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## FACILITATING SUBMETERING IMPLEMENTATION



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*NYSERDA--96-7*

## **FACILITATING SUBMETERING IMPLEMENTATION**

Final Report

Prepared for

### **THE NEW YORK STATE ENERGY RESEARCH AND DEVELOPMENT AUTHORITY**

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This report was prepared by the Project Team of Herbert E. Hirschfeld P.E., Applied Energy Group, Inc., Energy Management Research Associates, Inc., Ruth Lerner, and Schechter and Brucker P.C. in the course of performing work contracted for and sponsored by the New York State Energy Research and Development Authority (hereafter "NYSERDA"). The opinions expressed in this report do not necessarily reflect those of the Energy Authority or the State of New York, and reference to any specific product, service, process or method does not constitute an implied or expressed recommendation or endorsement of it. Further, NYSERDA, the State of New York, and the contractor make no warranties or representations, expressed or implied, as to the fitness for particular purpose or merchantability of any product, apparatus, or service, or the usefulness, completeness, or accuracy of any processes, methods or other information contained, described, disclosed or referred to in this report. NYSERDA, the State of New York, and the contractor make no representation that the use of any product, apparatus, process, method, or other information will not infringe privately owned rights and will assume no liability for any loss, injury, or damage resulting from, or occurring in connection with, the use of information contained, described, disclosed, or referred to in this report.

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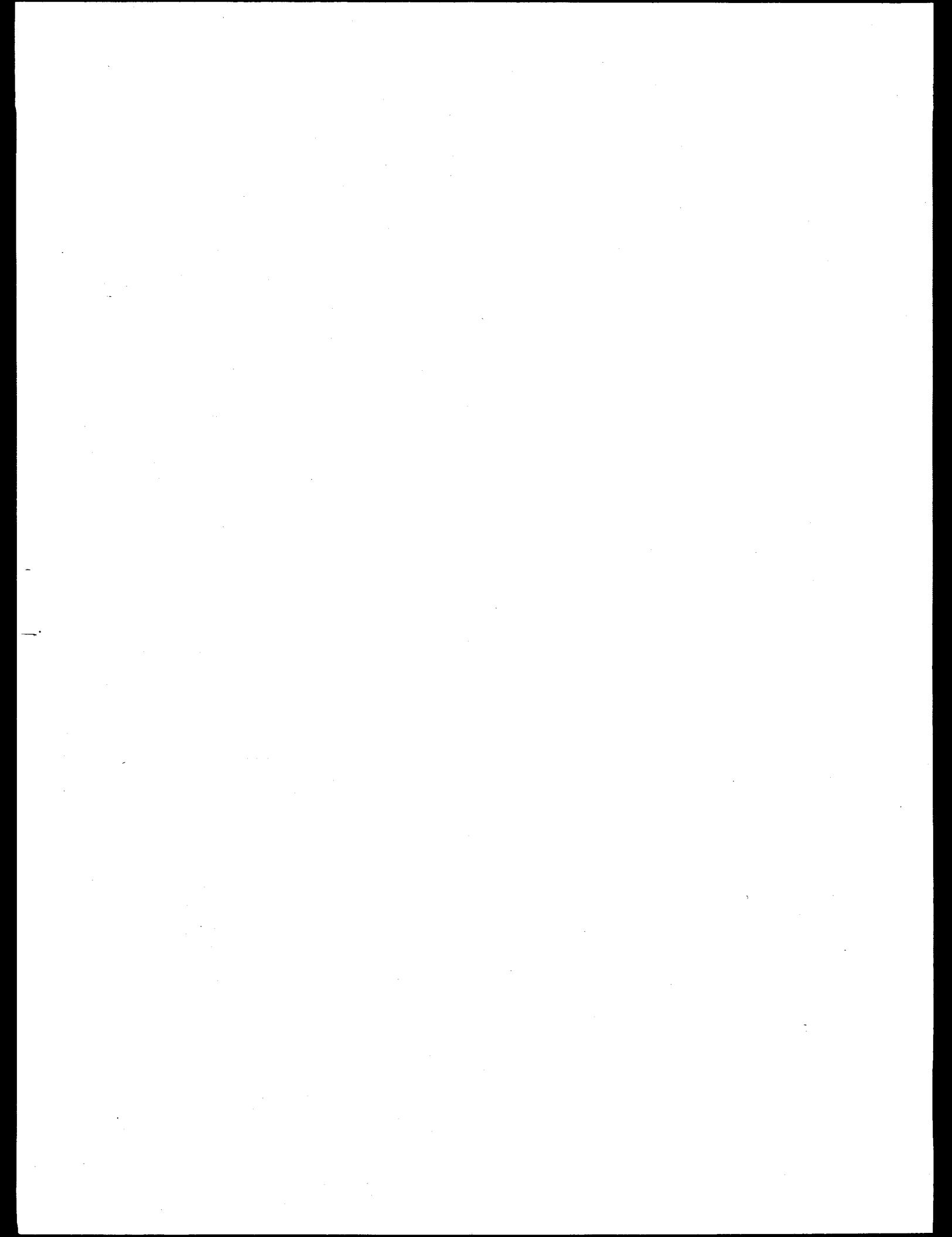
## ABSTRACT

Residential submetering is the measurement and billing of electric use in individual apartments in master-metered buildings. In master-metered building situations, residents do not bear electricity costs in proportion to consumption levels. As a result, studies have confirmed that residents in master-metered buildings tend to consume more electricity than residents with individual apartment metering, and have established electrical submetering as an effective energy conservation measure.

The New York State Energy Research & Development Authority (NYSERDA) has commissioned a project called Facilitating Submetering Implementation to identify and analyze barriers to the implementation of residential electrical submetering in New York and to formulate recommendations that would facilitate the removal of these barriers, streamlining the process. Experienced professionals in the technical, legal, regulatory, analytical, financial, and other aspects of submetering were retained to interview key interested parties and conduct public forums. This and other data were then analyzed to ascertain the barriers to submetering and develop recommendations designed to reduce or eliminate these barriers.

The key barriers to submetering implementation were found to be the Public Service Commission (PSC) requirement for a vote of a majority of shareholders (for coops and condos) and the high initial cost that cannot easily be recouped by owners of both rental and shareholder-owned buildings. The key recommendations are to repeal the voting requirement, maintain the utility incentives, adopt a uniform dispute resolution mechanism, and increase awareness through an Ad-hoc Submetering Committee and supporting educational materials. Other funding sources not fully available can also be made available with regulatory agency support.

Key words: submetering  
demand-side management  
master-metering  
multi-family buildings



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## HOW TO USE THIS REPORT

This report is intended to serve as a reference document for agencies and organizations involved in the oversight, administration, promotion and implementation of submetering when acting on the recommendations contained herein. As such, the ability to access information the report contains may be critical to their efforts, which may involve an extended period of time. This discussion is intended to serve as a guide to the use of this document and facilitate its use as a reference document.

The functions most commonly anticipated for the use of this document are:

1. Identifying barriers to submetering - Submetering barriers are listed in several ways. In the Executive Summary, abbreviated versions of each of the barriers are listed in a table format, along with the applicable section from Chapter 3 (Analysis of Submetering Barriers). Also in the Executive Summary is a summary listing of key barriers, prioritized by the Project Team and NYSERDA staff primarily responsible for this Report. In Chapter 3 itself, individual barriers are listed under six sections (identified as A - F), as indicated in the Table of Contents.
2. Identifying specific recommendations for facilitating submetering implementation - In the Executive Summary, abbreviated versions of each of the recommendations are listed in both tabular and graphic format, with table references to pages from Chapter 3 (Analysis of Submetering Barriers) and Chapter 4 (Recommendations). Also in the Executive Summary is a prioritized summary listing of key recommendations. In Chapter 4, individual recommendations are separately listed by agency/organization.
3. Identifying strategic plan for implementation of recommendations - In the Executive Summary and in Chapter 4, strategic plans are outlined for each responsible agency/organization, as well as for an overall strategic plan for implementation of the recommendations.
4. Locating agency or organization references - There are two indices included in the report. The index for the main report is contained in Chapter 5, immediately before the Appendices. This index contains the page references for all the key agencies and organizations involved in the barriers and recommendations developed in the report. The Legal Research Appendix (Appendix C) also contains a separate index for its contents citing all the organizations referenced.

5. Locating recommendations by responsible organization - Chapter 3 (Analysis of Submetering Barriers) discusses each identified barrier to submetering, cites the applicable organization(s) responsible for the implementation of the recommendation(s), and notes the corresponding recommendation number. The index also cites each major occurrence of each recommendation.
6. Identifying procedures for implementing recommendations - After the recommendations in Chapter 4, procedures are listed for implementation, where applicable.

As an example, a Public Service Commission (PSC) staffer using the report would proceed as follows:

For initial or detailed review:

- Check the main report index (Chapter 5) to identify PSC references in Chapter 3 (Analysis)
- Check Chapter 3 for detailed discussions of barriers and references to recommendations for PSC implementation
- Refer to Chapter 4 under PSC Section for a prioritized list of PSC recommendations and a strategic plan for implementation of these recommendations.
- Check Appendix C (Legal Research) index for additional references to rules, laws, and statutes.

For subsequent or brief reference:

- Refer to the Executive Summary for critical recommendations by agency/organization under PSC
- Refer to the Executive Summary for a summary of PSC recommendations, along with Chapter 3 and 4 sections.

## EXECUTIVE SUMMARY

### INTRODUCTION

Submetering is the measurement and billing of electric use in individual apartments in master-metered buildings. Many residential multifamily apartment buildings were constructed with master-metering in New York State, primarily in New York City and Westchester (Consolidated Edison's service area), prior to the early 1970s. The relatively low cost of electricity, the lower construction costs as compared with the installation of individual apartment meters, and the availability of a lower bulk rate by Consolidated Edison in its service territory to master-metered buildings, made master-metering attractive to building developers. Presently, there are approximately 400,000 apartments in approximately 1,800 master-metered buildings in the Con Edison service area alone.

In master-metered building situations, individual residents are not charged separately for electricity in proportion to their consumption levels. Instead, the total electricity costs are apportioned by building shares, number of rooms, or other formulas. As a result, these residents do not receive the type of price signal associated with individual metering (or submetering) whereby costs vary directly with consumption. Studies have indicated that residents in master-metered buildings tend to consume significantly more electricity than residents with individual apartment metering who receive these price signals.<sup>1,2,3,4</sup> These studies have helped to establish electrical submetering as an effective energy conservation measure, and one worth promoting by regulators, energy agencies and utilities.

As part of its continuing interest and activity in the area of energy conservation, the New York State Energy Research & Development Authority (NYSERDA) has also participated in previous projects designed to facilitate the implementation of submetering, including two projects co-sponsored with other organizations: (1) the Demonstration of New Submetering Technologies Program (with the State Division of Housing and Community Renewal); and (2) the Residential Submetering Program (with Con Edison). In an effort to address significant remaining obstacles to submetering, including those identified during the Con Edison Residential Submetering Program, NYSERDA has commissioned this project, called Facilitating Submetering Implementation.

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<sup>1</sup> Alternative Metering Practices - Implications for Conservation in Multifamily Residences, US DOE Report HCP/M 1693-03, June 1979, Booz, Allen and Hamilton

<sup>2</sup> Electric Rate Design Study: Metering Topic 7, Electric Power Research Institute, 1977

<sup>3</sup> Energy Conservation Implications of Master-Metering, Midwest Research Institute 1975

<sup>4</sup> Converting from Master to Individual Electric Meters: A Case Study, Journal of Property Management, May/June 1978, Booz, Allen and Hamilton

## **GOALS AND OBJECTIVES OF PROJECT**

Due to only limited initial success of the Consolidated Edison Residential Submetering Program and the remaining abundance of master-metered buildings, the Facilitating Submetering Implementation Project was conceived and developed by NYSERDA to identify and analyze barriers to the implementation of residential electrical submetering within the residential multifamily sector of New York State, primarily in New York City, and to formulate recommendations that would facilitate the removal of these barriers and streamline the process of submetering implementation. To accomplish this, NYSERDA retained a consulting team (The Project Team) consisting of experienced professionals in the technical, legal, regulatory, analytical, financial and other aspects of submetering.

The project has been designed to build on the previous work and experience of the Project Team, NYSERDA and other agencies and organizations participating in the process. Previous studies have largely addressed the technical aspects through demonstration projects to the extent that technical constraints should no longer be the critical barrier. Most recently, the experience of some key Project Team principals in the Consolidated Edison Residential Submetering Program has shown that even when technical feasibility can be established, a significant incentive (in the form of a rebate) is offered that covers 30% to 100% of initial cost, expert technical assistance is provided at no cost, and the most viable candidate buildings are targeted, submetering implementation is still constrained by other factors. Thus, the primary focus of this study is to expand this experience by examining primarily non-technical issues not previously examined, with an emphasis on regulatory, financial and legal barriers.

## **APPROACH AND METHODOLOGY**

The Project goal was to identify barriers to submetering and to formulate recommendations for their elimination. The Team sought to accomplish this goal in four distinct ways:

1. Interviews - Project Team members arranged and conducted interviews with housing and energy regulatory agencies, housing organizations, utility executives and staff, and individuals in the housing and energy fields who could provide insight, information, and ideas regarding barriers to submetering and recommendations for their elimination.

This method of intensive interviews and the early discussion of potential recommendations encouraged interviewees, particularly agency and department heads, to play a more active role in achieving the project results. In addition, conducting interviews prior to holding any of the conferences and workshops (Submetering Forums) designed as part of the project enabled the Project Team to obtain perceptions of respondents based on their limited experience in the field.

The following agencies and organizations were contacted to schedule interviews:

- NYS Division of Housing and Community Renewal (DHCR) Management and Rent Administration
- New York Public Service Commission (PSC) Staff
- New York State Energy Research and Development Authority (NYSERDA)
- State Energy Office
- Utilities
- New York City Department of Housing Preservation and Development (HPD)
- US Department of Housing and Urban Development (HUD)
- New York City Housing Authority (NYCHA)
- New York City Departments - Telecommunications and Energy, Water and Energy Conservation
- Resident Cooperative/Condominium Organizations
- Resident Rental Organizations
- Building Owners and Managers (including Stuyvesant Town)
- Equipment Vendors
- End User Building representatives.

