CAMA, not the database structure. DOF is in compliance with Directive 18 currently. In the database event audit log DOF records the user ID associated with the event, date and time information, session data and program and file usage.

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That being said, DOF's intention is to comply with the spirit of Directive 18 in the SQL process also. It is important to clarify the different processes involved with CAMA changes. There are the standard CAMA application initiated processes which include mass update utilities and system maintenance. There is also the batch process from RPAD to CAMA. Some of these produce user audit entries and others do not. These processes are verified through procedures set up and thoroughly tested as part of the CAMA application.

The other process is the SQL scripts that are run during the valuation season and should have user audit entries. The key elements of the SQL script process are the requestor, script author, approver, executor and log. Emails document the authorizations and the log is kept in secure folders.

The auditors are correct that DOF was unable to locate a few logs and authorizing emails due to archiving practices. DOF has since implemented several changes to address these concerns. First, a specific email box is now used that authorization and confirming emails are stored in and archived. Secondly, the standard practice is for Finance IT (FIT) to load the scripts on the CAMA batch server for processing. When the SQL is executed, a confirming email (which includes the log) is automatically sent to multiple senior staff in FIT and the business unit, and the designated SQL email box. The log is also automatically sent to the secure folders.

The Draft Report overstated the number of examples where documentation was missing. Many of the examples cited by the auditors fall into the previous category of application initiated processes and are not "SQL scripts." The Draft Report cited 11 missing scripts. Information was provided previously to the auditors; only 4 examples were SQLs and documentation was provided for those 4. The Draft Report also cited missing email authorizations for 26 scripts. DOF previously provided information to the auditors. Only 19 were SQLs and 18 email authorizations were provided. One email authorized 2 scripts. Two were individual changes, not scripts. Five of the 26 were mass update utility procedures. DOF provided documentation and held two meetings to demonstrate the mass update process to auditors.

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The Draft Report cited 93 scripts with no user or service IDs for the executor. The group of FIT staff who can execute these scripts is highly controlled and includes only two people. The business unit, Property, does not have any access to execute these scripts or any access to the secure log folders.

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The Draft Report is correct that the individual name of the requestor was not included in 53 scripts, but instead referred to the general unit. As stated in the Draft Report, DOF found authorization documentation for 28. Internal procedures have now been changed, requiring the specific name of the requestor to be included in the script.

We disagree with the auditor's concern that DOF cannot ensure that all changes made within CAMA were authorized and warranted. The requestor and/or script author verify the results in the TEST environment before the exact same script is promoted to Production. There is clear segregation between the business unit (Property) and the script execution (FIT). Only two staff in FIT can execute the scripts. And finally, multiple senior managers and an archived email box are copied on scripts automatically.

DOF agrees that formal written documentation on the Global Change process is useful for operational, audit and transparency purposes. Furthermore, it is important to document which actions are in the category of CAMA application initiated and which are SQL scripts, and which require user audit entries. DOF is developing a draft policies and procedures document which will include these items, to be completed by November 2017.

Adding and Removing Users

DOF acknowledges that two users were granted permissions outside their CAMA user groups. In both cases the permissions were appropriate for their daily work assignments, but no forms existed for the extra permissions. For new users, DOF acknowledges that four forms did not have the appropriate signatures. In those cases we also found that the permissions were appropriate and necessary for their daily work assignments. DOF has developed a new permissions tracking database that is now being used to track all CAMA permission changes.

The Draft Report cited cases where the forms to disable user accounts were signed well after the HR separation memorandum. This is not a security issue, as access to the DOF network is *disabled immediately* upon separation, so that former employees are not able to access the CAMA application or any application on the DOF network. The accounts of separated employees are generally specifically disabled from CAMA within a few days of notification from the Employee Services Division. In the cases cited in the Draft Report, the accounts were disabled earlier, but the forms were not completed until later. The completion of the access form to disable users is a formality, as the HR separation memoranda serves as the formal document.

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Remote Access Capability

DOF does not support dial-up networks and remote users connect to the network via Juniper terminal server to log into the network only. There is no information or City data stored locally on user devices. A senior manager from FIT discussed this with auditors and we are unsure what evidence the auditors require as DOF does not have the infrastructure for the dial-up network.

