

*A REPORT BY THE NEW YORK STATE
OFFICE OF THE STATE COMPTROLLER*

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COMPTROLLER**



***NEW YORK CITY DEPARTMENT OF HOUSING
PRESERVATION AND DEVELOPMENT***

***ENERGY COST REDUCTION AT MITCHELL-
LAMA HOUSING DEVELOPMENTS***

2003-N-2

DIVISION OF STATE SERVICES

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Alan G. Hevesi
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Report 2003-N-2

Mr. Shaun Donovan
Commissioner
New York City Department of Housing
Preservation and Development
100 Gold Street
New York, NY 10038

Dear Mr. Donovan:

The following is our audit report addressing actions that could be taken to reduce energy costs at Mitchell-Lama housing developments overseen by the New York City Department of Housing Preservation and Development.

This audit was performed pursuant to the State Comptroller's authority, as set forth in Article V, Section 1 of the State Constitution and Article 3 of the General Municipal Law. Major contributors to this audit report are listed in Appendix A.

Office of the State Comptroller
Division of State Services

September 16, 2004

EXECUTIVE SUMMARY

NEW YORK CITY DEPARTMENT OF HOUSING PRESERVATION AND DEVELOPMENT

ENERGY COST REDUCTION AT MITCHELL-LAMA HOUSING DEVELOPMENTS

SCOPE OF AUDIT

The New York City Department of Housing Preservation and Development (HPD) supervises 135 housing developments with City-held mortgages that were created under the New York State Private Housing Finance Law (the Mitchell-Lama Law). HPD has full supervisory responsibility for 50 developments and shares supervisory responsibility for the remaining 85 developments with the United States Department of Housing and Urban Development (HUD). Mitchell-Lama housing developments are moderate and middle-income rental and cooperative units. They are privately owned and managed. Energy costs are significant at the developments, as we estimate that it accounted for 47 percent of the developments' operating costs in calendar year 2002. In a prior audit report (Report 2000-S-6), we found that energy costs at Mitchell-Lama developments supervised by New York State could be reduced by as much as \$16 million a year through energy conservation measures and improved energy management practices.

This audit addressed the following question about energy costs at HPD-supervised Mitchell-Lama housing developments for the period January 1, 2002 through December 31, 2002:

- Could energy costs at the housing developments be significantly reduced through the implementation of conservation measures and competitive purchasing practices?

AUDIT OBSERVATIONS AND CONCLUSIONS

We analyzed energy use at 57 of the 135 New York City Mitchell-Lama housing developments and found that energy costs at these developments could be reduced by more than \$7 million a year through conservation measures and competitive purchasing practices. Significant reductions in energy costs may also be possible at the other 78 developments. We recommend that HPD create an energy unit, in coordination with HUD as appropriate, to monitor energy costs

and promote conservation programs at the developments, and actively work with the managing companies to facilitate the implementation of conservation and other cost-saving measures. We also recommend that the savings from such measures be used to pay any mortgage and real estate tax arrears owed to New York City by the housing companies, or to make needed repairs and capital improvements at the developments.

The New York State Division of Housing and Community Renewal (DHCR) oversees housing developments that are similar to those overseen by HPD. DHCR actively promotes energy audits and other conservation programs at its housing developments and collects information showing the amount and cost of the energy used. HPD, however, is not involved in energy conservation programs and does not collect information about energy use at its developments. We analyzed energy use at the 57 developments and found that, if HPD took a more active role in promoting conservation, energy costs at the developments could be reduced by millions of dollars a year. (See pp. 15-17)

Mitchell-Lama developments are heated by one of five types of heating systems: oil, gas, oil and gas, steam, and electricity. We analyzed the potential for significant reductions in heating costs for each type of heating system, and found that these costs could be reduced by more than \$7 million a year. Heating costs at the oil-heated developments could be reduced by about \$4.1 million a year, as annual savings of \$3.35 million could be realized through energy conservation measures, while annual savings of more than \$750,000 could be realized through the competitive purchasing of heating oil on the open market. Several developments could reduce their heating costs by more than 40 percent a year, including one development that could achieve a 62 percent reduction. (See pp. 17-22)

Similarly, heating costs at the developments heated by electricity could be reduced by more than \$2 million a year if their heating systems were converted to oil, and heating costs at steam-heated developments could be reduced by about \$1.3 million a year through the implementation of energy conservation measures. Significant reductions in energy costs may also be possible at the 78 developments not included in our analysis. These developments were excluded because complete energy data was not available for them. In performing our analyses, we used methodologies developed by a consultant with expertise in energy conservation. (See pp. 22-26)

While some costs would have to be incurred by the developments to implement the conservation measures, such costs are generally small and quickly recovered through the resulting savings. More significant costs would have to be incurred at the developments heated by electricity, as they would need to convert to a different type of heating system. However, these costs would eventually be recovered from the annual savings in heating costs. We recommend that HPD help the managing companies at each affected development perform payback analyses to assess the cost-effectiveness of such conversions.

COMMENTS OF HPD OFFICIALS

A draft copy of this report was provided to HPD officials for their review and comment. Their comments have been considered in preparing this report. Where appropriate, we have made changes to the report. HPD officials objected to the inclusion in the audit of the developments they jointly supervise with HUD and requested they be removed from the report, since they are outside of HPD's supervision with regards to energy costs. HPD officials also asserted that the methodology used to compare consumption among developments was not valid and disagreed with most of our conclusions and recommendations. HPD's complete response is included as Appendix B.

A component of HPD's mission is to improve the affordability and quality of housing in New York City. We believe that our recommendations, if implemented, would help to do this by reducing Mitchell-Lama energy costs. DHCR officials embraced similar recommendations we made in our audit of the State-supervised Mitchell-Lama developments. DHCR officials informed us that the resulting reductions in energy costs could far exceed our estimate of \$16 million a year. Our conclusions regarding energy consumption and potential cost reductions have been made using many of the same methodologies that were developed for us by a consultant for the DHCR audit. We recognize HPD's limited role in the jointly-supervised developments and recommend that HPD coordinate with HUD to monitor their energy costs. Appendix C is the State Comptroller's Notes to HPD's response.

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INTRODUCTION

Background

According to the mission statement of the New York City Department of Housing Preservation and Development (HPD), “HPD strives to improve the availability, affordability and quality of housing in New York City. As the nation’s largest municipal housing agency, HPD works with private, public and community partners to strengthen neighborhoods and enable more New Yorkers to become homeowners or to rent well-maintained, affordable housing.” HPD has many responsibilities, including supervision of 135 privately-owned housing developments that were created under the authority of Article II of the New York State Private Housing Finance Law (commonly referred to as the Mitchell-Lama Law). Mitchell-Lama housing developments are moderate and middle-income rental and cooperative units. New York City has helped keep rents affordable by providing low-interest mortgages and/or tax exemptions to these buildings. The New York State Division of Housing and Community Renewal (DHCR) supervises an additional 211 Mitchell-Lama housing developments statewide, 92 of which are located in New York City.