2. Legal and Regulatory Research - The Project Team conducted research into the legal, regulatory and financial aspects of submetering that might impede submetering implementation.

3. Submetering Forums - Once the foundation was laid through the interviews and research, the Project Team, with the guidance of NYSERDA representatives, conducted two forums. At the first forum, the invitees were from the regulatory agencies that had participated in the interviews. At the second forum, in addition to the participants from the first forum, invitations were extended to building owners, managers, equipment vendors, housing organization representatives and other individuals who had participated in the interview process. The purpose of the forums was threefold: a) to obtain additional data and feedback from the participants; b) to permit the parties to interface in an exchange of ideas and to problem-solve; c) to inform and enlighten the forum participants about new technology, recent conservation data, etc.

4. Identification, Analysis, and Recommendations - Utilizing the knowledge and experience of the Project Team members, as well as that of NYSERDA participants, the team analyzed the data collected from the interviews and the forums, reached consensus upon barriers, formulated conclusions, made recommendations, determined who would be responsible for carrying them out, and developed strategic plans for implementation of the recommendations.

The sources listed below provided the basis for identifying and analyzing of submetering barriers and formulating recommendations:

- Agency and organization interviews and document reviews
- Submetering forums
- Legal research (Appendix C)
- Financial analysis (Appendix B)
- Previous experience and observations of the Project Team.

The general topic areas of analysis were:

- PSC Decisions
- Regulatory Barriers
- End User Issues
- Utility Issues
- Financial Barriers
- Other Issues (including political).

The Project Team provided monthly reports to NYSERDA and a draft final report was circulated to the key energy and housing agencies for their review and comment. Based on comments received from NYSERDA staff and other designated reviewers, as well as the feedback from the final Submetering Workshop, the Project Team issued this Final Report.

## TABLE OF BARRIERS AND RECOMMENDATIONS

Table S-1 below lists each barrier and recommendation by code number, based on its designation in Chapter 3 (Analysis of Submetering Barriers) and Chapter 4 (Recommendations), along with the responsible agency(s)/organizations(s).

TABLE S-1 - LIST OF RECOMMENDATIONS				
REC Code	Barrier/Recommendation Description	Responsible Party	Chap. 3 Page	Chap. 4 Page
<b>BARRIER GROUP A: LACK OF FINANCIAL INCENTIVES TO OWNERS:</b>				
	<b>Barrier A1: INCENTIVES ARE INSUFFICIENT TO ENABLE INITIAL COSTS TO BE RECOVERED</b>		6	
A1-1	Raise incentives to cover full initial cost	Utility DSM, PSC, NYSERDA		9,21
A1-2	Utilities should include residential submetering in DSM programs			21
	<b>Barrier A2: ORA RENT REDUCTION PROCEDURES ARE A SIGNIFICANT DISINCENTIVE</b>		6	
A2-1	ORA should adopt regulations for rent decreases for submetering	DHCR/ORA		16
A2-2	ORA allow pass-on of reasonable admin costs to renters			16
	<b>Barrier A3 - UNAVAILABILITY OF MCI TREATMENT FOR SUBMETERING RETROFITS</b>		11	
A3-1,2	ORA should allow MCI for submetering/rewiring or "conservation" MCI	DHCR/ORA		16
	<b>Barrier A4 - BUILDINGS UNABLE TO TAKE ADVANTAGE OF HPD J-51</b>		12	
A4-1	Amend HPD's J-51 rules to designate submetering as conservation	HPD		18
	<b>Barrier A5 - FINANCIAL DISINCENTIVES PREVENT NYCHA SUBMETERING</b>		13	
A5-1	NYCHA should prepare feasibility study to assess savings	NYCHA, HUD, DOE		18
A5-2	NYCHA should seek federal funds for submetering			18
A5-3	HUD allows recoupment by NYCHA			18,21,23
	<b>Barrier A6 - UTILITY RATE STRUCTURES AND PROGRAMS INSUFFICIENT</b>		15	
A6-1	Extend Con Edison rebate	PSC, Con Edison		7,20
A6-2	Rate differential between master-metering & submetering			9,20
A6-3	PSC permit/encourage bulk rate contracts			9,21
<b>BARRIER GROUP B: UNCERTAINTY CONCERNING RECOVERY OF SUBMETERING INVESTMENT</b>				
	<b>Barrier B1 - UNCERTAINTY AS TO DISPUTE RESOLUTION MECHANISMS</b>		19	
B1-1	PSC Staff uniform dispute resolution, including payment obligations	PSC, ORA, HPD, HUD		10
B1-2	Define and clarify HEFPA components applicable to submetering			9
B1-3	Identify agency responsible for dispute resolution for unsupervised			10,16

**TABLE S-1 - LIST OF RECOMMENDATIONS**

REC Code	Barrier/Recommendation Description	Responsible Party	Chap. 3 Page	Chap. 4 Page
	<b>Barrier B2 - DHCR'S ORA HAS NO ACCEPTED FORMULA FOR RENT REDUCTION</b>		22	
B2-1	Adopt regulations for preparation and processing of applications	ORA		16
	<b>Barrier B3 - UNCERTAIN COLLECTIBILITY OF SUBMETERED ELECTRICITY CHARGES</b>		23	
<b>BARRIER GROUP C: PROCEDURAL CONSTRAINTS</b>				
	<b>Barrier C1 - PUBLIC SERVICE COMMISSION (PSC) MAJORITY VOTE</b>		29	
C1-1,3	Repeal PSC vote requirement, develop Notice & Comment	PSC, Housing Agencies		7
C1-2	Uniform dispute mechanism for housing agency, coop adoption			8,15,17,23
C1-4	Distinguish between supervised and unsupervised housing in rules			10
C1-5	Same dispute resolution for unsupervised, file with PSC			8
C1-6	Educate PSC staff by visits to sites and attend Board Meetings			9
	<b>Barrier C2 - NYS ENERGY CODE REQUIREMENT FOR UTILITY METERS</b>		32	
C2-1	Amend Energy Code to reflect State policy on submetering	DHCR Code		14
<b>BARRIER GROUP D: INSUFFICIENT KNOWLEDGE AND EXPERIENCE</b>				
	<b>Barrier D1 - LIMITED AGENCY/ORG. EXPERIENCE IN SUBMETERING</b>		35	
D1-1	Educate Management and tech staff of agencies	NYSERDA, DHCR, HUD, HPD, PSC, Con Edison		15,18,23
D1-2	NYSERDA disseminate submetering information			8,9,12,13, 14,15,17, 18,19,20, 21,23
D1-3	Ad-hoc Submetering Committee prepare standard specs, guidelines			8,9,10,12 13,15,17, 20,21
D1-4	NYSERDA, PSC, Con Edison Submetering Manual			8,12,13,20
	<b>Barrier D2 - OWNERS/MANAGERS' LACK OF EXPERIENCE AND UNDERSTANDING</b>		37	
	<b>Barrier D3 - RESIDENTS PERCEIVE FREE ELECTRICITY</b>		38	
<b>BARRIER GROUP E: HISTORICAL ANIMOSITY AND MISTRUST</b>				
<b>BARRIER GROUP F: OTHER BARRIERS</b>				
	<b>Barrier F1 - INCONSISTENT INTERPRETATION/ENFORCEMENT OF BUILDING CODES</b>		45	
F1-1	Education of code enforcement officers to clarify Energy Code	DHCR, Local Bldgs Dept.		13,25
F1-2	Review by NYC Bureau of Electrical Control of existing electric codes			24

**TABLE S-1 - LIST OF RECOMMENDATIONS**

REC Code	Barrier/Recommendation Description	Responsible Party	Chap. 3 Page	Chap. 4 Page
<b>Barrier F2 - POLITICAL OPPOSITION TO SUBMETERING</b>				
F2-1	Consistent State and City Policy on submetering	State Legislature, PSC, NYSERDA, Con Edison		10,13,14, 15,18,23
F2-2	State Legislature mandate to eliminate master-metering			8,9,11,24

## **SUMMARY AND PRIORITIZING OF RESULTS**

While a total of 17 barriers have been identified and analyzed, with 25 recommendations addressing virtually all of these provided in this report, the following barriers and recommendations would be considered the most critical in terms of both their past effect and immediate impact on facilitating submetering implementation. **Elimination of these barriers would have the greatest effect on fostering energy conservation within New York State.**

### **Critical Barriers to Submetering**

The following is a list of critical barriers to submetering, in descending order of priority. The list was compiled utilizing: 1) the findings obtained as a result of the project itself; 2) the knowledge and experience of the Project Team; and 3) knowledge and experience of NYSERDA staff. The criteria for prioritization of barriers were the following:

- Overall impact in terms of the number of apartments (and applicable energy conservation potential)
- significance of the barrier in terms of the degree to which it limits submetering implementation.

A consensus of the Project Team and key NYSERDA reviewers was used to rate the importance of each of the barriers. Based on this assessment, three distinct levels of priority were observed, with the two most critical listed below. All other barriers are considered as Level 3.

#### **Level 1 Barriers (Most Critical):**

1. C1 - Public Service Commission (PSC) majority vote
2. A1 - High initial costs cannot be recovered by those investing in submetering

Level 2 Barriers (Critical):

3. F2 - Political opposition to submetering
4. B3 - Uncertain collectibility of submetered electricity charges
5. F1 - Inconsistent State-wide interpretation and/or enforcement of building codes

**Critical Actions Required to Facilitate Residential Submetering**

The following discussion identifies and prioritizes the critical actions required to facilitate submetering. Specifically, the criteria for the prioritization of recommendations were the following:

- Long-term impact in terms of energy conservation (proportional to number of apartments)
- Viability of recommendations
- Timing for implementation of recommendations.

As with the barrier rankings, a consensus of Project Team and key NYSERDA reviewers assessed the relative criticality of the recommendations and assigned priority to them. Four distinct levels of priority were discerned as a result. Some recommendations were combined where they would be naturally implemented together. The list on the next page indicates only the first three levels (A-C) of recommendations; i.e., those receiving a significant degree of support from the Project Team. A complete list is included in Chapter 4. The Rank, indicated as #X throughout the report, indicates the prioritized ranking of the consolidated list of 25 recommendations, of which 16 are listed. The Recommendation Code (e.g., A1-1) is derived from the Chapter 3 section that contains the barrier that inspired the recommendation:

<u>Section</u>	<u>Barrier Description</u>
A.	Lack of financial incentives to owners
B.	Uncertainty as to policies and procedures for cost recovery
C.	Procedural constraints
D.	Knowledge and experience concerning submetering
E.	Historical animosity and distrust among participants in the submetering process
F.	Other barriers

Understandably, removal of certain significant barriers through accomplishment of recommendations or other means would increase and, perhaps, shift the importance of other remaining barriers, so the prioritized list may need to be re-evaluated at a later time. See Chapter 4 for a full set of recommendations and full descriptions.

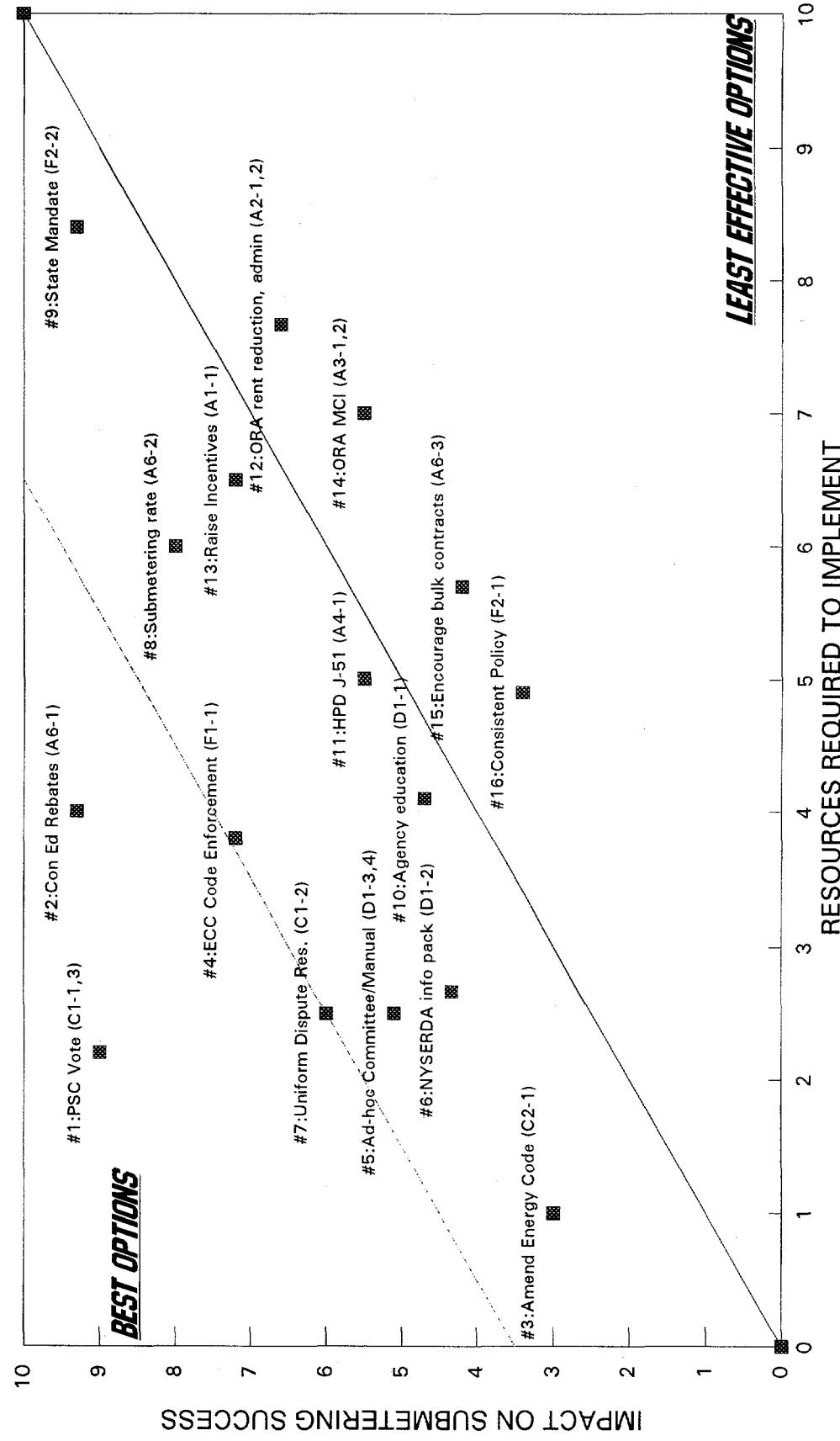
**Table S-2 - List of Highest Priority Recommendations:**