The auditors also recommended that DOF have a policy on remote access for employees. DOF already has that in the form of the DOF policy "Securing Federal Tax Information Policy" and also the Tax Secrecy Memorandum ("Access, Inspection, Use and Disposal of Tax Secret and Confidential Information") which was distributed most recently by memorandum from DOF Commissioner Jacques

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Jiha, dated March 3, 2017. All employees are required to sign the Tax Secrecy certification annually. Confidentiality outside the office is specifically addressed in this document, as are data privacy rules and internet usage. Both of these documents were provided to the auditors. Other references to overall confidentiality are included in the Code of Conduct and the Employee Handbook.

FIT is currently conducting a Security Awareness Program to educate and remind employees about security issues. In addition, DOITT publishes citywide IT policies and standards which we will provide to the auditors. DOITT maintains an overall Juniper Terminal Server Event Log for remote access. A screenshot of this log was provided to the auditors.

Recommendations

1. Require field valuation employees to conduct and document the necessary periodic inspections of real property parcels, as prescribed.

   DOF Response: DOF agrees with this recommendation.
   The new Administrative Inspection Project (AIP) provides better documentation of these inspections so that DOF can demonstrate more directly the agency's compliance with the law. 2017 is the third year of AIP and all remaining parcels not seen in 2015 or 2016 will be seen.

2. Ensure the reason for the valuation method selected for parcels is clearly documented in CAMA.

   DOF Response: DOF partially agrees with this recommendation.
   DOF does not agree that there needs to be an individual note in CAMA regarding management's inventory or policy decisions which may result in year to year methodology changes, as those are recorded in other documents. Assessors are directed to provide a note in CAMA if they change the methodology of parcels assigned to them that year. When parcels are reviewed by supervisors or Assessment Review, part of their review is determining if an assessor note was required.

3. Ensure that supervisors who review parcels with extreme changes pursuant to QA instruction are independent from the initial review process.

   DOF Response: DOF disagrees with this recommendation.
   The overall framework of the quality assurance and property valuation review process provides a high degree of independence. DOF disagrees with the recommendation as there are particular cases where it is appropriate for a supervisor to review parcel multiple times during the same period or subsequent periods.

4. Develop and implement policies and procedures for documenting Global Changes and mass updates and comply with Internal Control and Accountability Directive #18 of the New York City Comptroller.

   DOF Response: DOF agrees with this recommendation.
   DOF is in compliance with Directive #18 currently. In the database/application event audit log DOF records the user ID associated with the event, date and time information, session data and program and file usage. Separately, DOF agrees that formal written documentation on the Global Change process is useful for operational, audit and transparency purposes. DOF is

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currently developing a draft policies and procedures document, to be completed by November 2017.

5. Ensure that scripts and authorizations for scripts are kept in a secured folder to prevent unauthorized updates. The logs should be retained for a period of time to aid later review or investigation.

DOF Response: DOF agrees with this recommendation.
DOF has implemented several changes to address these concerns and is currently in compliance with this recommendation. A specific email box is now used where authorization and confirming emails (including logs) are stored and archived. When the SQL is executed, a confirming email (which includes the log) is sent to multiple senior staff in FIT and the business unit, and is automatically sent to the designated email box. The log is also automatically sent to the secure folders. The business unit, Property, does not have any access to execute these scripts in Production or any access to the secure log folders.

6. Ensure that a User ID or Service ID is recorded for every Global Change and mass update.

DOF Response: DOF partially agrees with this recommendation.
DOF agrees that for every action that requires a user audit entry there should be a specific user ID or service ID, and this will be included in DOF's policies and procedures. The standard CAMA application initiated processes which include mass update utilities, batch processes and system maintenance do not require user audit entries as they already have tested controls in place.

7. Prevent unauthorized data changes to properties by ensuring the requestors of all scripts are documented and that the executed scripts are what was requested and documented in the CAMA User Audit Table.