HPD has full supervisory responsibility for 50 of the 135 Mitchell-Lama housing developments, and shares supervisory responsibility for the remaining 85 developments with the United States Department of Housing and Urban Development (HUD). These 85 developments were refinanced during New York City’s fiscal crisis in the late 1970s, and now have two mortgages. Their first mortgages (\$487 million) are held by HUD, while their second mortgages (\$1.7 billion) are held by New York City.

HPD supervises applicant admission waiting lists and pre-approves admissions and transfers for all 135 Mitchell-Lama developments. HPD also acts as the supervisory agency in all other management and financial issues affecting the 50 solely-supervised developments. HUD is the supervisory agency in the management and financial issues affecting the 85 jointly-supervised developments. Managing companies are responsible for the day-to-day operations of the Mitchell-Lama developments, including maintenance activities such as energy conservation.

Energy costs are significant at Mitchell-Lama developments, as we estimate it accounted for 47 percent of the developments' operating costs in calendar year 2002. In an audit report that was issued in March 2001 (Report 2000-S-6), we noted that energy costs at the Mitchell-Lama developments supervised by DHCR could be significantly reduced if certain actions were taken by DHCR and the managing companies. Assisted by a consultant with expertise in energy conservation, we estimated that savings of as much as \$16 million a year could be realized if buildings heated by electricity were converted to gas heating systems and if better energy management practices were adopted at housing developments with gas or oil heating systems. When we followed up on Report 2000-S-6 in 2003 (Report 2003-F-1), we found that DHCR had implemented, or was in the process of implementing, our audit recommendations. Moreover, DHCR officials informed us that the reductions in energy costs could far exceed our earlier estimate of \$16 million a year.

Audit Scope, Objective and Methodology

We audited HPD's oversight of energy costs at Mitchell-Lama housing developments for the period January 1, 2002 through December 31, 2002, with some information updated through December 18, 2003 (the date of our last field observation). The objective of our performance audit was to determine whether energy costs at the housing developments could be significantly reduced through the implementation of conservation measures and competitive purchasing practices.

To accomplish our objective, we interviewed HPD officials, managing company officials and individuals with expertise in the energy conservation field. We reviewed and analyzed pertinent laws, policies, procedures, records and reports. We also visited and spoke to managing company officials at nine housing developments and conducted telephone inquiries with managing company officials at other housing developments to review and assess energy conservation efforts they have implemented, as well as to identify conditions that lead to excessive energy costs. In addition, on the basis of information that we obtained from HPD and the managing companies, we accumulated and analyzed actual energy consumption and cost information for the housing developments.

We also obtained certain information from the American Society of Heating, Refrigerating and Air-Conditioning Engineers

(ASHRAE) and New York State Energy Research and Development Authority (NYSERDA), and used this information to quantify the reductions in energy consumption that could be realized by the housing developments through energy conservation activities. We also made use of some of the methodologies that were developed by the consultant to our prior audit of energy costs at Mitchell-Lama housing developments supervised by DHCR. In addition, we reviewed the High Performance Building Guidelines issued by the New York City Department of Design and Construction, and interviewed officials of the New York City Housing Authority, which owns projects and is responsible for their management issues.

As is our practice, at the outset of the audit we requested a representation letter from HPD management. The representation letter is intended to confirm oral representations made to the auditors and to reduce the likelihood of misunderstandings. Agency officials normally use the representation letter to assert that, to the best of their knowledge, all relevant financial and programmatic records and related data have been provided to the auditors. They affirm either that the agency has complied with all laws, rules, and regulations applicable to their agency's operations that would have a significant effect on the operating practices being audited, or that any exceptions have been disclosed to the auditors. However, officials of the Mayor's Office of Operations have informed us that, as a matter of policy, Mayoral agency officials do not provide representation letters in connection with our audits. As a result, we lack assurance from HPD officials that all relevant information was provided to us during this audit.

We conducted our audit in accordance with generally accepted government auditing standards. Such standards require that we plan and perform our audit to adequately assess those operations of HPD that are included in the audit scope. Further, these standards require that we understand HPD's internal control structure and compliance with those laws, rules and regulations that are relevant to the operations that are included in our audit scope. An audit includes examining, on a test basis, evidence supporting transactions recorded in the accounting and operating records and applying such other auditing procedures as we consider necessary in the circumstances. An audit also includes assessing the estimates, judgments and decisions made by management. We believe that our audit provides a reasonable basis for our findings, conclusions and recommendations.

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, several of which are performed by the Division of State Services. 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 management functions do not affect our ability to conduct independent audits of program performance.

Response of HPD Officials to Audit

A draft copy of this report was provided to HPD officials for their review and comment. Their comments have been considered in preparing this report. Where appropriate, we have made changes to the report. HPD officials objected to the inclusion in the audit of the developments they jointly supervise with HUD and requested they be removed from the report, since they are outside of HPD's supervision with regards to energy costs. HPD officials also asserted that the methodology used to compare consumption among developments was not valid and disagreed with most of our conclusions and recommendations. HPD's complete response is included as Appendix B.

A component of HPD's mission is to improve the affordability and quality of housing in New York City. We believe that our recommendations, if implemented, would help to do this by reducing Mitchell-Lama energy costs. DHCR officials embraced similar recommendations we made in our audit of the State-supervised Mitchell-Lama developments. DHCR officials informed us that the resulting reductions in energy costs could far exceed our estimate of \$16 million a year. Our conclusions regarding energy consumption and potential cost reductions have been made using many of the same methodologies that were developed for us by a consultant for the DHCR audit. We recognize HPD's limited role in the jointly-supervised developments and recommend that HPD coordinate with HUD to monitor their energy costs. Appendix C is the State Comptroller's Notes to HPD's response.

Within 90 days after final release of this report, we request that the Commissioner of HPD report to the State Comptroller, advising what steps were taken to implement the recommendations contained herein, and where recommendations were not implemented, the reasons therefor.

ENERGY COST REDUCTION

We found that HPD does not monitor energy costs at the Mitchell-Lama housing developments. We recommend that HPD establish a mechanism for such monitoring, and actively work with the managing companies to facilitate the implementation of conservation measures and competitive purchasing practices. We have determined that such measures and practices could result in savings of more than \$7 million a year. We recommend that such savings be used to pay any mortgage and real estate tax arrears owed to New York City by the housing companies, or to make needed repairs and capital improvements at the developments.