<u>Priority</u>	<u>Rank</u>	<u>Action (Recommendation Code)</u>
A	#1	Repeal PSC vote requirement, develop Notice & Comment (PSC) (C1-1,3)
	#2	Extend Consolidated Edison Rebate Program (PSC, Consolidated Edison) (A6-1)
	#3	Uniform dispute mechanism for housing agency, coop adoption (PSC, Housing Agencies) (C1-2)
	#4	Education of code enforcement officers to clarify and prioritize Energy Code (DHCR) (F1-1)
	#5	Ad-hoc Submetering Committee and Submetering Manual (D1-3,4)
	#9	State Legislature mandate to phase out master-metering (F2-2)
	.....	
	#6	Amend Energy Code to reflect State policy on submetering (DHCR) (C2-1)
	#7	Prepare and disseminate information package (NYSERDA) (D1-2)
B	#8	Rate differential between master-metered and submetered master-metered (PSC) (A6-2)
	#10	Management, agency tech staff education (D1-1)
	.....	
	#11	Raise incentives to cover full initial cost (PSC, Consolidated Edison) (A1-1)
C	#12	Amend J-51 rules to designate submetering as conservation (HPD) (A4-1)
	#13	ORA regulations for rent decreases, Pass-on admin costs to tenants (A2-1,2)
	#14	State and City consistent policy on submetering (F2-1)
	#15	Allow MCI for submetering/rewiring or "conservation" MCI (ORA) (A3-1,2)
	#16	PSC should permit/encourage bulk rate contracts (PSC, Consolidated Edison) (A6-3)
	.....	

Figure S-1 on the next page provides a visual representation of the selected results (Priority Groups A-C) of the priority assessment, balancing impact of recommendation with degree of difficulty, in terms of resources and time required. As indicated, those recommendations closest to the top left of the graph (high impact and low resources required) are the most highly recommended, while the ones on the lower right indicate the least recommended. Those on or above the upper (dotted) diagonal line are the highest priority (Group A), along with two other strategic recommendations (#5 - Ad-hoc Submetering Committee and #9 - State mandate). Those additional recommendations near or above the second (solid) diagonal line are considered the next highest priority (Groups B and C). A graph illustrating the full list of 25 consolidated recommendations is included as Figure 4-1 in Chapter 4.

Figure S-1

**NYSERDA FACILITATING SUBMETERING IMPLEMENTATION PROJECT**  
**ASSESSMENT OF SELECTED RECOMMENDATIONS**



Recommendations toward the upper left corner are the most cost-effective, in terms of the tradeoff between impact and resources required.  
 Recommendations above the upper (dotted) line are the highest priority. Priority (#'s) and Recommendation Code (in parentheses) are indicated

Of the Priority A recommendations, #1 - repeal of the PSC majority vote (C1-1), was considered the most critical to pursue, primarily because of its demonstrated impact as a barrier to submetering implementation in the Consolidated Edison Residential Submetering Program. Approximately 200,000 apartments in cooperatives and condominiums are required to vote under present PSC rules. Discussions with the PSC have indicated that its interests would still be served without a vote if a requirement for "Notice and Comment" were in place (C1-3), which would be combined with the PSC vote repeal, and appropriate dispute resolution procedures were in place. Dispute resolution is mentioned in several recommendations, depending on which housing sector is affected.

Recommendation Priority #2 - extending the Consolidated Edison Rebate Program (A6-1), is critical to the credibility of the submetering effort in the state. Interviewees are nearly unanimous in their opinion that elimination of the rebate would seriously affect the potential for submetering implementation. However, some aspects of the current program (e.g., promotion) would be better suited to implementation by the supervising agencies.

Another recommendation related to the PSC's mandate to protect consumer interests is #3 - development of a uniform dispute resolution procedure (C1-2). This affects all submetering installations, but becomes an issue only after the initial financing issue is addressed. The uncertainty about collection of electric charges when changing the way in which these are collected (rent or maintenance-inclusion vs. separate charges) makes this recommendation a critical component of any submetering evaluation, particularly for rental properties.

One critical recommendation that should not really be necessary, but is, is #4 - education of code enforcement officers (F1-1). It is apparent from the results of the interviews and other information collected during the project that a key component of the law (Energy Conservation Code requirement to meter when upgrading wiring) is not being stringently enforced, resulting in lost opportunities for elimination of master-metering.

In terms of focusing efforts to develop standards and submetering policy applicable state-wide, #5 - development of an Ad-hoc Submetering Committee (D1-3), which would include development of a Submetering Manual (D1-4), is the best method in which to marshall all the expertise and resources, as was done in support of this project. This would also facilitate the adoption of many other recommendations made in this report, such as #14 - Development of consistent state and city policy (F2-1), dispute resolution language (recommendations #18, #20, #22), and other recommendations related to regulations (#6, #19, #24) and education of agency and organization staff (#7, #10).

Recommendation priority #9 - legislative mandate to eliminate master-metering in favor of submetering (F2-2), has been included as an A priority, although its consensus rating is lower than most of the Priority B group due to the present degree of difficulty, anticipated length of time, and other constraints associated with this effort. As with any legislative action, it may be subject to opposition by special-interest groups, and subject to other legislative priorities. While adoption of this recommendation would eliminate the need for many other recommendations, the prospects for successful enactment of legislation cannot be considered as a foregone conclusion, and certainly not a reason to forego proceeding on other recommendations, including those that would be contained in the mandate (e.g. phase-out of bulk rate discount for non-submetered master-metered buildings). Including it as Priority A is intended to indicate that it should be pursued more aggressively than its rating (#9) would indicate, since some of the components could be independently implemented, which would improve the prospects for the legislation considerably and also facilitate compliance with the mandate.

Finally, some less critical recommendations intended to minimize the initial investment constraint, such as #11 - raising the incentives to cover full initial costs (A1-1), would significantly reduce or eliminate the financing and cost recovery (e.g., MCI, J-51) aspects, such as recommendations # 8 - rate differential (A6-2), #15 - MCI eligibility (A3-1,2), and #12 - HPD J-51 eligibility (A4-1), that constrain virtually all installations. This is secondary, however, to having a rebate at all, which is covered in Recommendation #2 - continuing the present Consolidated Edison Program (with its \$200 rebate), a less difficult and more achievable short-term recommendation. Any recommendation that would reduce or eliminate the initial capital investment would reduce the criticality of the cost-recovery recommendations listed above.

As a result of this study, a paramount goal has been achieved -- the merits of modern submetering technology have been brought to the attention of the relevant agencies and other entities. As a by-product of the submetering forums, the various participants began to appreciate perceived barriers to submetering from each other's point of view. Even those who initially defended the status quo indicated a willingness to reappraise existing guidelines and procedures.

We can be reasonably confident that the recommendations that can be easily effectuated will be. Others may require more intensive lobbying efforts. Mind sets will have to be modified. There will need to be considerable rethinking and retraining. This final report is only the commencement of the process to enlighten and educate agency heads, political leaders, owners and residents alike that energy conservation is the goal and submetering is a valuable means to realize it.

## Strategic Plan of Action by Responsible Agency/Organization

A strategic plan for affecting the critical recommendations considered key to facilitating submetering implementation is discussed below in terms of overall strategy, as well as strategies applicable to each agency or organization responsible. These recommendations represent the highest rated recommendations that affect or involve actions by the designated agency or organization, and generally follow the overall ratings provided above. Some additional weight has been given to some recommendations because of timing. That is, while a recommendation may be lower-rated because of the anticipated length of time required to implement, it may need more immediate initial priority in order to provide a "jump-start" to the process. Without that, a delay in assigning resources to that recommendation may adversely affect its potential for eventual adoption. This is especially true of Recommendation #9 - State mandate to eliminate submetering (F2-2). Initial efforts to draft the legislation will expedite the process, which is expected to be time-consuming.

Public Service Commission - The PSC should promulgate new rules, modify existing rules, and provide regulatory support required to implement the following recommendations:

Overall Priority	Rec. Code	Description
#1	C1-1,3	Repeal PSC vote requirement, develop Notice & Comment
#2	A6-1	Extend Consolidated Edison Rebate Program
#5	D1-3,4	Lead Ad-hoc Submetering Committee to develop guidelines for submetering and participate in Submetering Manual
#9	F2-2	State mandate to eliminate master-metering, phase out bulk rate, incentive
#20,22	B1-1,2,3	Uniform dispute resolution and applicability of specific HEFPA items
#8	A6-2	Rate differential between master and sub-metered master-metered through the phase-out of the bulk rate for non-submetered master-metered buildings
#11	A1-1	Raise incentives to cover full initial cost
#16	A6-3	Permit/encourage bulk rate contracts

In terms of timing, the PSC should immediately: 1) begin preparation of rule modifications to repeal the voting requirement and substitute a notice and comment provision (#1: C1-1,3); and 2) facilitate the formation of an Ad-hoc Submetering Committee to develop submetering policy, guidelines, and a Submetering Procedures Manual (#5: D1-3,4). This Ad-hoc Committee should consist of PSC, NYSERDA, DHCR Code Enforcement, DHCR Management, HPD, and Consolidated Edison. Given that Con Edison rebates for submetering for 1996 and forward must still be established and

approved, the PSC should direct Con Edison to continue the present level of rebates (#2: A6-1) and assess the potential for increasing overall incentives (through a combination of rebates, loans and shared savings methods) to cover the full initial cost (#11: A1-1), with a cap on non-reimbursed incentive funding based on overall cost-effectiveness from both utility and resident perspectives. The PSC should also require Con Edison to assess the feasibility of: 1) phasing-out of the bulk rate (#8: A6-2) for master-metered buildings that have not implemented submetering (Also, #9: F2-2); and 2) contracting with submetered buildings to maintain the bulk rate until at least the submetering investment is recovered (#16: A6-3). The PSC should also assist DHCR in developing a process that enables collection for non-payment of electric charges without an eviction option, ideally through the dispute resolution process (#20,22: B1-1,2,3).

New York State Energy Research and Development Authority - NYSERDA should provide information and regulatory support required to implement the following recommendations:

<u>Overall Priority</u>	<u>Rec. Code</u>	<u>Description</u>
#9	F2-2	Draft legislation for State mandate to eliminate master-metering
#5	D1-3,4	Actively participate in Ad-hoc Submetering Committee to develop guidelines for submetering and assist in development of submetering manual
#7	D1-2	Assemble and disseminate standard information package on submetering
#14	F2-1	Consistent State and City policy on submetering, including support of political representatives

NYSERDA should continue to act as a conduit for information relating to submetering (#7: D1-2), as a valuable contributor to policy and practice Committees (#5: D1-3,4), and as a promoter of consistent state policy on submetering (#14: F2-1). Its role as an independent acknowledged expert with no competing agenda to consumers will provide the combination of credibility and technical understanding that other agencies and organizations cannot provide. The availability of information from a source such as NYSERDA will eliminate the excuse often used to dissuade potential submeterers through uncertainty and, worse yet, misinformation. A particularly key target are the politicians, who must have access to complete and credible information to properly counsel their constituents. The drafting of legislation (#9: F2-2), while potentially a long and time-consuming process, may be the only way to ensure that master-metering is eliminated, and that submetering be presented as a cost-effective option.

New York State Division of Housing and Community Renewal, Code Enforcement (formerly SEO) - DHCR should promulgate new rules, modify existing rules, and provide support required to implement the following key recommendations:

<u>Overall Priority</u>	<u>Rec. Code</u>	<u>Description</u>
#5	D1-3,4	Actively participate in Ad-hoc Submetering Committee to develop guidelines
#7	D1-2	Obtain and disseminate standard submetering information package (from NYSERDA)
#4	F1-1	Education of code enforcement officers to clarify Energy Code
#6	C2-1	Amend Energy Code to reflect State policy on submetering (DHCR)
#14	, F2-1	Consistent State policy on submetering

DHCR should immediately participate in the Ad-hoc Submetering Committee (D1-3,4), so that its requirements are incorporated into a consistent policy set (#14: F2-1). Based on its new role as administrators of the State Energy Conservation Construction Code, DHCR must ensure that local building code officials enforce the code (#4: F1-1), specifically in relation to the requirement for metering when electrical upgrades are performed. This aspect of the recommendation alone will reduce the number of lost opportunities over time, as master-metered buildings, all built prior to the adoption of the code in 1979, pursue electrical upgrades. The wording of the code should also be aligned with the option for submetering (#6: C2-1), since it causes uncertainty and additional unnecessary administrative effort in an already overburdened state bureaucracy.