DOF Response: DOF agrees with this recommendation.
DOF agrees that the requestors of all scripts should be documented. The requestor's name is now required to be contained in all scripts. DOF also agrees that it is critical to verify that the executed scripts are what was requested. This is done as part of the routine testing process now. SQL scripts, as defined earlier, should be documented in User Audit. These items will be included in the policies and procedures.

8. Ensure DOF officials document justifications for granting users additional permissions outside those normally granted for their respective user groups. Also, ensure that Property Division Administrative Assessors approve CAMA access requests to add users.

DOF Response: DOF agrees with this recommendation
Requests/approvals for additional permissions are currently documented and we agree that this should continue. DOF also agrees that Administrative Assessors must approve CAMA access requests to add users. DOF is currently in compliance with this recommendation.

9. Disable accounts of employees immediately upon their separation from DOF.

DOF Response: DOF agrees with this recommendation.
The access to the DOF network is disabled immediately upon separation, so that former employees are not able to log into any DOF computer device, which means they cannot access the CAMA application or any other application on the DOF network. The accounts of separated
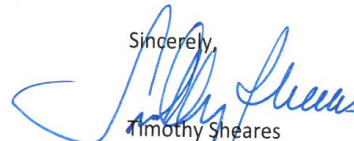
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employees are generally specifically disabled from CAMA within a few days of notification from the Employee Services Division.

10. Establish a formal policy for remote access and disseminate it to all remote users. Also, actively monitor the use of remote access.

DOF Response: DOF agrees with this recommendation.

DOF already has formal policies in place and DOITT publishes citywide IT policies and standards, as detailed earlier in this response. DOF IT is currently conducting a Security Awareness Program to educate and remind employees about security issues. DOITT maintains an overall Juniper Terminal Server Event Log for remote access.

Sincerely,

Timothy Sheares
Deputy Commissioner

cc: Michael Hyman, First Deputy Commissioner
Carmela Quintos, Assistant Commissioner
Sam Mayer, Senior Director, Internal Audit

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State Comptroller's Comments

1. New York City Administrative Code 11-207 prescribes the duties of assessors in assessing property: "In performing their assessment duties, the assessors shall personally examine each parcel of taxable real estate during at least every third assessment cycle, and shall personally examine each parcel of real estate that is not taxable during at least every fifth assessment cycle, as measured from the last preceding assessment cycle during which such parcel was personally examined." Without complete, accurate, and timely documentation of inspections, DOF is unable to substantiate that the required inspections were performed in accordance with the Administrative Code.

2. We acknowledge that an experienced assessor or manager could, in certain instances, "immediately see the reason" when a required note was missing. However, there is material risk of speculation in such instances, which may not be acceptable given the significance of the matters in question. Rather than speculate, it would be better to contact the responsible assessor to ask for the missing information. Documentation preserves evidence to substantiate a decision and takes guesswork out of the process.

3. DOF made a similar statement in response to our preliminary findings. However, when we requested documentation to support the "disparities in building characteristics," DOF did not provide any documentation detailing the purported disparities. Thus, we maintain that our presentation of this matter is accurate.

4. We did not question a supervisor's review of the work of the assessors, as that is a necessary part of the monitoring process. The issue in our report relates to the "extreme changes" process, whereby an assessment is reviewed by the same supervisor who reviewed and signed off on the original assessment. Moreover, DOF's position is inconsistent. Under the RFR process, DOF requires that the original assessor and supervisor be different from those who perform subsequent reviews. However, they object to this same level of scrutiny when there is an extreme change (an increase or decrease of 30 percent or more) from one year's valuation to the next.

5. We maintain that our report is correct. Directive 18 states, in part, "Every data entry or change…" As such, the requirement is not limited to an "event or database" change, as DOF otherwise indicates in its response.

6. Based on the information DOF provided in response to the draft report, we revised the final report to improve its technical accuracy.

7. We requested documentation to support that the accounts were, in fact, disabled in a timely manner. However, DOF officials informed us that they were unable to provide documentation of the dates the accounts were disabled, as the information was not available to them. Also, we requested a meeting with the System Administrator regarding this matter. However, officials did not provide auditors with access to the System Administrator to discuss it.