Energy Management Practices at HPD

ASHRAE has established standards for operating and maintaining buildings in an energy-efficient manner. According to these standards, it is critical that the energy consumed by a building be continually monitored. In addition, the standards state that comparing a building's energy consumption with similar buildings in a similar climate and maintaining the equipment in accordance with manufacturer standards are key steps to realizing energy savings.

We asked HPD officials whether they monitor energy consumption and cost at the Mitchell-Lama housing developments. The officials stated that they do not perform such monitoring, and HPD does not collect information from the managing companies or housing companies about energy use and cost at the housing developments. HPD officials stated that HPD does not have any energy conservation requirements for the developments, and accordingly, they do not believe it is necessary for them to devote efforts in this area. The officials stated that the managing companies are responsible for matters relating to the maintenance of the housing developments.

Managing companies are responsible for day-to-day operations at the housing developments. However, each managing company is responsible only for its own development(s). As the supervising agency responsible for all the developments, HPD has the ability to analyze energy consumption among the Mitchell-Lamas. For example, HPD could obtain information

from the managing companies that would enable it to compare energy use at different developments, identify rates of consumption that appear to be higher than necessary, and work with the managing companies to implement improvements that would result in reduced consumption and costs. HPD could also administer and coordinate conservation efforts affecting more than one development.

We note that such improvement efforts are being undertaken by DHCR and the New York City Housing Authority (NYCHA). For example, NYCHA has an energy management program for its housing developments, and it actively promotes energy conservation programs, such as energy audits of the developments, and new energy-efficient technologies, such as dual fuel conversions and computerized heat automated systems. DHCR has asked NYSERDA to help it identify and implement energy conservation measures at its Mitchell-Lama housing developments. NYSERDA sent consultants to the developments to determine whether energy audits were warranted, and if so, audits were performed by engineering firms and the results were reported to the managing companies. Such audits identify the costs and benefits of certain energy conservation measures. DHCR maintains copies of the energy reports, and the development and NYSERDA share the cost of the audit.

Public funding such as the funding provided by NYSERDA in defraying the cost of the energy audits is helpful, because capital improvements at the privately-owned Mitchell-Lama developments must be funded by the housing companies' reserves, and in many instances, these reserves are not sufficient to meet all the capital improvement needs of the developments. We note that managing companies at some of the developments supervised by HPD have contacted NYSERDA on their own, but energy audits could be conducted at all the developments if HPD took the lead and coordinated a program of audits with NYSERDA.

We also note that, unlike HPD, DHCR collects information that can be used to monitor energy consumption at Mitchell-Lama housing developments. DHCR requires each managing company to prepare and submit an annual energy consumption report. This report shows the amount and cost of the energy purchased and consumed at each development.

We recommend that such information be collected and monitored by HPD. We further recommend that HPD actively

promote energy conservation programs and energy-efficient technologies, as is done by NYCHA and DHCR. Since some of the developments are jointly supervised with HUD, HPD should coordinate with HUD as appropriate in its monitoring of energy consumption and its promotion of energy efficiency at the developments.

We analyzed energy consumption at 57 housing developments and, in the following section of this report, we show that significant reductions in energy costs could be realized at many of these developments if conservation measures or competitive purchasing practices were implemented. We recommend that HPD work with the managing companies to facilitate the implementation of these measures and practices.

Reductions in Energy Costs at the Housing Developments

Mitchell-Lama developments are heated by one of five types of heating systems: oil, gas, oil and gas, steam, and electricity. We analyzed the potential for significant reductions in heating costs (both room heating and hot water heating) for three of the five types of heating systems. Managing companies that were heated by gas and dual heated (gas and oil) did not respond to our request for information. Energy consumption data that we analyzed was provided by the managing companies, and since complete data was provided for only 57 of the 135 Mitchell-Lama developments, our analysis was limited to these 57 developments.

We found that heating costs at the 57 developments could be reduced by more than \$7 million a year, as follows:

- Heating costs at 42 of 44 oil-heated developments could be reduced by about \$4.1 million a year. Annual savings of \$3.35 million could be realized through energy conservation measures, while annual savings of more than \$750,000 could be realized through the competitive purchasing of heating oil on the open market.
- Heating costs at the three developments heated by electricity could be reduced by more than \$2 million a year if the developments' heating systems were converted to oil. Initial capital outlays would be needed for the conversions, and HPD would need to assist the managing companies in analyzing each potential

conversion project to ensure that it would be cost-effective.

- Heating costs at seven of ten steam-heated developments could be reduced by about \$1.3 million a year through the implementation of energy conservation measures.

It is also important to note that heating costs could probably be reduced, and additional annual savings realized, at many of the 78 developments that we were unable to analyze. According to information provided to us by the managing companies, at least 20 of these developments are heated by oil, at least 2 are heated by electricity, at least 14 are heated by steam, at least 22 are dual heated by oil and gas, and at least 5 are heated by gas alone. We were unable to analyze the potential savings at these developments, because their managing companies either did not provide the energy consumption data that we requested or provided incomplete data. We do not know how the remaining 15 developments are heated, because we did not receive any information about these developments from the managing companies.

The type of heating systems used by the 135 developments, as well as the potential savings that we were able to identify, are summarized in the following table:

Type of Heating System	Heating Data Provided	Potential Annual Savings	Complete Heating Data Not Provided	Total Developments
Oil	44	\$4.10 million	20	64
Electricity	3	\$2.06 million	2	5
Steam	10	\$1.29 million	14	24
Dual (Oil and Gas)	0	--	22	22
Gas	0	--	5	5
Not Identified	0	--	15	15
Total	<u>57</u>	<u>\$7.45</u> million	<u>78</u>	<u>135</u>

In performing our analyses, we had to rely on energy consumption information provided by the managing companies. We could not obtain this information from HPD because, as was previously noted, HPD does not require the managing companies to submit such information. In fact, HPD did not have information that indicated how each development was heated. We contacted each managing company and asked for

information about the source, cost and consumption of energy at its development(s). We also needed to know the square footage for the housing developments. HPD did not have this information, but recommended a methodology for estimating square footage. This methodology, which yielded a conservative but consistent result, used HPD's blue prints (i.e., floor plans of the apartments) along with room distribution information found in financial estimate documents.

We developed a database from the information we received, and used the database to perform our analyses. We note that such a database could be developed and maintained by HPD for its monitoring of energy usage at the developments. The details of our analyses follow.

Oil-Heated Developments

At least 64 of the 135 Mitchell-Lama housing developments are heated by oil. We were able to obtain energy consumption and cost data for 2002 from the managing companies of 44 of these developments. We used formulas contained in the ASHRAE standards to convert the consumption data so that data from one development could be compared to data from other developments. We then analyzed the converted data and determined which developments were the most efficient in their consumption of heating oil (i.e., used the least amount of heating oil per therm of heat created – a therm is a unit of quantity of heat which is equivalent to 100,000 British thermal units).