New York State Division of Housing and Community Renewal, Office of Rent Administration (DHCR/ORA) - DHCR/ORA should promulgate new rules, modify existing rules, and provide support required to implement the following key recommendations:

<u>Overall Priority</u>	<u>Rec. Code</u>	<u>Description</u>
#7	D1-2	Obtain and disseminate standard submetering information package (from NYSERDA)
#5	D1-3,4	Participate, as needed, in Ad-hoc Submetering Committee to develop guidelines for submetering and assist in development of submetering manual
#14	F2-1	State consistent policy on submetering
#3	C1-2	Uniform dispute mechanism for housing agency adoption

#10	D1-1	Management and Agency staff technical education
#13	A2-1,2	ORA regulations for rent decreases, Pass-on admin costs to tenants
#15	A3-1,2	ORA should make submetering eligible for standard or "conservation" MCI

The principal role that the state housing agencies (specifically DHCR/ORA) should pursue is to provide information to owners (#7: D1-2) who are considering submetering and participate in the process of developing policy and procedures for submetering implementation (#5: D1-3,4). The latter would enable DHCR/ORA to develop a consistent policy on submetering (#14: F2-1) through education of its own staff (#10: D1-1) and establishment of policy. In terms of specific actions, most importantly, DHCR/ORA should facilitate recoupment of owners' investment in submetering so that owners and residents can ultimately both share in the energy conservation savings potential of submetering. Specifically, for the benefit of both owners and residents, uniform procedures must be established to implement submetering and handle disputes once implemented (#3: C1-2) and allow a standard and fair means for rent reduction and recovery of costs applicable to submetering (#13: A2-1,2). DHCR must also allow submetering to be eligible for MCI (#15: A3-1,2), either as a permanent or one-time recovery item. Elimination of cumbersome processes and dissemination of information through the supervising agencies to the residents will also be key to eliminating barriers. The rental housing segment, in particular, is constrained in adopting submetering because of the many layers of procedures designed to protect consumers. Elimination of barriers in the rental sector through the recommendations made in this report will, thus, tend be difficult to adopt, but could have a major impact on the submetering market, which has scarcely penetrated the rental market (approximately 200,000 apartments).

#### New York City Housing, Preservation and Development (HPD)

Overall Priority	Rec. Code	Description
#7	D1-2	Obtain and disseminate standard submetering information package (from NYSERDA)
#5	D1-3,4	Participate, as needed, in Ad-hoc Submetering Committee to develop guidelines for submetering and assist in development of submetering manual
#3	C1-2	Contribute to development of uniform dispute mechanism for agency, coop adoption
#12	A4-1	Amend J-51 rules to designate submetering as conservation
#14	F2-1	City consistent policy on submetering
#10	D1-1	Management and Agency staff technical education

The best role for HPD to play in the support of submetering is reaching out to master-metered building owners and

residents to advise them of their eligibility for submetering, the agency's support and promotion of submetering, the technical advances in the field, and successful installations. This role can be facilitated through NYSERDA's information dissemination effort, which will provide case studies (#7: D1-2) and the basis for technical education (#10: D1-1). In coordination with the Ad-hoc Submetering Committee (#5: D1-3,4) members (i.e., NYSERDA and DHCR), HPD should assist in developing and adopting standardized specifications and criteria for submetering implementation, including uniform dispute resolution (#3: C1-2), already in place (See Appendix D). HPD's various divisions should coordinate the effort to encourage submetering, so as to provide consistent policy and practice. All this should contribute to a consistent City policy on submetering (#14: F2-1), which will include permitting reserve moneys to be expended for submetering and a percentage of agency loan program proceeds targeted to assisting owners and boards in the initial capital expenditure. Specifically, the J-51 unit should amend its regulations to permit submetering as an energy conservation measure (#12: A4-1).

New York City Housing Authority - NYCHA should pursue submetering based on the following recommendations:

<u>Overall Priority</u>	<u>Rec. Code</u>	<u>Description</u>
#7	D1-2	Obtain and disseminate standard submetering information package (from NYSERDA)
#10	D1-1	Management and Agency staff technical education
#23	A5-1	Develop feasibility study to assess submetering
#23	A5-2	Seek federal funds to assess and finance submetering
#23	A5-3	Work with HUD to allow NYCHA recoupment of costs

NYCHA should obtain whatever information it requires (#7: D1-2, #10: D1-1) to undertake an assessment of submetering in terms of their housing complement's specific potential for savings and costs to implement (#23: A5-1). Federal funds may be necessary (#23: A5-2) to perform this assessment and, if found feasible, the implementation. Should the efforts recommended to mandate elimination of master-metering succeed, NYCHA may be forced to implement submetering or individual metering without a proper understanding of the implications. The NYCHA housing stock may be the most problematic for submetering implementation due to the age, resident composition or profile (generally low-income) and complexity of funding (from HUD). Existing rules require NYCHA to turn over all savings to HUD, the principal subsidy provider (#23: A5-3).

Utilities - The utilities, particularly Consolidated Edison, should implement the following recommendations:

<u>Overall Priority</u>	<u>Rec. Code</u>	<u>Description</u>
#2	A6-1	Extend Consolidated Edison Residential Submetering Program Rebate
#5	D1-3,4	Actively participate in Ad-hoc Submetering Committee
#8	A6-2	Request phase-out of bulk rate for non-submetered master-metered buildings to create a rate differential
#7	D1-2	Assist NYSERDA in development of and disseminate standard information package on submetering
#11	A1-1	Raise incentives to cover full initial cost
#16	B4-1	Pursue long-term bulk rate contracts with submetered buildings

The utilities, specifically Consolidated Edison's, role in the submetering process is very substantial since it is the energy conservation benefits of submetering to the utility that funds the rebates and that have been established as the key to the economic viability of submetering to the owners of master-metered buildings. Recommendations for Consolidated Edison's efforts are centered around three aspects:

- Maintaining (#2: A6-1) and, if warranted, expanding (#11: A1-1) the rebate for submetering implementation.
- Contributing expertise, experience and information to NYSERDA's information dissemination efforts (#7: D1-2), the Ad-hoc Submetering Committee and the development of a submetering manual (#5: D1-3,4).
- Providing Rate Incentives reflecting the benefits of submetered master-metered customers over non-submetered master-metered customers (#8: A6-2). This may include offering long-term bulk contracts (#16: A6-3), but this would only apply in certain circumstances, primarily larger housing developments.

Federal Housing Agency - HUD should pursue submetering based on the following recommendations:

<u>Overall Priority</u>	<u>Rec. Code</u>	<u>Description</u>
#7	D1-2	Obtain and disseminate standard information package (from NYSERDA) on

		submetering
#14	F2-1	Federal consistent policy on submetering
#3	C1-2	Adopt uniform dispute mechanism
#10	D1-1	Management and Agency staff technical education

HUD's primary responsibility is to act as a conduit for information relating to submetering for its supervised housing (#7: D1-2, #10: D1-1). The availability of information from NYSERDA should assist HUD in establishing a consistent policy (#14: F2-1) and adopting standards, such as uniform dispute resolution (#3: C1-2).

#### Other Agencies/Organizations

<u>Overall Priority</u>	<u>Rec. Code</u>	<u>Description</u>
#9	F2-2	Legislate a State mandate to eliminate master-metering and present submetering as a cost-effective option (State Legislature)
#4,25	F1-1,2	Local building code enforcement and code review (Building Departments)

Relating to the recommendation to mandate the elimination of master-metering (#9: F2-2), the following procedure is suggested. For buildings that have not submetered, there would be a phase-out of the favorable bulk rate by a flat percentage per year over five years until the buildings that did not submeter would be paying retail rates. With respect to the utility incentive, a building that is submetered in the first two years of the program would receive the full cost, up to \$400 per apartment; in the second two-year period, the rebate would decrease to \$300; then subsequent reductions of \$100 each year, resulting in its elimination after a total of seven years. These incentive levels would continue to be subject to the regulation of the PSC, based on continued demonstration of cost-effectiveness, consistent with other utility DSM incentive programs and established practice.

See Chapter 4 for a more comprehensive list and discussion of agency and organization-specific strategy and recommendations. In some cases, multiple parties are required for successful implementation of recommendations, so cooperation among agencies will be needed.

## **REPORT ORGANIZATION**

The report is divided into a "How-to" chapter, an Executive Summary, and main chapters, plus appendices, as follows:

Chapter 1 (Overview) provides a brief background of submetering and of the project. Chapter 2 (Methodology) describes the methods, procedures and activities of the Project Team in performing the project. Chapter 3 (Analysis of Submetering Barriers) details and analyzes the identified barriers to residential submetering, including references to recommendations specifically related to each barrier. Chapter 4 presents the recommendations to overcome the barriers by agency and organization and a strategic plan designed to accomplish these recommendations.

Appendices are also provided that detail the background and history of submetering (Appendix A), a financial analysis of Submetering (Appendix B), the results of legal research (Appendix C), a proposed set of grievance and dispute resolution procedures for private and public housing agencies and a copy of HPD guidelines (Appendix D), and biosketches of key Project Team staff (Appendix E).

Note that barrier and recommendation numbers are provided for reference purposes only and are not intended to indicate priority.

## 1. OVERVIEW

### BACKGROUND

The history of submetering itself has been a barrier to submetering. The New York State Public Service Commission (PSC) banned submetering in all residential housing subsequent to September 1, 1951<sup>5</sup>, to prevent abuses by landlords (rental owners) who were overcharging their rental tenants for electricity by adding administrative expenses and charging arbitrary rates in excess of their costs. At that time energy was relatively inexpensive and the only proven option available to owners who sought to submeter was via hard-wired electro-mechanical meters, a relatively expensive installation. As a result, the PSC ban was not of critical concern.

When the cost of electricity dramatically escalated due to the oil embargo of 1973, the economic viability of master-metered buildings was threatened. Since many of the master-metered buildings in New York State were under state or city jurisdiction, public agencies began to look at ways to reduce building operating costs. One of these efforts was to consider submetering. Federal (e.g. DOE) studies had earlier shown that financial responsibility for energy usage brought about a significant conservation benefit. Also, owners of rental housing and Boards of Directors (Managers) in the newly expanded world of housing cooperatives and condominiums became concerned. All of these organizations sought a means of transferring the ever-increasing cost of electricity directly to the users, the renters, shareholders and unit owners, in direct proportion to actual usage, as a means of reducing consumption. By 1979, the PSC had agreed to restore submetering, subject to certain conditions.<sup>6</sup> (Other restrictions and requirements have remained that have served to impede the progress of submetering implementation.)

With the re-institution of submetering, many submetering systems were developed and appeared on the marketplace in response to this new market. To evaluate both the technical and economic merits and establish standards for this new

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<sup>5</sup> PSC Case Number 14279 [July 25, 1951], affirmed in Matter of Campo Corp. v. Feinberg, 279 App. Div. 302, affd. 303 N.Y. 995 (1952).

<sup>6</sup> The PSC began reversal of its "no residential submetering" position in Opinion No. 76-17, which determined that governmental landlords would be permitted a submetering option as soon as tariff amendments containing suitable terms and conditions were prepared in accordance with the Opinion and directed hearings on the issue of whether the change in submetering policy should be more widely applied. In 1978, in the first phase of the proceeding in Case 26998, the PSC allowed owners of cooperatives and condominiums in the Consolidated Edison Company's service territory to convert their electric service from master-metering to submetering in certain instances. In Opinion 79-24 issued on November 14, 1979, the PSC announced its "willingness to consider...proposals for a conversion from master-metered to submetered electrical service in government housing and privately owned rental housing..." In addition, for government housing anywhere in the State, the order adopts the same policies as those it prescribes for residential buildings in Consolidated Edison's territory. In Opinion 80-20, the submetering policies applicable in Consolidated Edison's territory were expanded to include the entire state.

generation of submetering systems, NYSERDA, in cooperation with the New York State Division of Housing and Community Renewal (DHCR) initiated a "Demonstration of New Submetering Technologies" project in 1981. The results of this project proved the viability of electrical submetering, showing significant savings potential (18-26%), the viability of electronic metering and powerline carrier communications technology, and provided the basis for standards to be formulated (American National Standard Institute Code for Electricity Metering ANSI C12.1-1982), which were adopted then by DHCR<sup>7</sup> and, later, Consolidated Edison Company of New York (Consolidated Edison), in their Residential Submetering Program.

Also during 1979, Consolidated Edison initiated a research and development project that included the development of a solid state metering system. The system was evaluated for NYSERDA by Consolidated Edison.<sup>8</sup> This system was initially tested at several New York City apartment buildings between 1985 and 1987.<sup>9</sup>

Consolidated Edison continued to evaluate the performance of the submetering equipment installed at both Scott Towers and Carlyle Towers as part of a 1987-1989 pilot program (Program G-9). NYSERDA co-funded part of the equipment development and system enhancements which were subsequently tested in the Carlyle Towers installation. Consolidated Edison reported that "submetering can reduce an average apartment's contribution to the Company's system peak by 0.3 to 0.5 KW and that the (average) apartment's energy consumption fell by 10 to 18%". These results demonstrated the significant demand side management (DSM) potential of electrical submetering, which had become a major impetus of Consolidated Edison, encouraged and mandated by the PSC, to defer generating capacity expansion and promote overall energy efficiency.

During 1989, NYSERDA evaluated the long-term benefits of existing electrical submetering retrofits to demonstrate the persistence of the savings benefit of submetering. Annual savings in the apartment sector of these buildings averaged almost 20%.<sup>10</sup>

To further encourage the implementation of electrical submetering and other advanced building technologies, including energy management systems (EMS) and cogeneration, in 1989 the New York State Energy Office (SEO) initiated the

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<sup>7</sup> Demonstration of New Submetering Technologies, NYSERDA Report 86-8, Hirschfeld and Stone Consulting Engineers, 1986.

<sup>8</sup> Automatic Remote Integration Metering Center, NYSERDA Report 89-6, Consolidated Edison Company of New York, 1988.

<sup>9</sup> Buildings in the 1979-1988 Consolidated Edison Project included Park Ten (10 West 66th St., NYC), Scott Towers (3400 Paul Ave., Bronx, NY) and Carlyle Towers (138-10 Franklin Ave., Flushing, NY).

<sup>10</sup> Long Term Benefits of Electricity Submetering Retrofits, NYSERDA, July 1989, Steve Manwell and Joseph Rizzuto, P.E. (unpublished)

Building Advanced Technologies Program (BATS).<sup>11</sup>

As an extension of these activities, Consolidated Edison, with the co-sponsorship of both NYSERDA and the State Energy Office, instituted a Residential Submetering Program in 1991 to promote and actively market electrical submetering. The primary objective of this program was to promote electrical submetering in the New York City area master-metered residential marketplace by providing financial incentives (rebates and Energy Investment Loans through SEO), technical services (site surveys, feasibility studies and bid specifications), educational materials (case studies and articles), and promotional assistance (attend Board and resident meetings), all designed to facilitate submetering implementations. Consolidated Edison retained a team of consultants to provide technical and marketing services to assist it in achieving its objective.<sup>12</sup>

Because of a perceived relative ease in implementing submetering in the cooperative/condominium marketplace, Consolidated Edison initially targeted cooperative buildings for the Residential Submetering Program and established an initial goal of 5,000 dwelling units. Only 40% of the initially targeted goal of 5,000 submetering implementations over two years was achieved as of three years after the initiation of the program. A number of conclusions were made as a result of this project<sup>13</sup> and other earlier demonstration projects that confirm the benefits of submetering, including:

1. Submetering saves energy - Although equipment and efficiency improvements and a general increase in the awareness of consumers of the need for energy efficiency have lowered consumption growth and reduced waste over the past 10-20 years, submetering implementation continues to achieve a significant savings in energy in buildings implementing it. The savings analysis for the buildings that have submetered for at least one year conclusively illustrate that submetering results in significant annual energy savings of 10-23% of the apartment consumption in all cases without extenuating circumstances.
2. Submetering benefits residents - Approximately 60 -70% of residents benefit from submetering, and current energy abusers could pay significantly more, in fair proportion to their consumption levels. Consumption levels varied considerably across buildings and also by apartment size, confirming that the

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<sup>11</sup> The project was conducted by Herbert E. Hirschfeld of Hirschfeld and Stone Consulting Engineers from 1989 through 1992. Phase 2 of this Program was restructured and incorporated into Consolidated Edison's Residential Submetering Program in 1991.

<sup>12</sup> The Team of consultants consists of XENERGY, Inc., Applied Energy Group, Inc. and Herbert E. Hirschfeld, P.E.

<sup>13</sup> Consolidated Edison Company of New York Residential Submetering Program Phase II Final Report; also sponsored by the NYSERDA (Project 1507-EEED/BES/91); July 1995 (tentative); XENERGY, Applied Energy Group, Inc. and H. E. Hirschfeld, P.E.

issue of fairness is a considerable one for buildings to consider in assessing submetering.

3. Submetering is fair to consumers - Submetering simply restores the "pay for what you use" concept that has always applied to the vast majority of apartment residents with individual metering, with the added benefit of a lower bulk rate. It has been established from the Consolidated Edison Program that 20 - 25% of the total apartment consumption is used by only 10% of the residents, yet those 10%, the high users and "abusers", pay the same as other residents, without submetering.
4. Submetering benefits owners - Submetering largely eliminates a variable and difficult-to-control factor - apartment electric usage - from an owner's expenses, whether the building is owned by cooperative shareholders or rental owners. Owners can thus better control and predict costs and reduce variation in cash flow due to the variable electric cost component of common charges.
5. Submetering benefits utilities and society - Submetering benefits utilities and society in the same way, by reducing the waste of energy and deferring the need to site, build, and otherwise acquire electric generating capacity, as well as reduce the use of fossil fuels (e.g., oil), still the primary source of power generation in New York State.

These conclusions confirm the benefits of submetering to society, utilities, building owners, and consumers, given the appropriate incentives and allocation of costs and benefits.

Despite these established benefits, numerous factors, often involving city and state governmental agencies, impeded the Consolidated Edison Program from achieving a greater level of success. These factors were recognized as inherent to the existing submetering process and could not be resolved within the scope of the Consolidated Edison Project. Recognizing this and other factors, the New York State Energy Research and Development Authority (NYSERDA) a co-sponsor of the Project, initiated a project specifically designed to address the barriers to submetering called the Facilitating Submetering Implementation Project, which has culminated in this report.

#### Issues Summary

Electrical submetering in master-metered buildings is unlike virtually any other energy conservation measure in that it changes the manner in which electricity is paid for. Its sole function is to redistribute the cost of electricity in direct proportion to the end user's actual consumption, replacing the rather arbitrary, but commonly accepted distribution of cost by apartment size, shares, etc. It has been documented in past and present (Consolidated Edison Program) studies that there is often little correlation between apartment size and energy consumption, and thus cost allocation and actual

usage. Submetering relies on the accountability of each end user to conserve energy by virtue of the fact that "one pays for what one uses".

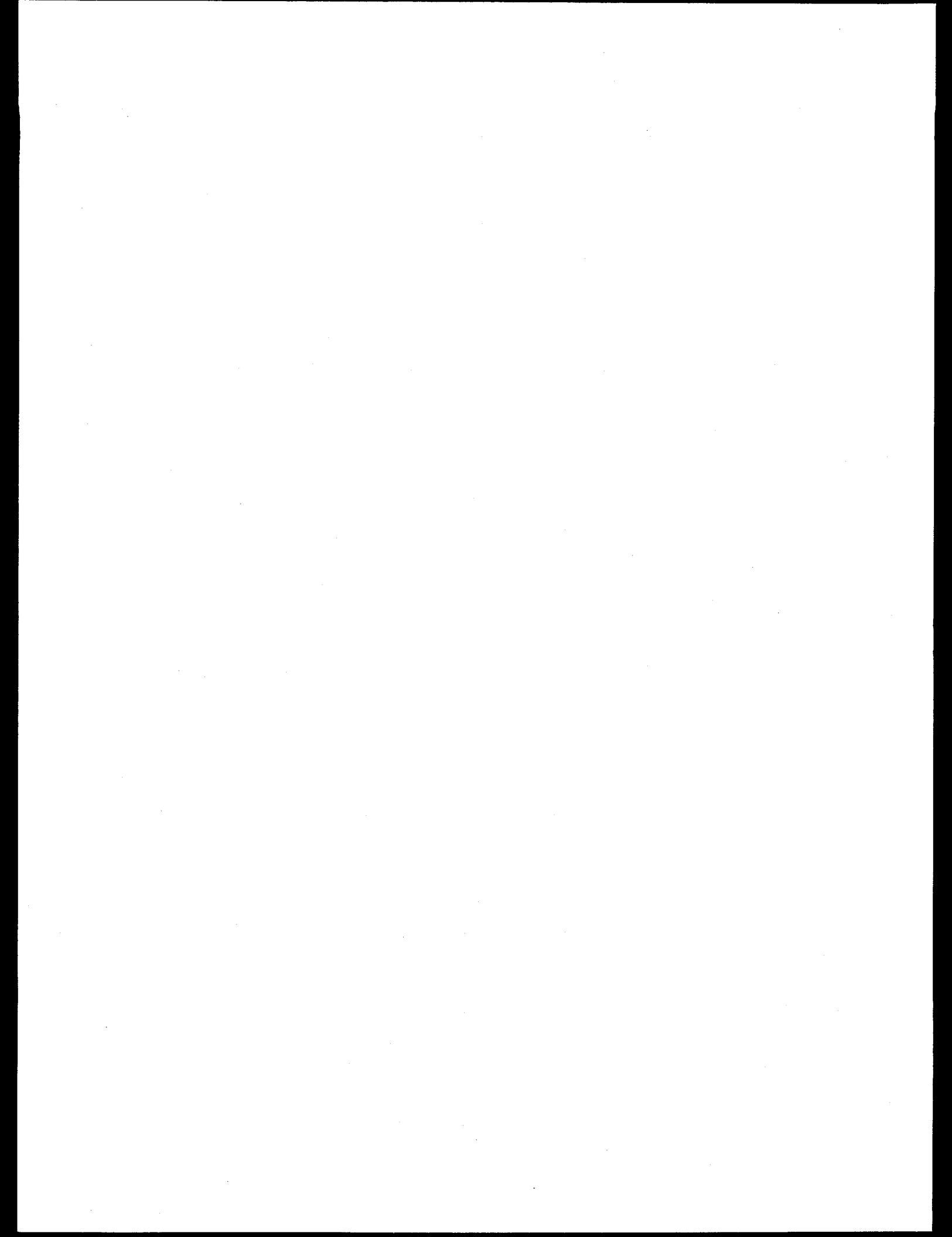
For those who reside in master-metered buildings, electricity is simply one of the numerous unspecified components that make up the monthly rent or carrying charge. Thus, many residents are unaware or do not consider that they do pay for their electricity, although not necessarily in proportion to their individual use level. For conservers and abusers alike, that rent or carrying charge bill remains the same. Submetering ends all that. Renters and shareholders whose apartments are submetered receive monthly bills for the cost of their electricity consumption in addition to their rent or carrying charge bills. These electricity bills can fluctuate with the season and usage. Faced with having to pay directly for use of air conditioning, lights, multiple television sets, etc., submetering may be assumed by some to cause a diminution of the resident's quality of life. Even the most energy conscious conservationist must suffer some trepidation wondering how submetering will impact upon one's household lifestyle.

Many of the barriers reported in this study are related to end user misperceptions or mistrust. Some, indeed, are manifestations of self-interest or greed. Others are financial in nature and relate to concerns about potential financial impact on individuals or organizations. A number of barriers, however, are imposed upon potential submeterers by regulatory agencies in their effort to provide consumer protection.

The cooperation of the energy and housing agency representatives, the utilities, end users, and vendors enabled the Project Team to gather sufficient data to prepare this report. The Project Team, during the interview and Forum stages of the study, was able to provide background and up-to-date information relating to submetering.

There is little doubt that many of the regulatory barriers can be eliminated or minimized by adoption of standardized procedures and/or amendatory language, education and training of staff, establishment of priorities, etc. The financial barriers, which run the gamut from financing of submetering installations and permitting an owner to recoup his investment, to establishing an equitable rent reduction mechanism, may be harder to resolve but are not impossible. Perhaps the most difficult set of barriers to overcome are the intangible ones -- ingrained attitudes.

This report will cover the panoply of barriers as described in interviews and conferences with regulatory agency executives and staff, owners and managers of residential properties, utility staff, meter vendors and installers, renters, shareholders, private sector housing organization representatives, etc., as well as those determined as a result of the research and observations of the Project Team. The resulting strategic plan and recommendations will be designed to facilitate submetering which, despite its documented benefits, continues to suffer from a slow rate of implementation.



## 2. METHODOLOGY

A formal methodology was developed to meet the goals and objectives of the project, which are to formulate conclusions and recommendations relating to facilitating the adoption of electrical submetering in the residential multi-family sector of New York State, particularly New York City. This section describes that methodology in terms of project management and project approach.

### PROJECT MANAGEMENT

The Project Team members are senior-level experts from several independent organizations. Their combined experience and familiarity with submetering, as well as their previous affiliations and involvement with the regulatory agencies and housing organizations, enabled them to facilitate the interview process and organize successful forums for the exchange of information and ideas under the guidance of Mary Ann (Schiazza) Bowers, Project Manager, and Joseph Rizzuto, both of NYSERDA. Specifically, the key Project Team personnel were:

- Herbert E. Hirschfeld, P.E. - Project Manager: Responsible for technical and end user issues and overall project performance.
- Joseph S. Lopes, Vice President and Principal of Applied Energy Group, Inc. - Project Administrator: Responsible for utility issues and overall coordination and communications aspects of the project.
- Fredric S. Goldner, C.E.M. - Principal of Energy Management & Research Associates and Assistant Project Manager: Responsible for regulatory technical issues.
- Ruth Lerner, Consultant and Managing Director of Waterside Plaza: Responsible for political and regulatory management aspects of the project.
- Howard Schechter - Attorney at Law and a founding partner of Schechter & Brucker, P.C.: Responsible for legal and related regulatory issues.

More detailed biosketches are provided in Appendix E.

## **PROJECT APPROACH**

The Project Team's goal was to identify submetering barriers and to formulate recommendations for their elimination. The team approached this project in four distinct ways:

1. Team members arranged and conducted interviews with housing and energy regulatory agencies, housing organizations, utility executives and staff, and individuals in the housing and energy fields who could provide insight, information, and ideas regarding barriers to submetering and recommendations for their elimination.
2. They conducted research into the legal, regulatory and financial aspects of submetering that might impede submetering implementation.
3. Once the foundation was laid, the Project Team, with the guidance of NYSERDA representatives, conducted two forums. At the first forum, the invitees were from the regulatory agencies that had participated in the interviews. At the second forum, in addition, invitations were extended to building owners, managers, equipment vendors, housing organization representatives, and other individuals who had participated in the interview process. The purpose of the forums was threefold: a) to obtain additional data and feedback from the participants; b) to permit the parties to interface in an exchange of ideas and to problem-solve; c) to inform and enlighten the forum participants about new technology, recent conservation data, etc.
4. Utilizing the knowledge and experience of the team members, as well as that of NYSERDA, the team analyzed the data collected from the interviews and the forums, agreed upon barriers, formulated conclusions, made recommendations, and assigned responsibility for carrying them out.

### **1. Interviews**

A list of potential interviewees was prepared by the Project Team in cooperation with the Project Steering Committee, which included representatives of the State Energy Office, Public Service Commission, Consolidated Edison, and the New York City Office of Telecommunications and Energy. Interviewees were generally regulatory agency representatives who would have input and be part of the decision-making process regarding submetering implementation. Additional interviewees were housing organization representatives, building owners and managers, cooperative board members, equipment suppliers and installers, utility executives and staff, etc.

One or two Project Team staff members conducted each interview. The team member(s) selection was based on his or her experience and familiarity with the targeted interview group.

In preparation for the interviews an interview protocol was also developed, with four sections, as follows:

1. Introductory Script - This introduced the interviewer to the agency/ organization representative and explained the goals of the project and the purpose of the interview. The script read at the start of the interview can be found in Table 2-1.
2. General Interview Questions - These were generic questions intended to ascertain: a) the interviewee's level of understanding as it relates to the technical, equipment, resident impact, financial considerations, and regulatory aspects; b) perceptions toward submetering and his/her role in the process by which buildings submeter; and c) rules, regulations, and guidelines they are aware of that impact submetering implementation. During this part of the interview, listening was key to determining current knowledge and perceptions of the interviewees prior to their receiving any additional information from the Project Team.
3. Agency/Organization-Specific Questions - These involved areas of inquiry that varied by agency/organization. The interviewer attempted to obtain both personal and official perceptions.
4. Educational/Information Discussion - This involved the interviewer presenting a brief outline of the known facts about submetering to the interviewee, determining his/her understanding and familiarity with them and asking for his/her comments on them. The discussion also involved ascertaining the interviewees' willingness, ability and flexibility to achieve change, as well as a discussion of recommendations for facilitating submetering.