We used the average cost per therm of the three most efficient developments (Hamilton House at \$.82 per therm, Atlantic Terminal II at \$.82 per therm, and Heywood Towers at \$.91 per therm) as a benchmark (i.e., \$.85 per therm). We then compared the benchmark cost per therm to the actual cost per therm at each of the housing developments. The actual cost exceeded the benchmark at 42 of the 44 developments. We then calculated what the heating costs would have been in 2002 at these 42 developments if they had been able to operate their heating systems at the benchmark level of efficiency.

For example, during 2002, the heating system at one of the developments (Franklin Plaza) cost \$1.65 per therm to operate, and the development incurred a total heating cost for the year of \$1,095,140. We calculated that, if this development had been able to operate its heating system at the benchmark level of efficiency (\$.85 per therm), its heating cost for that year would

have totaled only \$564,778, a 48 percent reduction in heating costs and a savings of \$530,362. As is shown in Exhibit A, the potential savings at all 42 developments totaled \$3,353,152. Moreover, as is also shown in Exhibit A, 29 of the 42 developments could reduce their heating costs by at least 30 percent and 15 developments could reduce their heating costs by at least 40 percent, including one development (Hudsonview Terrace) that could achieve a 62 percent reduction.

These savings could be achieved through the implementation of various conservation measures, which could be identified through energy audits or other similar types of assessments. A number of possible conservation measures are listed in the ASHRAE standards, and include caulking around windows, using clean furnace filters, and maintaining equipment in accordance with the manufacturer's standards. Similarly, equipment should be replaced when it can no longer operate efficiently. For example, the energy experts we spoke with stated that boilers generally have a useful life of 25 to 30 years. The boilers at the three most efficient oil-heated housing developments did not exceed this limit (they were 3, 10 and 28 years old). In comparison, the boilers at some of the less efficient developments did exceed this age, including one boiler that was 49 years old.

While some costs would have to be incurred by the developments to implement the needed conservation measures, such costs are usually relatively small and quickly recovered through the resulting savings. We note that our method for estimating the savings that could be realized through such conservation measures (i.e., comparison to benchmark developments) is consistent with ASHRAE standards which state that the energy usage of similar buildings can be compared to identify buildings with potential energy savings.

We also note that HPD could use this approach to analyze the developments' energy consumption on an ongoing basis. HPD would then be able to identify the high-energy users that would benefit most from energy conservation measures.

We further determined that additional savings could be realized at the oil-heated housing developments if oil was purchased on the open market by the managing companies. According to the information provided to us by the managing companies of the 44 oil-heated developments, the prices paid for their heating oil during 2002 ranged from \$.4283 to \$.7805 per therm. If the managing companies paying the higher prices had attempted to

obtain their oil on the open market from oil cooperatives, they may have been able to get lower prices and, as a result, realize significant savings.

For example, we calculated the average price paid per therm for heating oil in 2002 by each of the managing companies. The median of these averages was \$.51 per therm. If the managing companies that paid a higher average price than the median had been able to pay the median price, they would have saved more than \$750,000 on the cost of their heating oil. Shopping for the best oil prices is even more important during periods when there is volatility in the world energy markets. HPD has not provided guidance to the managing companies on using the open market to purchase heating oil. We recommend that such guidance be provided by HPD.

Electrically-Heated Developments

It costs far more to heat buildings by electricity than by oil or gas. For example, during 2002, the median average price paid by the managing companies per therm of oil was \$.51, while the median average price paid by the managing companies per therm of electricity was \$3.27. For this reason, it can be cost-effective to convert electrical heating systems to oil or gas. (We had no data from developments heated by gas; however, our prior audit at DHCR found the price of the gas to also be substantially less per therm than the price of electricity.)

At least five of the Mitchell-Lama housing developments are heated by electricity. We were able to obtain energy consumption and cost data from the managing companies of three of these developments (Knickerbocker Plaza, Manhattan Plaza, and West Village Apartments). To estimate the savings that could be realized at these three developments if their heating systems were converted to oil or gas, we used the methodology developed by our consultant on the DHCR audit. We found that, if the three developments had been heated by oil in 2002, rather than by electricity, their heating costs would have been about \$1.13 million, rather than the \$3.19 million that was actually incurred, a savings of \$2.06 million, or 65 percent, as follows:

	Cost of Electricity for 2002
Manhattan Plaza	\$3,412,357
West Village Apartments*	853,120
Knickerbocker Plaza	337,740
Total Cost for Three Developments	4,603,217
Less 30.6% for Power and Light	(1,408,584)
Net Cost of Heat and Hot Water	3,194,633
Corresponding Cost of Oil	(1,130,261)
Projected Savings	\$2,064,372

* Development jointly supervised by HPD and HUD.

Before these savings could be realized, the electrical heating systems at the three developments would have to be converted, and capital costs would have to be incurred in the conversion process. These costs would eventually be recovered from the annual savings in heating costs.

HPD officials indicated that the cost of converting the heating systems at the three large developments would be prohibitively high. However, before deciding to reject or proceed with such conversions, a payback analysis should be performed to determine whether the proposed conversion is likely to be economically beneficial.

Steam-Heated Developments

At least 24 of the 135 Mitchell-Lama housing developments are heated by steam. We were able to obtain energy consumption and cost data from the managing companies of ten of these developments. To determine whether there were significant variances in the energy efficiency of these ten developments, we calculated their heating cost, per square foot of usable space, in 2002. (ASHRAE standards do not contain a formula to convert steam energy costs to a “cost per therm.” Based upon recommendations from professionals in the field, we compared operating efficiency using the heating cost per square foot.)

We found that the heating cost per square foot of space was significantly lower at one of the housing developments (Cedar Manor), as it had a cost of \$.46 per square foot, while heating

costs at the other nine developments ranged from \$.65 to \$1.80 per square foot. However, we also determined that the conditions responsible for this lower cost could not be transferred to any of the other housing developments. Cedar Manor purchases its steam from NYCHA, while the other nine developments purchase their steam from Consolidated Edison. Moreover, NYCHA officials told us that the steam sold to Cedar Manor is unusually inexpensive because Cedar Manor happens to be located close to a NYCHA housing development that is producing steam as a by-product of oil. The other steam-heated developments are not located close to a NYCHA development that produces steam. Consequently, if these developments were to purchase their steam from NYCHA, underground pipes would have to be installed to link the developments to the nearest NYCHA facilities, and such pipes would be very costly to install.

We, therefore, excluded Cedar Manor from our analysis and focused on the nine developments supplied by Consolidated Edison. On the basis of the heating cost per square foot at these nine developments, we identified the three most efficient developments and used them to calculate a benchmark cost per square foot (the average of the three). We then compared the benchmark cost to the actual cost per square foot at each of the housing developments. The actual cost exceeded the benchmark cost at seven of the nine developments. We then calculated what the heating costs would have been in 2002 at these seven developments if they had been able to operate their heating systems at the benchmark level of efficiency.

As is shown in the following table, we found that, at this level of operating efficiency, the other seven developments would have reduced their heating costs by a total of \$1.29 million:

Development	Actual Heating Cost for 2002	Potential Cost Savings	Potential Cost Reduction (by Percent)
Masaryk Towers	\$1,248,989	\$ 649,390	52
Independence Plaza North	1,260,861	254,855	20
Columbus House *	398,100	232,287	58
Stryckers Bay *	221,188	72,880	33
Columbus Park *	171,186	55,480	32
Tri-Faith Housing *	115,530	18,212	16
Independence House (Benchmark)	75,709	9,709	13
Trinity House * (Benchmark)	130,472	--	--
Cooper Gramercy * (Benchmark)	101,901	--	--
Total	\$ 3,723,936	\$ 1,292,813	

* Development jointly supervised by HPD and HUD.

As was the case for the housing developments heated by oil, the potential savings identified by our analysis could be achieved through the implementation of various conservation measures. For example, if a housing development uses a manual process to turn its steam on and off, its heating costs would probably be reduced if the process was computerized and automated (a heat timer can automatically shut off the steam during certain hours of the day and at certain temperature levels). NYCHA officials told us they have found that heating costs can be reduced by as much as 20 percent when such a device is installed.

According to managing company officials, such a device has already been fully installed at seven of the nine steam-heated developments that we analyzed. However, the device has been only partially installed at Masaryk Towers, and has not been installed at all at Independence Plaza North. It is also possible that the process has yet to be fully automated at some of the steam-heated developments we did not analyze. We recommend that HPD determine whether any of these developments are using a manual process to control their steam, and if so, work with the managing companies to assess the cost-effectiveness of automating the process. We also recommend that HPD work with the managing companies of

steam-heated developments to facilitate the implementation of other cost-effective energy conservation measures.

Use of Savings from Reductions in Energy Costs

New York City holds mortgages on the 135 Mitchell-Lama developments supervised by HPD. The City holds the only mortgage on 50 of the developments, and holds the second mortgage on the 85 refinanced developments. The housing companies have not always been timely in their mortgage payments to New York City. For example, according to a report issued by the New York City Comptroller in March 2000, as of 1998, the housing companies were in arrears for over \$203 million in mortgage payments (this included mortgage principle, interest and administrative fees). The report also indicated that the housing companies were in arrears for more than \$12 million in New York City real estate taxes.

According to HPD officials, at the time of our audit, mortgage arrears were no longer a problem and the amount of real estate taxes that was in arrears had been significantly lowered. While this improvement in the timeliness of mortgage and tax payments is welcome, some housing companies continue to be in arrears and other housing companies could re-experience payment problems in the future. The future financial condition of the housing companies is particularly relevant to New York City, since it will not even begin to receive payments on its mortgages for the 85 refinanced developments until the first mortgages of HUD are fully paid.

If the cost-saving energy conservation measures recommended by this report are implemented at the housing developments, the operating costs incurred at many of the housing developments could be significantly reduced. If that happens, we believe the additional funds that would be made available from these energy savings should be used to pay any mortgage and real estate tax arrearages that are owed to New York City. If the housing developments realizing the savings have no such arrearages, the savings should be used to make needed repairs and capital improvements at the developments. Using the funds in this manner would help keep the rents and maintenance charges at affordable levels for the tenants, and thus, be consistent with the mission of HPD.

We therefore recommend that HPD require the managing companies to use funds from energy savings either to pay

mortgage/tax arrearages owed to New York City or to make needed repairs and capital improvements at the developments. Since the financial affairs of some of these housing developments are supervised by HUD, HPD should coordinate with HUD in the oversight of the energy savings at those developments.

Recommendations

1. Establish an energy unit within HPD, in coordination with HUD as appropriate, to centrally monitor energy usage and energy management practices at the housing developments.
2. Require the managing companies to submit an annual energy consumption report for each housing development showing the amount and cost of the energy purchased and used at the development. Analyze the information in these reports to determine whether any of the housing developments appear to be using more energy than necessary or appear to be paying higher energy prices than necessary. Work with the managing companies of any such housing developments to facilitate the implementation of energy conservation measures or other cost-reduction practices, such as competitive purchasing of fuel.

(Regarding Recommendations 1 and 2, HPD officials responded to our draft audit report that they already have property managers assigned to each development to review their finances and that it would be a poor use of public resources for HPD to establish an energy audit unit. They added that they have no authority to coordinate with HUD to monitor energy usage at the jointly-supervised developments.)

Recommendations (Cont'd)

Auditors' Comments: New York State's Division of Housing and Community Renewal (DHCR), which supervises State Mitchell-Lama housing, maintains an Energy Services Bureau to, among other objectives, help the Mitchell-Lama housing companies they supervise improve energy utilization. In response to our audit report 2000-S-6, DHCR officials indicated that they recognize the importance of this issue and have expanded the database they use to analyze the energy efficiency of the buildings. If HPD does not have the resources to establish a separate energy unit to assist the developments, it should consider coordinating with HUD or DHCR to share resources.

3. Actively promote energy conservation programs and energy-efficient technologies at the housing developments. In particular, seek assistance from NYSERDA in coordinating a program of energy audits at the housing developments.
4. Actively seek out public funds that can be made available for energy conservation activities at the housing developments, and inform the managing companies about the availability of such funds.

(Regarding Recommendations 3 and 4, HPD officials responded to our draft report that they already promote many NYSERDA energy conservation programs, and will continue to do so. They also stated that they actively seek and provide funding for capital work that includes energy conservation.)

Auditors' Comments: During the audit, we interviewed representatives of the housing companies to determine, among other things, whether they had contacted NYSERDA concerning energy audits. We specifically asked them if HPD had provided them with any type of assistance or advice concerning energy conservation. As cited in the report, some representatives stated that they contacted NYSERDA on their own. None indicated to us that HPD contacted them or encouraged them to consider NYSERDA's programs.

Recommendations (Cont'd)

5. Provide guidance to the managing companies on using the open market to purchase heating oil.

(HPD officials responded to our draft report that they will examine the purchasing practices of the Mitchell-Lama developments to determine if there could be improvement.)

6. Work with the managing companies of the inefficiently-heated housing developments identified in our report, focusing on the high-energy users, to facilitate the implementation of energy conservation measures at those housing developments.

(HPD officials responded to our draft report that they do not accept our methodology in determining which housing companies are inefficiently heated.)