Table 2-1  
INTRODUCTORY SCRIPT FOR INTERVIEW PROTOCOL

The New York State Energy Research and Development Authority is conducting a project known as "Facilitating Submetering Implementation", which is designed to identify barriers to submetering in master-metered residential buildings in New York State. Our Project Team has been retained by NYSERDA to assist in this effort. Our tasks are to:

- research legal and regulatory barriers that may exist;
- conduct interviews with agencies and organizations that are involved in the submetering process;
- determine understanding and perceptions toward submetering;
- develop conclusions and recommendations that will facilitate submetering;
- conduct presentations and workshops on submetering; and
- develop a report on the project.

We are asking your help in this effort by answering some questions, providing your personal and your organization's role and perspective on submetering - past, present and future. Your individual responses will be kept completely confidential and your name and any statements you make will not be connected in any document. Our goals for the interview are:

- a. Determining your personal and your organization's understanding of submetering issues relating to technical, equipment, resident impact, financial considerations and regulatory requirements.
- b. Determining your personal and your organization's role in the process by which buildings submeter.
- c. Identify any inherent rules, regulations and guidelines you are aware of that impact submetering implementation now or which could in the future.

We expect to conduct up to three presentations and workshops that you will/may be welcome to attend that will provide information on submetering and our findings. Of course, you are welcome to ask questions during the interview.

This method of intensive interviews and the early discussion of potential recommendations encouraged interviewees, particularly agency and department heads, to play a more active role in achieving project results. Agency representatives were made to feel more involved in the process of improving the prospects for submetering implementation. In addition, conducting interviews prior to the submetering forums enabled the Project Team to obtain perceptions of submetering that were virtually "untainted" by contact with outside entities.

Representatives of each of the key agencies and organizations contacted for interviews included the following:

- a. NYS Division of Housing and Community Renewal (DHCR) Bronx - Technical issues
- b. DHCR Bronx - Management
- c. DHCR/ORI Jamaica - Major Capital Improvement (MCI), Rent regulation
- d. New York Public Service Commission (PSC) Staff (New York City and Albany)
- e. The New York State Energy Research and Development Authority (NYSERDA)
- f. State Energy Office (NYS Energy Conservation Construction Code - now under the jurisdiction of DHCR)
- g. Utilities - Consolidated Edison, Long Island Lighting Company and New York Power Authority
- h. New York City Department of Housing Preservation and Development (HPD) - Technical

- i. HPD - Management
- j. HPD - J-51 Tax Abatement
- k. U.S. Department of Housing and Urban Development (HUD) - Management
- l. New York City Housing Authority (NYCHA)
- m. New York City Departments - Telecommunications and Energy, Water and Energy Conservation
- n. Resident Cooperatives/Condominiums - (Council of NY Cooperatives; Federation of NY Housing Cooperatives, Coordinating Council of Cooperatives)
- o. Resident Rental Organizations (New York State Tenant Neighborhood Coalition)
- p. Building Owners and Managers
- q. Stuyvesant Town
- r. Equipment Vendors (e.g., Quadlogic, GD California, Schlumberger, Osaki)
- s. End Users (two interview groups: those considering and those having rejected submetering)

Key representatives of each organization were interviewed except for Stuyvesant Town, and most of the interviews for the Building Owners and Managers group were conducted via telephone.

## **2. Legal and Regulatory Research**

Legal research completed to date was used to develop areas of questions for the agencies, administrators, and regulators of submetering.

## **3. Submetering Forums**

Two Submetering Forums were held. In the first, members of agencies and organizations involved in submetering, including those interviewed during the first phase of the project, were invited. A roundtable format was used to elicit comments and opinions from attendees, using case studies of typical situations where the submetering implementation process was underway. In this way, each agency and organization could address its involvement and projected actions in a variety of cases. The active participation of representatives from so many housing, energy and related agencies enabled the attendees to learn about how other agencies and organizations were involved and what issues were likely to be encountered. A transcript of the proceedings was prepared and distributed to interested parties.

For the second Submetering Forum, the invitees from the first forum were supplemented by submetering equipment vendors, end users and representatives of housing-related organizations, who were given the opportunity to make short presentations on their perspective of the barriers to submetering. The Project Team then presented a preliminary list of barriers to submetering and the attendees were divided into workshop groups consisting of a full mix of vendor, end user, agency and others to discuss specific barriers to submetering. Workshop groups covered coop/condo, regulated and unregulated rental housing types. Finally, agency representatives remained to discuss what had been learned from the first two forums and preliminary recommendations were discussed.

#### **4. Identification, Analysis and Recommendations**

The following sources were used as the basis for identification and analysis of submetering barriers and formulation of recommendations:

- Agency and Organization Interviews
- Submetering Forum (April 12, 1994)
- Second Submetering Forum (June 9, 1994)
- Legal Research (Appendix C)
- Literature and Document review
- Financial Analysis (Appendix D)
- Previous experience and observations of the Project Team

In terms of legal/literature searches and past experience of Project Team members, the analysis included:

- Influence of the technical state-of-the-art at the time statutes, codes, and regulations were adopted
- Precedents or equivalent regulations used as a basis for developing laws or regulations
- Degree of interpretation inherent in the application of regulations, statutes and codes
- Degree to which lack of understanding of current technology affected the adoption of submetering
- Degree to which lack of expertise and information deterred submetering implementation

The Project Team developed recommendations on changes that should be made in agency policy and/or procedures, activities that should be pursued by one or more of the affected parties, and ways to overcome impediments to submetering identified during the project. Within each responsible agency/organization, a strategic plan for implementation of recommendations applicable to that agency/organization was also developed.

The general topic areas of analysis were:

PSC Decisions - The Project Team researched all prior PSC decisions relating to submetering to ascertain past, potential and perceived barriers to submetering, and analyzed PSC regulatory procedures and requirements.

Regulatory Barriers - The Project Team investigated regulatory barriers utilizing interviews, legal, and other document research. The Project Team staff studied the impact of federal, state and city housing agency regulations, policies, and procedures that affected submetering; analyzed rent reduction formulas; reviewed filing requirements; enforcement mechanisms; applicability of benefit programs; and identified perceived and actual regulatory barriers to submetering.

End User Issues - The Project team analyzed barriers perceived by end-users, as they varied by category of building ownership and operation. Cooperative and condominium boards, shareholder and tenant organizations, building owners and managers representing buildings were interviewed. Information gathered by Project Team contacts with submetered

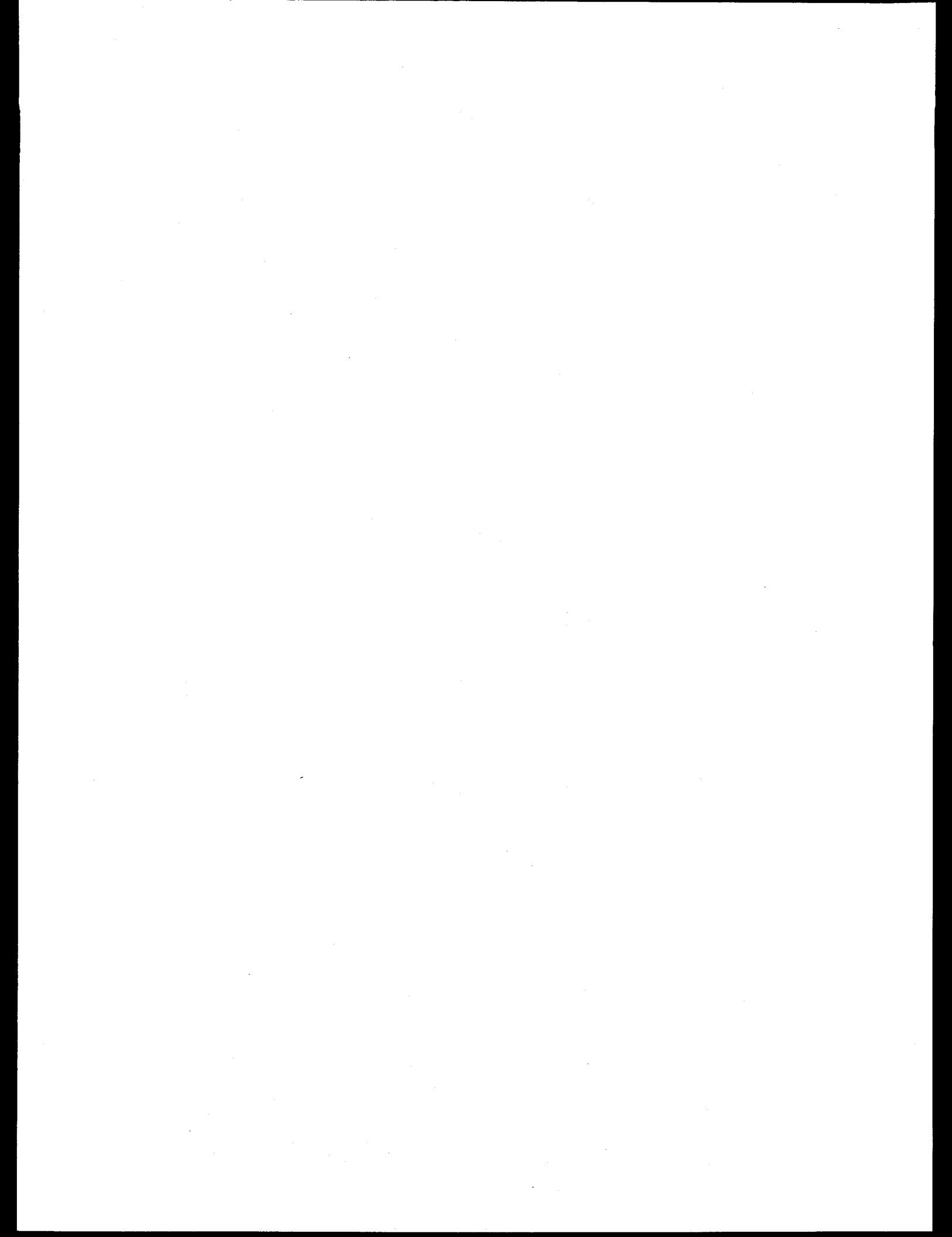
buildings was also incorporated, including the results of prior analyses performed by the Project Team members.

Utility Barriers - The Project Team addressed barriers and lost opportunities by utilities that could or have affected submetering. The Project Team reviewed incentives, rate structures, consumer perceptions, and imposition of conditions on potential submetering candidates.

Financial Barriers - The Project Team analyzed the overall financial aspects of submetering, in terms of the capital and installation requirements, administrative costs (meter reading, equipment maintenance), incentives available, funding sources, including utilization of reserve funds, effects on rent/carrying charges, and potential (new) electric bills.

The Project Team provided monthly reports to NYSERDA, which included lists of meetings held, interviews (in-person and phone) conducted and other activities. Draft and final reports were then provided to NYSERDA and also circulated to the key energy and housing agencies for their review and comment.

After the draft final report was issued, the Project Team organized and conducted a workshop on November 1, 1995 to brief NYSERDA staff and other participants as to the results of the project and to elicit comments and discussion. Based on comments received from NYSERDA staff and other designated parties on the Draft Final Report, as well as the feedback from the Submetering Workshop, the Project Team then issued this Final Report, summarizing the methodology used to perform the analysis, documenting the process involved in obtaining the information, presenting key findings, and providing recommendations.



### 3. ANALYSIS OF SUBMETERING BARRIERS

#### A. LACK OF FINANCIAL INCENTIVES TO OWNERS

##### Introduction

While most project interviewees agreed that energy conservation is a laudable public goal and that conversion to submetering can be a reliable and effective means of achieving the goal, they recognize that without financial incentives, a large-scale submetering program is doomed to failure. While there are a number of available programs to induce owners of multi-family buildings to undertake other energy conservation measures (i.e., water metering, toilet replacement, weatherstripping, etc.), none were available to induce owners to invest in submetering until the Consolidated Edison Program was initiated in 1991.

Submetering is unlike most other energy conservation measures in multi-family housing in that consumption (and conservation actions) in the apartment sector are controlled at the individual resident level rather than at the building level. Management still maintains control of consumption (and conservation actions) in the common areas. Installation of a more efficient oil burner conserves energy by maintaining the level of heating in apartments through the consumption of less fuel. Insulation reduces the quantity of heat demanded in order to maintain comfort in apartments. These energy efficiency measures are alike in that building management can decide to implement them and building owners reap the reward of lower energy costs if they are implemented.

Submetering is qualitatively different as an energy conservation measure in two respects. First, it will result in lower consumption only to the extent that individual residents, rather than building management, decide to reduce consumption. Second, the financial savings flowing from reduced consumption benefit those residents who conserve, not building ownership, although for cooperatives, most residents are also owners. As a result, owners have frequently selected other projects in which to invest in which the payback is more clearly calculable and more attractive relative to the cost.

To be sure, owners obtain benefits from submetering that are not obtained from other energy conservation measures. Because the burden of paying for electrical consumption is shifted to the resident, the owner benefits by stabilizing the potentially volatile apartment electricity component of the building's budget. Submetering reduces the impact of rate increases on the owner and insulates him/her from increases in consumption resulting from the installation by residents of new appliances or other equipment.

Yet the combination of this budget stability factor with the currently available Consolidated Edison Rebate Program that reduces the owner's initial capital outlay does not offer sufficient financial incentive to induce most owners to convert.

Other positive incentives must be added and disincentives removed if submetering is to become more accepted and widely implemented.

Incentives to convert from master-metering to submetering can take many forms, such as grants to cover installation costs, governmental low interest loans, bank loans with subsidized interest rates, withdrawal of funds from dedicated housing company reserves, tax abatement, rent increases to reimburse owners for installation costs, permitting profit to be made on the resale of electricity, etc. Yet our investigation has found a notable lack of incentives for submetering.