Auditors' Comments: We made use of some of the methodologies that were developed for us by a consultant to our prior audit of energy costs at Mitchell-Lama housing developments supervised by DHCR. This consultant has specific expertise in the area of energy conservation. DHCR officials found no fault with our methodologies and stated, "[we] appreciate the assistance of your office in focusing attention on several important energy issues where DHCR's energy related services may be enhanced."

7. Work with the managing company of each electrically-heated housing development to perform a payback analysis that assesses the cost-effectiveness of converting the development's heating system to oil, gas or other fuel. Track the costs of all systems that are converted to determine whether the expected cost savings were realized.

Recommendations (Cont'd)

(HPD officials responded to our draft report that they do not believe that any conversion from electric to gas or oil can be cost effective.)

Auditors' Comments: During our audit period, we found that the price paid per therm of electricity was more than six times that of oil. For this reason, it could be advantageous for HPD to work with the managing companies of each electrically-heated housing development to perform a payback analysis to determine whether a conversion is likely to be economically beneficial. HPD currently does not perform such analyses and, therefore, can only speculate whether a conversion can be cost effective.

8. Identify all the steam-heated housing developments using a manual process to control their steam, and work with the managing companies of these developments to assess the cost-effectiveness of automating the process.

(HPD officials responded to our draft report that they will work with the managers of buildings with steam heat to encourage the conversion to automatic controls.)

9. Require the managing companies to use the savings from HPD-sponsored energy conservation measures either to pay mortgage/tax arrearages owed to New York City or to make needed repairs and capital improvements at the developments.

(HPD officials responded to our draft report that cost savings in any area of management are used to pay for all of the management and operations of a housing development.)

Auditors' Comments: Using the savings to pay mortgage/tax arrearages owed to New York City or to make needed repairs and capital improvements at the developments would help keep the rents and maintenance charges at affordable levels for the tenants, and thus, be consistent with the mission of HPD.

Exhibit A

Potential Savings at Housing Developments Heated by Oil

Housing Development	Actual Heating Cost for 2002	Potential Cost Savings	Potential Cost Reduction (by Percent)
Franklin Plaza	\$1,095,140	\$ 530,362	48
Esplanade Gardens *	1,400,439	405,157	29
Tracey Towers	584,486	325,496	56
OUB House	372,162	178,073	48
Dayton Beach Park	555,742	171,420	31
Boulevard Manor *	271,747	132,239	49
Village View	554,810	120,882	22
Highbridge House *	242,879	103,279	43
Atlantic Plaza *	327,712	101,753	31
Hudsonview Terrace *	137,323	84,649	62
Bedford Gardens	396,836	80,496	20
Harway Terrace	186,926	70,984	38
River Terrace	224,201	65,155	29
Carol Gardens *	180,826	64,193	35
St. James	167,015	56,540	34
Undercliff House (aka Delos House) *	99,352	54,263	55
Adee Towers	164,965	52,586	32
River Plaza (aka 1520 Morrison Ave)	94,308	46,968	50
Scott Towers *	170,656	46,599	27
Fordham Towers *	96,230	46,481	48
Janel Towers *	113,890	46,141	41
Aguilar Gardens	135,625	45,110	33
Tilden Towers II	133,622	42,143	32
Highlawn Terrace	82,235	41,866	51
Lindville Housing	96,894	41,491	43
Ocean Park Apt.	285,264	41,166	14
Tanya Towers *	74,332	40,273	54
General Sedgwick (aka Eddie Evans)	74,689	37,954	51
Contello Towers III *	113,314	37,516	33
Bronxwood Towers	68,906	30,927	45
Mins Plaza	83,064	29,425	35
Court Plaza *	92,572	23,945	26
Dancia House (aka Candia House) *	62,282	23,347	37
Lind-Ric Apts.	77,310	23,018	30
Tilden Towers I	63,523	23,005	36
Seaview Towers *	214,687	21,827	10
Corlear Gardens *	84,627	18,145	21
Kingsbridge Terrace (aka Kingsbridge Arms) *	54,289	17,993	33
Hutchinson Pkwy	69,765	11,323	16
Bethune Towers *	42,420	7,244	17
Clayton Apts.	55,122	6,260	11
Heywood Towers *	83,284	5,458	7
Atlantic Terminal II *	146,334	0	--
Hamilton House *	65,357	0	--
Total	\$ 9,697,162	\$ 3,353,152	

* Development jointly supervised by HPD and HUD.

MAJOR CONTRIBUTORS TO THIS REPORT

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City of New York
DEPARTMENT OF
HOUSING PRESERVATION AND DEVELOPMENT
100 GOLD STREET, NEW YORK, N.Y. 10038

SHAUN DONOVAN
Commissioner

June 24, 2004

Mr. Frank Houston, Audit Director
Office of the State Comptroller, Division of
Management Audit
123 William Street – 21st Floor
New York, New York 10038

**Re: Audit of Energy Cost Reduction at Mitchell Lama
Housing Developments
Audit Number: 2003-N-2**

Dear Mr. Houston:

The following represents the Department of Housing Preservation and Development's response to the recommendations contained in your audit of the Energy Cost Reduction at Mitchell Lama Housing Developments.

If you have any additional questions, please call Deputy Commissioner Bernard Schwarz at 863-6610.

Thank you.

Sincerely,

A handwritten signature in black ink, appearing to read "Shaun Donovan", written over a horizontal line.

Shaun Donovan



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AUDIT RESPONSE
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NEW YORK CITY DEPARTMENT OF HOUSING PRESERVATION AND DEVELOPMENT
ENERGY COST REDUCTION AT MITCHELL-LAMA HOUSING DEVELOPMENTS
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The Comptroller's Report refers to 135 Mitchell-Lama developments supervised by HPD. City Mitchell-Lama developments are divided between 85 refinanced and 50 non-refinanced developments. The refinanced developments are supervised partially by HUD and partially by HPD. Pursuant to the Rules of the City of New York, Title 28, Chapter 3, Section 3-21, "all matters involving management, maintenance and operation shall be supervised by HUD". By law, HPD's role in these developments is limited to supervising waiting lists and income issues and eligibility requirements. Thus, all matters related to energy use and other expense matters come under HUD's purview.

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Note
1

Prior to the issuance of the Comptroller's Report, HPD provided the Comptroller's Office a list of the HUD supervised developments and a copy of the law and suggested that the Comptroller's staff contact HUD regarding energy conservation at the refinanced developments. The report's suggestion that HUD and HPD coordinate energy conservation measures ignores the legal authority and obligations of these two separate governmental entities. Thus, of the 57 properties discussed in the Report, only 28 are within HPD's jurisdiction for the matters under review. All references and calculations concerning the remaining 29 properties should be removed, since they are outside of HPD's supervision.