Many of the conventional and customary methods of financing capital improvement programs or recovering costs subsequent to the outlay of funds under existing programs are simply not available to owners who seek to submeter. For example, agency representatives advised the project team during interview sessions that they refrain from dispensing limited funds to publicly-assisted buildings under their jurisdiction for purposes of submetering. Funds that are available are generally insufficient to meet all of the pressing needs of the aging properties, and when confronted with the choice of roof or boiler replacement, elevator upgrading, or window retrofit, submetering, in the midst of crisis management, is relegated to an afterthought. In addition, in their perception, submetering may not offer as effective a payback as other energy conservation measures.

When asked about the release of dedicated reserve funds to pay for the cost of submetering, agency representatives advised that they would consider permitting the funds to be used if the buildings did not need the money for more critical purposes. Once again, considering the age of the properties and the generally limited reserve amounts, an owner could not be assured of access to the reserve accounts for the purpose of submetering.

Further, we ascertained that although submetering is considered an eligible improvement under the statutes adopting the New York City J-51 Tax Abatement Program, buildings that submeter are unable to take advantage of the benefits of the program under current regulations.

The discussion in this section of the report will focus on barriers to submetering caused by the lack of sufficient financial incentives to induce owners to invest.

## **BARRIER A1: INCENTIVES ARE INSUFFICIENT TO ENABLE INITIAL COSTS TO BE RECOVERED**

Interviewees by and large agree that the most significant financial drawback to submetering is an owner's inability to recoup the initial investment in meters and installation, particularly in the rent regulated sector. The principal source of funds for this purpose now come from the Consolidated Edison Program rebate (currently \$200 per apartment).

Virtually all parties interviewed during this project agreed that if the Consolidated Edison Program rebate were to be discontinued, the potential for submetering retrofits would decrease substantially. Equipment vendors, in particular, were emphatic in their concern about the potential negative impact on their business activities in this area should the rebate be discontinued. In nearly all cases, the Consolidated Edison rebate does not cover the full initial cost of the submetering implementation, which means that the implementer must secure additional sources of funds for the balance of the initial cost, which creates additional barriers explained in later sections of this report. If the Consolidated Edison rebate were to cover the full initial cost, many of the other barriers would disappear.

In terms of the reasons for the high initial cost of submetering, it is noteworthy that a significant number of the buildings surveyed as part of the Consolidated Edison Program contain multiple fuse boxes and/or circuit breaker panels dedicated to the individual apartments. This is common in older buildings that modified their electric wiring systems to accommodate air conditioners and other high energy use appliances. In these instances, the implementation costs to accomplish submetering are substantially higher than in other buildings without multiple fuse boxes and/or circuit breaker panels. When reviewing the economics under these circumstances, the initial costs are a decided barrier and paybacks are not as favorable.

Unlike other energy conservation measures that repay an owner for initial installation expenses through reduced energy consumption costs, reduction in electrical consumption costs resulting from submetering benefits the resident who conserves, not the owner. Operating savings are therefore not available for recoupment of installation expenses because they have been passed along to the resident (renter/shareholder) in the form of reduced rent or carrying charges.

As noted in the discussion of **Barriers A3 and A4**, recoupment of installation expenses through J-51 tax abatements and MCI rent increases are also unavailable under current regulations.

PSC regulations permit owners to charge residents who are submetered electric rates not exceeding the direct metered rate.<sup>14</sup> The differential between the master-metered rate and the direct metered rate, if it could be collected, could be retained by the owner and applied to recoupment of installation expense. The charging of this higher rate, however, has not been permitted in rent regulated housing, according to DHCR/ORA. Moreover, owners and managers interviewed

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<sup>14</sup> 16 NYCRR §96.2b(3) and §96.2e(2)

indicated that even in unregulated rentals it would be difficult to implement this approach since it would mean a significant increase in housing costs for renters already paying full fair market rents. This result would be even more unpalatable in a mixed building in which rent-regulated tenants would pay the master-metered rate while unregulated renters who are paying higher rents would pay the higher direct metered rate.

Finally, the differential between the rates, after deducting the administrative cost to the owner of reading the meters and billing the charges, is unlikely to produce a full payback of installation costs over a time frame attractive to owners. While the overall cost-effectiveness of submetering has been established (see Appendix B), the benefits are largely accrued to the residents, the majority of whom are able to reduce their electric costs through conservation and/or through a more equitable allocation of electric charges, compared to the method used before submetering. Owners do not generally share (or are even allowed to share, based on rent regulation and PSC rules) in this aspect of the benefits. Therefore, after incurring the installation costs, there is often no offsetting benefit to owners.

Based on the experience of the project team, the Consolidated Edison rebate of \$200 per meter is generally insufficient to pay the full installation cost of submetering retrofits in the average master-metered building in nearly all cases. We estimate the average meter installation cost for most of the master-metered universe to be \$400 to \$450 per meter.

The inability of owners to recover the additional \$200 to \$250 per meter installation cost above the Consolidated Edison rebate is a major barrier to submetering because the owners often have no clear method for recovery of the balance of the investment.

Increasing incentives to cover the full cost will go a long way to promote submetering. Using conventional cost-effectiveness analysis used for typical DSM studies, this increase can be justified (see Appendix B) and is still conservative given the potential for resident investments in follow-up or secondary conservation measures that would be unlikely without submetering and its resulting incentive. This would also open the door for other DSM program savings, and reduce significant lost opportunities for energy efficiency as appliances are "turned over". For example, residents would be eligible for other utility programs or consider hiring energy performance subcontractors and service companies (ESCOs) and would tend to consider efficiency more in purchasing appliances or pressure their owners who do purchase their appliances to consider efficiency in these purchases.

For the following example, Consolidated Edison's submetering program will be used for illustrative purposes:

Using savings estimates from Consolidated Edison Program reports,<sup>15</sup> the evaluation assumes an annual per-apartment

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<sup>15</sup> Ibid, Consolidated Edison Company of New York Residential Submetering Program Final Report

savings of 1020 kWh and 0.4 kW at the customer meter (equivalent to 0.46 kW avoided at the utility generator). For cost factors, \$425 is assumed for all submeters installed over the course of the project (probably a high figure, as market forces and production economies of scale can be expected to drive the actual costs below this level in future years). Estimates for other program costs are also included, (e.g. allowing for four unproductive presentations to buildings for each presentation resulting in a decision to submeter in addition to an average of 2.5 meetings with each participating building) along with expenditures associated with internal administration and educational material development.

It is estimated that a well-supported program served by Consolidated Edison should be able to install submetering in 150,000 apartment units (of the 400,000 apartment potential universe) over a 10-year period. Such a program (funded at the 100% level) would cost \$52 million dollars and provide a utility benefit of \$141 million dollars.<sup>16</sup> The total (10-year cumulative) energy and demand savings from such a program would be 146,880,000 kWh and 66,214 kW, respectively. The resultant Utility (Revenue Requirements) Benefit to Cost (B/C) Ratio would be 3.68 to 1, with a Societal (Total Resource with Externalities) B/C ratio of 1.98 to 1.

A second analysis was also prepared to determine the effects of lower participation. In this evaluation it was assumed that all the program efforts such as marketing and staffing were conducted at the level planned to accomplish 150,000 installations, but only 75,000 units were actually accomplished. Only the cost equipment/installation and engineering were reduced to reflect the lower number of installations. This resulted in the Utility B/C ratio of 3.42 and a Societal B/C of 1.91 to 1 (reduced from 3.68 and 1.98 to 1, respectively). The adjusted program costs would be \$28 million dollars and provide a utility benefit of \$69 million dollars. The total energy and demand savings from this program would be 73,440,000 kWh and 33,105 kW, respectively. We can therefore conclude that the project is still extremely attractive even if it were only able to achieve half its initial goals. The savings that can be achieved by a full fledged program (150,000 units) dictate that such an undertaking be supported.

*Conclusions (applicable recommendation #):*

- Current DSM incentives (i.e., from the Consolidated Edison Residential Submetering Program) are not sufficient to cover the full cost of submetering implementation and need to be extended and, if possible, increased. (A1-1, A6-1)
- Utilities other than Con Edison need to incorporate submetering as part of their DSM program mix, using educational and promotional material developed to date and disseminated by the PSC. Rebates would not necessarily be justified, however. (A1-2)

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<sup>16</sup> All figures are presented in present value - 1993 dollars.

## **BARRIER A2: ORA'S RENT REDUCTION PROCEDURES ARE A SIGNIFICANT DISINCENTIVE TO SUBMETERING**

All of the rent regulation programs that presently affect non-subsidized rental housing in New York State are similar in that an initial legal regulated rent was fixed as the rent to be charged as of a base date prior to the adoption of the particular rent regulation statute. All regular rent increases subsequent to the base date are tied to the initial legal regulated rent **rather than the actual costs of operating the buildings**, no matter how far below the actual costs of operating the buildings the initial legal regulated rent may be.

Under the rent control system, the maximum rent chargeable is targeted as the cost of operating the housing plus a standardized percentage profit for the owner, but the incremental rent increases are limited to a maximum of 7 1/2% per year.<sup>17</sup> For much of the past 20 years during which these annual increases have been permitted, the target rent (i.e. the rent at which the costs of operation and profit are fully paid for) has risen faster than the annual allowable rent increases for rent controlled tenants. This has resulted in a moving target effect for much of this housing under which the rents continue to move toward paying the full cost of operating the housing, **but never reach this goal**.<sup>18</sup>

While all of the rent control systems include provisions for hardship rent increases where the owner can demonstrate the hardship as required by the applicable statute, the perception among owners is that such rent increases are virtually impossible to achieve in practice and applications for such rent increases are extremely rare.

In practicality, all of the rent regulation systems divorce the costs of operating the buildings from the rents paid by residents, creating a major barrier to submetering in rent regulated rental housing. Submetering, as an energy conservation tool, works because residents must pay for what they consume. Rent regulation, as practiced in New York, however, effectively insulates renters from rent increases which would match rents to the costs of supplying their housing. It is virtually impossible to reconcile a rent regulation program under which costs are not the determining factor for rent with a submetering program under which costs are the only deciding factor for electrical charges. This conflict has produced peculiar results that deter owners of rent-regulated buildings from implementing submetering in their buildings.

For example, based on a calculation of actual rents and electrical costs for a typical apartment complex containing some

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<sup>17</sup> N.Y.C. Administrative Code §26-4.

<sup>18</sup> Even on a compounded basis, 7 1/2% per year increases over the last 20 years have not brought the rent equal with expenses if the rent started out 25% below costs due to inflation. Where rents have caught up with expenses, the limited profit permitted to the owner effectively prevents the owner from recouping the excess of expense over rent during the intervening period.

cooperative units, some fair market rent units, and some rent-regulated units, the rent reduction formula specified by ORA for reduction of the rent stabilized rents of the rent regulated tenants (see discussion of Barrier A3) would, if applied to all apartments, result in an overall **rent reduction of more than the total electrical cost attributable to all apartments in the development.**<sup>19</sup> In effect, rent-stabilized tenants (i.e. those paying the lowest rents) would receive greater rent reductions than the fair market renters paying the highest rents. This assumedly unintended result is a particular deterrent to an owner in that situation.

If the legal rents in a regulated master-metered building are less than the total operating costs for the building (including mortgage payments, taxes, electricity, payroll, etc., as they generally are in rent regulated buildings), attempting to remove from the rent the **actual** cost of any one of the operating costs, will distort the entire budget. For example, if the building's total rent is \$100 and the total operating costs are \$125, the building is operating at a deficit. By removing **actual** electricity costs, for example, of \$40 and reducing rents by \$40, the total rent for the building becomes \$60 and the expenses are \$85. Obviously, the tenants were **not** paying \$40 for electricity when electricity was included in the rent, just as they were not paying the entire mortgage payment, payroll costs, etc. If they were paying the full cost of these items, the total rent would have equalled the total operating costs.

The Office of Rent Administration reduces a rent-stabilized tenant's rent when a master-metered building is converted to individual (direct) metering, by eliminating from the rent: 1) the presumed cost of electricity consumption attributed to the apartment; 2) any special appliance charges levied against tenants who installed their own air conditioners and other appliances which consume large quantities of electricity; and 3) special rent increases permitted in the past because of the inclusion of electrical charges in the rent. In so doing, the tenant (who is not paying 100% of his/her proportionate share of the operating costs) is receiving a rent reduction in **excess** of the actual operating expense for electricity. *This method of calculating rent reductions for conversions to direct metering is being applied to submetering applications.*

If, as in many cooperatives and non-regulated buildings, rents were based on the actual operating costs of the building, the above described system of rent adjustment would be neutral in its impact on the owner's decision to submeter. Where, however, the rents are insufficient to pay the full costs of operation (as described above) because they have been artificially restrained by rent regulation, to reduce the artificially restrained rent payable by the tenants by the actual electricity cost to the apartments disproportionately reduces the rent collectible by the owner, further widening the disparity between costs and rent. Such a disproportionate reduction in rent constitutes a **substantial obstacle** to inducing owners to install submetering.

In addition to the initial capital outlay for metering and associated installation costs, there are also ongoing administrative

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<sup>19</sup> The actual computations are annexed as Appendix B.

costs that apply to a submetering installation that must also be recoverable on an ongoing basis for the financial disincentives to be completely removed. Specifically, meter reading and other documentable administrative costs associated with submetering need to be defined and rules and regulations developed for their reporting and recoupment.