The report refers to "systemwide improvements" that HPD can bring about in the Mitchell-Lama program and asserts that its recommendations can lead to \$7 million in savings per year. There is no Mitchell-Lama "system" and the aggregation of a claimed savings is not a useful calculation. Each Mitchell-Lama development is a separate limited profit housing corporation formed pursuant to Article II of the Private Housing Finance Law, with its own operations, finances, bank accounts, expenses, management, ownership and corporate structure. Any costs or savings at a particular development has no impact whatsoever on any other development. There are no financial or business connections among the individual Mitchell-Lama housing companies.

*
Note
2

The Comptroller's Report repeatedly relies on the NYC Department of Design and Construction's *High Performance Building Guidelines* ("*Guidelines*") for some of its conclusions. *Guidelines* is a manual for new construction and the rehabilitation of energy efficient commercial and public facilities. It is not designed to give guidance for the best energy management practices for occupied residential buildings and thus has no bearing on the subject of the report.

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Note
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The Comptroller's Report confuses the roles of various parties involved in ownership, management and supervision of Mitchell-Lama developments. The report refers to NYCHA as an example of a similar set of properties and states that it "oversees housing developments" NYCHA does not oversee its housing; rather, it is the owner of the projects in its portfolio. Thus, NYCHA is responsible for all of the financial and management issues associated with ownership. This has no parallel to HPD's role as a supervisory agency of privately owned property. Similarly, the Comptroller's Report confuses the difference between owners and managing companies, when it refers to the cost to managing companies of energy savings measures. All such costs would be borne by the owners, not by the managing agents.

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Note
4

The report recommends that Mitchell-Lama housing companies undertake energy audits offered by NYSERDA and asserts that some housing companies have contacted NYSERDA on their own. HPD actively encourages individual Mitchell-Lama developments to take advantage of NYSERDA assistance, through both audits and grants. In 2001, HPD met with Hamilton, Rabinovitz & Altschuler, Inc., a consultant to NYSERDA, to learn about the energy program. After the meeting, HPD contacted all of the Mitchell-Lama developments in its portfolio and encouraged them to consider the NYSERDA grant program. We have continued to regularly make this recommendation. Since that time, several developments have utilized the program. In each instance where a development has accepted a grant, HPD has approved the terms and has entered into a tri-party agreement with the participating bank. In addition, HPD has been encouraging the Mitchell-Lama developments to consider NYSERDA's submetering program, one of the most cost effective energy conservation measures available to a Mitchell-Lama development. Several developments have taken advantage of this NYSERDA program as well. In fact, in 2001 HPD petitioned the New York State Public Service Commission to ease its rules regarding cooperative conversion to submetering in order to make it easier for Mitchell-Lama cooperative developments to take this step.

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Note
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The Comptroller's Report implies that HPD has not informed housing companies of the availability of low cost financing. HPD has long been proactive in finding funding sources and loaning City funds to Mitchell-Lama developments. Not only have we encouraged the use of NYSERDA funds, HPD has its own low interest loan program that pays for capital work, including such energy conservation work as boiler upgrades and window and roof replacements. Since 1993, this program has made over \$22 Million in loans and \$10 Million in federal HOME grants to Mitchell-Lama developments. Additionally, the NYC Housing Development Corporation has a \$50 Million loan program to pay for similar work at Mitchell-Lama developments. Finally, HPD has also identified and developed a tri-party agreement with a private bank willing to make unsecured loans, at favorable rates to Mitchell-Lama developments.

Aside from the issues raised above, HPD asserts that the methodology used to compare consumption among developments is not valid.

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Note
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The Comptroller used the original cost estimates that were prepared even before the developments were approved or built to calculate the total square footage per floor, commercial space square footage and community room square footage and then multiplied by the number of floors. The Comptroller then deducted 20% of a building's total square footage to account for unheated areas. No field measurements or on site inspections were performed so as to compare the assumptions against the actual conditions and no other variables were considered.

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Note
7

The New York State Energy Office Multi-Family Housing *Energy Conservation Workbook* details all of the factors that must be considered in a study such as the Comptroller's Report contemplates. Factors not considered in this report include:

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Note
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1. The number of buildings per development;
2. The number of floors per building;
3. The geographic orientation of each building;
4. The footprint and number of wings of each building;
5. The geographic orientation of each wing;
6. The type and of exterior wall construction;
7. The type of roof construction;
8. The type of wall and roof insulation, if any;
9. The number of units that have access to the exterior through a balcony;
10. The type, age and number of roof access doors;
11. The number, age, size and type of windows;
12. Whether the development has air conditioner sleeves, and how many;
13. Whether public halls, entrance lobbies, basements, or stairwells are heated;
14. Whether public halls are interior or exterior;
15. The number and type of building entrance doors;
16. The lobby exterior construction;
17. The location, age and number of boilers and the range of heat distribution;
18. The type of heating oil;
19. The method and range of domestic hot water production and distribution;
20. Number and size of clothes washers and laundry rooms;
21. The number of bedrooms per unit; and
22. What, if any, energy conservation measures are already in place.



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The significance of the factors can be seen when we compare Franklin Plaza, which is cited in the report for its inefficiency with Clayton Apartments*, which is cited as one of the more efficient developments. Clayton Apartments is a single 15-story building with 159 units that is heated by two boilers located in the basement of the building. Franklin Plaza has 14 20-story buildings, with 1,632 units spread over almost 14 acres with a single boiler room with seven boilers that is located on one end of the site. Without having any special knowledge, it can be seen that these differences alone would have a considerable impact on energy usage.

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Note
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The Comptroller's Report gives conflicting information about what it is measuring. On page 15 of the report, it says that the three most efficient developments using oil heat had an average cost of \$.85 per therm of heat, but on page 16, the report says that for all of the housing companies audited, the price paid per therm ranged from \$.42 to \$.78. When discussing heating by electricity, the report cites an average cost per therm of \$.51 for oil and then goes on to analyze a conversion to gas. And, when discussing steam heating, the report does an analysis based on the cost per square foot.

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Note
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The Comptroller correctly states that electrical heating is expensive. However, the Comptroller's Report also says that "it is often [emphasis added] cost-effective to convert electrical heating systems to oil or gas". The Report fails to give a single example of such a conversion of a high rise building in New York City. At our pre-draft report meeting with the Comptroller's Office, we objected to that assumption and we continue to object to that assumption. The report cites the *Guidelines* which we have already noted is intended for new construction and rehabilitation of commercial and public space and not for property managers of residential buildings. The Comptroller's Report suggests that a partial conversion may be more cost effective. We question the technical feasibility of partially converting from a unit based system to a central heating system.

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Note
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- For the reasons stated above, we are not referencing any of the refinanced developments in this response.

* For the reasons stated above, we are not referencing any of the refinanced developments in this response.



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We will respond to each recommendation in turn:

Finding
Energy
Management
Practices at
HPD

Recommendation 1.
Establish an Energy Unit within HPD, in coordination with HUD as appropriate, to centrally monitor energy usage and energy management practices at the housing developments.

Response 1.
It would be a poor use of public resources for HPD to establish an energy audit unit. HPD already has property managers assigned to each development who, among other tasks, review the finances of each development. As stated above there is no mechanism or authority to centrally monitor and coordinate energy management practices with HUD.

Finding

Recommendation 2.
Require the managing companies to submit an annual energy consumption report for each housing development showing the amount and cost of the energy purchased and used at the development. Analyze the information in these reports to determine whether any of the housing developments appear to be using more energy than necessary or appear to be paying higher energy prices than necessary. Work with the managing companies of any such housing developments to facilitate the implementation of energy conservation measures or other cost-reduction practices, such as competitive purchasing of fuel.

Response 2.
HPD already reviews finances. Requiring additional paper work for housing companies to complete and for HPD to file would be a poor use of public and private resources that would not be likely to lead to better energy management practices.

Finding

Recommendation 3.
Actively promote energy conservation programs and energy efficient technologies at the housing developments. In particular seek assistance from NYSERDA in coordinating a program of energy audits at the housing developments.

Response 3.
HPD already promotes many NYSERDA energy conservation programs, and will continue to do so.



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<u>Finding</u>	Recommendation 4. Actively seek out public funds that can be made available for energy conservation activities at the housing developments, and inform the managing companies about the availability of such funds.	Response 4. HPD already actively seeks and provides funding for capital work, that includes energy conservation
<u>Finding</u>	Recommendation 5. Provide guidance to the managing companies on using the open market to purchase heating oil.	Response 5. Heating oil is not a regulated utility and is thus always purchased on the open market. However, HPD will examine the purchasing practices of the Mitchell-Lama developments to determine if there could be improvement.
<u>Finding</u>	Recommendation 6. Work with the managing companies of the inefficiently heated housing developments identified in the report, focusing on the high-energy users, to facilitate the implementation of energy conservation measures at these housing developments.	Response 6. HPD does not accept the Comptroller's methodology in determining which housing companies are inefficiently heated
<u>Finding</u>	Recommendation 7. Work with the managing companies of each electrically heated housing developments to perform a payback analysis that assess the cost effectiveness of converting the developments heating systems to oil, gas or other fuel. Track the costs of all systems that are converted to determine whether the expected costs savings were realized.	Response 7. HPD does not believe that any conversion from electric to gas or oil can be cost effective, as it affects tenants and shareholders presently living in a development.

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<u>Finding</u>	Recommendation 8. Identify all the steam heated housing developments using a manual process to control their steam, and work with the managing companies of these developments to assess the cost effectiveness of automating the process.	Response 8. HPD will work with the managers of buildings with steam heat to encourage the conversion to automatic controls.
<u>Finding</u>	Recommendation 9. Require the managing companies to use the savings from HPD sponsored energy conservation measures either to pay mortgage/tax arrearages owed to New York City or to make needed repairs and capital improvements at the developments.	Response 9. Cost savings in any area of management are used to pay for all of the management and operations of a housing development. Good budgeting practices preclude segregating funds as recommended by the Comptroller.

The Report does not consider the limits of HPD's supervisory authority. Unless there is a health and safety issue, or a violation of the Mitchell-Lama rules, HPD has no legal authority to compel a housing company to undertake an expense, no matter the long term benefit. It should also be recognized that 35 of the 51 HPD supervised developments are cooperatives, which are owned by the residents, who elect the board of directors to make decisions on behalf of the corporation.



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State Comptroller's Notes

1. We recognize HPD's limited role in the jointly-supervised developments. However, we also recognize HPD's mission to improve the affordability and quality of housing in New York City. We, therefore, recommend that HPD coordinate with HUD to monitor the energy costs of all the New York City-financed Mitchell-Lama developments.
2. The aggregation of the potential energy cost reductions at Mitchell-Lama housing developments is useful to highlight the importance of this issue and for use when allocating resources to address energy management practices.
3. As stated in the Audit Scope, Objective and Methodology section of this report, we obtained certain information from the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) and the New York State Energy Research and Development Authority (NYSERDA), and used this information to quantify the reductions in energy consumption that could be realized by the housing developments through energy conservation activities. We also made use of some of the methodologies that were developed by the consultant to our prior audit of energy costs at Mitchell-Lama housing developments supervised by DHCR. This report does not rely on the NYC Department of Design and Construction's High Performance Building Guidelines ("Guidelines") for its conclusions. The Guidelines were reviewed as part of our planning process.
4. We revised the audit report.
5. During the audit, we interviewed representatives of the housing companies to determine, among other things, whether they had contacted NYSERDA concerning energy audits. We specifically asked them if HPD had provided them with any type of assistance or advice concerning energy conservation. As cited in the report, some representatives stated that they contacted NYSERDA on their own. None indicated to us that HPD contacted them or encouraged them to consider NYSERDA's programs.
6. We stand behind our methodology. As stated above and in the Audit Scope, Objective and Methodology section of the report, we obtained certain information from ASHRAE and from NYSERDA, and used this information to quantify the reductions in energy consumption that could be realized by the housing developments through energy conservation activities. We also made use of some of the methodologies that were developed by the consultant to our prior audit of energy costs at Mitchell-Lama housing developments supervised by DHCR.

7. HPD officials could not provide our auditors with the actual square footage for the buildings. The HPD Assistant Commissioner responsible for the Mitchell Lama program recommended this methodology.
8. Although we did not consider all the factors detailed in the State Multi-Family Housing Energy Conservation Workbook, we did include several factors in our calculations. However, the purpose of the audit was to compare costs between the various developments to identify high energy users and potential savings. HPD should take the lead in arranging detailed energy audits of those high-energy users to further evaluate factors that might have an impact on the data and then determine the energy management practices needed to be implemented.
9. The information is not conflicting. The cost per therm to heat a building is not the same as the cost per therm to purchase the fuel. No heating system operates at 100 percent efficiency. Therefore, the cost to heat a development will be higher than the cost of the fuel itself. The methodology we used to calculate the potential energy cost reductions was to convert each housing company's energy consumption figures to a comparable unit of measure (cost per therm). Industry formulas to accomplish this task for oil, electricity and gas are contained in the ASHRAE standards. At least 24 of the Mitchell-Lama housing developments are heated by steam. ASHRAE standards do not contain a conversion formula for steam. Based upon recommendations from professionals in the field, we compared operating efficiency for steam-heated developments using the heating cost per square foot.