As stated earlier in this section, ORA has not promulgated rules regarding submetering, but relies on guidelines and rulings developed by the Conciliation and Appeals Board (CAB) at least 20 years ago.<sup>20</sup> In its Stuyvesant Town opinions and in response to inquiries from NYSERDA and the project team, ORA staff enunciated a likely policy of reducing the stabilized rents by 6.6% to offset electric inclusion increases and an additional \$25.00 per month for a studio apartment, \$30.00 per month for a one-bedroom, \$35.00 per month for a two-bedroom, etc., adding increments of \$5.00 per month for each additional bedroom. These dollar-per-month reductions would be adjusted after one year pursuant to a formula designed to equate the actual rent reductions with the reduced cost to the rental owner of providing electricity during that one year period. Utilizing this methodology, and employing a specific building example (see Appendix B) that we consider typical, an owner of a building comprised of rent-stabilized, unregulated rental, and cooperative apartments would have to reduce the rents in the rent-stabilized apartments by an amount that exceeds 58% of the total electricity consumed by the apartment sector of the complex. In other words, 40% of the apartment residents (rent-stabilized tenants who pay rent approximately equivalent to about two-thirds of the fair market value of their apartments) would receive 68% of the total rent reduction that would be expected based on actual electric usage. If the owner reduces the fair market rent and the shareholder maintenance by similar proportions, the total rent reduction will far exceed the total electricity charge by Consolidated Edison. This presents an obvious and fatal barrier to submetering.

We have developed two proposals that we believe conform to ORA's statutory mandates, while reducing the negative impact of required rent reductions.

The first proposal relates to the ORA philosophy for enforcing the various rent regulation statutes. ORA has premised its rent reduction formula on the combination of eliminating special rent increases allowed to owners of rent-inclusion apartments plus a dollar-for-dollar reduction in rent based on the renter's ratable portion of the cost of supplying electrical service to the apartments after the conversion. ORA intends by this approach to most closely put the resident in the position he/she would have been in had individual metering been in place at the time that rent regulation became effective. While this approach has a rational basis, it is also the most aggressively pro-renter interpretation of the applicable law. This approach assumes that all cost components of rent, including electric costs, are completely recovered by the rent being charged, ignoring the constraints of rent regulation, as discussed earlier. In our view, an equally valid interpretation of ORA's mandate would result in a smaller, more equitable, reduction of rents.

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<sup>20</sup> Appendix C - Legal Research, p. 13

It is arguably inappropriate to reduce rents by the special guidelines for electrical inclusion buildings: the so-called 6.6%. The 6.6% in special guidelines was adopted with the intention of bringing the rents payable by renters more closely in line with the expense of operating electrical rent inclusion housing. These guidelines were adopted because the Rent Guidelines Board perceived the cost of supplying electricity to be increasing faster than the operating costs for rent stabilized housing generally. When rents are reduced by the total cost (after conversion)<sup>21</sup> of providing electricity to the apartments, the additional level of expense that the 6.6% was intended to cover is already included in the total electrical costs. A somewhat oversimplified example will also illuminate this concept. Assume two buildings identical but for individual metering in one building and rent inclusion in the other. During a given guideline period, the costs of operations increased by 10% and the rent guidelines permitted 10% rent increases to compensate the owner for these increased expenses. Since electricity costs were increasing faster than costs in general, an additional 6.6% in rent increases was permitted to reflect this additional expense. Assume that the 6.6% accurately reflected the additional cost, and the increases in operating costs for the two buildings are 10% and 16.6%, respectively. The higher operating expenses are directly attributable to the additional cost borne by the owner for supplying electricity to the rent inclusion apartments. When the rent inclusion owner submeters, his/her rents will be reduced by the full cost of providing electricity to the apartments (after conversion) including the 6.6% by which the electrical charges accelerated faster than expenses in general. Requiring that the 6.6% special guidelines be removed in addition to 100% of the cost of providing electricity to the apartments effectively reduces the rent on the rent inclusion/submetered apartments to a level 6.6% below the rentals chargeable by the direct metered building for whom the 6.6% rent increases were never instituted but the additional 6.6% in expenses was never experienced. The rental owner cannot be asked to give his/her rental tenant 6.6% more than the actual electricity cost.

ORA asserts that it is precluded from omitting a reduction in rent equivalent to the electrical inclusion adjustments when a conversion from master-metering to individual metering occurs because of the Windsor Park Associates v. New York City Conciliation and Appeals Board case<sup>22</sup> in which the Court refused to upset a determination by the (then) enforcement arm of the rent stabilization system that the owner was no longer entitled to collect that portion of the rent attributable to the electrical inclusion allowance. This decision was affirmed by the Appellate Division, First Department. However, it does not stand for the proposition that rents must be reduced by the electrical inclusion adjustment. Rather, it represents a determination by the courts that the agency *did not overstep the bounds of rationality* in making the initial determination that rents must be reduced by the electrical inclusion adjustments. The **only** issue that can be raised in this type of proceeding is whether the agency acted rationally or arbitrarily in reaching its conclusion.

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<sup>21</sup> This number is arrived at by ORA by applying an assumed 25% consumption savings to the differential between the total cost of providing electric before conversion (less appliance charges) and the common area cost after conversion.

<sup>22</sup> *Windsor Park Associates v. New York City Conciliation and Appeals Board* n.o.r., New York Law Journal February 23, 1983, p. 11, col. 1 (Supreme, New York, Fraiman, J.), aff'd. New York Law Journal June 9, 1993, p. 12, col. 1 (AD1)

The fact that the Court sustained the conclusion reached in this case as being rational does not mean that the Court would not sustain a contrary decision by ORA as also being rational. The Court noted and specifically stated in its opinion that this ruling would have a **discouraging** effect on rental owners' decisions to convert to individual metering as a conservation measure. The Court called this a "compelling concern." Nonetheless, the Court concluded that this disincentive to conservation was only one factor for the agency to consider and that, taken as a whole, the decision reached by the agency to reduce rents by the electrical inclusion factor was not irrational. Were ORA to follow the suggestion that rents not be reduced by the electrical inclusion adjustments, a suggestion ORA staff rejected in discussion with the Project Team, the courts should sustain this determination as being rational, not arbitrary or capricious, particularly in view of the Court's characterization of the conservation issue as "compelling" in the Windsor Park case.

An alternative suggestion would tie the rent decrease for rent-regulated tenants to the portion of the total operating costs that regulated rents allocate to electric costs. If 100% of operating costs are covered by rent-regulated rents, then the renters would receive a reduction in rent equal to 100% of the savings to the owner in providing electricity to the apartments. If, however, only part of the cost of providing services to the apartment was covered by the regulated rents, the proportion of expenses that the rents would cover would be maintained. Under such a proposal, if regulated rents pay only 80% of the operating costs attributable to the rent regulated apartments, the rent reduction would be 80% of the cost of supplying electricity to the rent regulated apartments rather than 100%. Under the present ORA formula, if the regulated rents do not fully pay all operating expenses, the percentage of total expenses that the regulated rents pay after a submetering adjustment is **less** than the percentage of operating costs that the regulated rents cover while electricity is an included expense. While the underlying philosophy of the rent laws that owners should be required to subsidize the costs of operation for those renters whose regulated rents do not cover the full cost of operation is beyond the scope of the recommendations in this report, we believe that ORA could properly carry out its mandate by implementing a submetering rent adjustment that maintained the level of owner subsidy prior to submetering rather than one that increases it.

*Conclusions (recommendation #)*

- The existing method of electric rent reduction, based on costs, combined with the existing rent regulation, where there is a disassociation between rents and costs, would be exacerbated by the implementation of submetering. While this disparity would be minimized somewhat by a revision in the rent-reduction formula, the concept of rent regulation as practiced in New York State will continue to discourage submetering as a tool for energy conservation.
- ORA regulations do not sufficiently or fairly address rent decreases for submetering. (A2-1)
- Reasonable and documented administrative costs based on specific rules and reporting procedures should be approved for passage on to the renters. (A2-2)

### **BARRIER A3: UNAVAILABILITY OF MCI TREATMENT FOR SUBMETERING RETROFITS**

Each of the rent regulation systems in place in New York State permits rent increases above ordinary guidelines where the rental owner has performed a major capital improvement (MCI) "required for the operation, preservation or maintenance of the structure."<sup>23</sup> The rent is permanently increased by 1/84th of the cost of the improvement. To qualify as an MCI, ORA has determined that in the case of rent stabilized units (the largest segment of the regulated universe), the improvement must inure to the benefit of all of the residents. Submetering has been determined by ORA not to meet these requirements. We suggest that ORA consider an added criterion (as in the J-51 Program), that significant public benefit is derived from the MCI.

Even where regulations exist that permit owners to pass along the cost of **new requirements of law** (e.g., Energy Code metering requirement of major electrical upgrade),<sup>24</sup> owners have not been permitted an MCI for this purpose.

In the event that a conversion to submetering is done in connection with the rewiring of the housing accommodation or such other improvement as qualifies for an MCI, the owner might be entitled to receive MCI benefits under the Rent Stabilization Code.<sup>25</sup> However, to date, precedent has not been established making these costs recoverable.

#### *Conclusions (recommendation #)*

- ORA's finding that submetering is not an MCI is **inconsistent** with state energy policy. Submetering should be eligible for MCI recovery whether it is installed in conjunction with a rewiring of the building or a straight conversion from master-metering. (A3-1) An alternative MCI for energy conservation measures such as submetering would allow owners to recover their investment (i.e., over 7 years), but not create a permanent increase in rent. (A3-2)

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<sup>23</sup> McKinney's Unconsolidated Laws §§ 8584 subd. 4(a) and 8626 subd. d(3); NYC Adm. Code §§ 26-405 subd. g(1)(g) and 26-511 subd. c(6)(b).

<sup>24</sup> 9 NYCRR 2522.4(a)(2)(iii).

<sup>25</sup> 9 NYCRR 2522.4(a)(2)(ii). In order for rewiring to qualify as an MCI, the rewiring must include new copper risers and feeders extending from the property box in the basement to every apartment and must be of sufficient capacity (220 volts) to accommodate the installation of air conditioner circuits in living room and/or bedroom. For a description of other work that qualifies as an MCI, see 9 NYCRR §2522.4(3)(f). Further, the DHCR has adopted the "70/30" rule that states that the proportion of the rewiring, effectuated as a result of a conversion from electrical inclusion to direct metering, constituting an MCI is 30% of the total basic rewiring, the remaining 70% being applicable to the switch-over to direct metering. Conversions to submetering will require a similar allocation if MCI status is denied to a submetering installation. This point is discussed in detail in the discussion of **Barrier B2**.

**BARRIER A4: UNDER CURRENT REGULATIONS, BUILDINGS THAT SUBMETER ARE UNABLE TO TAKE ADVANTAGE OF THE N.Y.C. J-51 TAX ABATEMENT, EVEN THOUGH STATUTORY AUTHORIZATION HAS EXISTED SINCE 1990**

In New York City, owners of most categories of housing who make certain eligible improvements to their property are entitled to real estate tax abatement and exemption based on the amount expended and the City's evaluation of the reasonable cost of the improvement.

The J-51 Program partially reimburses owners for capital outlays to improve their properties. It is premised on the concept that sufficient public benefit is derived from capital improvements to existing housing to warrant partial relief from real estate tax payments for owners who make such improvements. Under HPD's regulations, eligible alterations and improvements are scheduled and categorized as major capital improvements or ordinary repairs. Owners of most types of eligible housing who perform a work item designated as a major capital improvement (MCI) are entitled to J-51 benefits regardless of the amount spent per unit, i.e., there is no threshold expenditure required for eligibility.

Both the state legislature in adopting enabling legislation and the New York City Council in implementing it have recognized that energy conservation improvements, as a category of improvements distinct from what have traditionally been considered major capital improvements, warrant the same benefit. It authorized HPD to adopt regulations treating energy conservation measures as major capital improvements for J-51 purposes. In adopting regulations to implement the J-51 Program, however, HPD did not designate submetering as either a major capital improvement or an energy conservation improvement. It is therefore treated as an ordinary repair. Benefits for ordinary repairs can be obtained only if they are tacked on to major capital improvements. There are generally three separate routes to obtaining J-51 benefits for ordinary repairs:

1. If they are made at the same time as a gut rehabilitation of the building requiring the issuance of a new certificate of occupancy
2. If they are made together with a substantial rehabilitation of the building (i.e., the performance of at least one major capital improvement and the expenditure of at least \$2,500 per dwelling unit)
3. If the ordinary repair is made in a common area at the same time as a major capital improvement to a common area that requires the issuance of a building permit.

Rewiring generally does not qualify as a major capital improvement for which ordinary repairs can be tacked on under Item 3 above since a building permit is not required, only a filing with the Bureau of Electrical Control. Moreover,

submetering is generally not considered a repair in a common area but rather a repair in an individual apartment. As a result, submetering is not eligible for benefits unless a major rehabilitation costing at least \$2,500 per unit is undertaken under items 1 or 2 above. This is problematic for submetering eligibility since most submetering retrofits, even if accompanied by a general wiring upgrade, are not part of such an extensive rehabilitation program.

This potent source of funds to reimburse owners for costs of improvements to housing deemed desirable as a public policy matter has, therefore, not been available, except in the most limited circumstances, to owners who submeter. There had been no applications for J-51 benefits for conversion to submetering at the time of the second submetering forum in June 1994. Prior opinions have been rendered in the case of Stuyvesant Town and other applicants.

There has been resistance since the inception of the J-51 program to expanding its applicability beyond the most basic improvements; i.e., roofs, boilers, etc. Lobbying efforts were successful in achieving broad legislation, but not as successful on the regulatory level in the promulgation of regulations.

*Conclusions (recommendation #):*

- HPD's J-51 regulations do not recognize submetering as an energy conservation measure. This needs to be changed to recognize the proven benefits of submetering and provide a means for recovery of implementation costs. (A4-1)

#### **BARRIER A5: FINANCIAL AND ADMINISTRATIVE DISINCENTIVES PREVENT THE NYCHA FROM SUBMETERING ITS MASTER-METERED BUILDINGS**

Each year, the New York City Housing Authority (NYCHA) is required by the U.S. Department of Housing and Urban Development (HUD) to investigate the possibility of submetering its portfolio of federally assisted master-metered projects, and each year, after analyzing the installation costs, administrative costs, administrative burdens, and the obligation to return operating cost savings to HUD, the determination is made that conversion is not economically feasible.

*Background:* NYCHA purchases electricity for its New York City apartments from the New York State Power Authority (NYPA) at a rate available to state governmental accounts that is significantly lower than offered by Consolidated Edison. NYCHA has approximately 170,000 master-metered apartments in New York City. Assuming an installation cost per meter of \$400, the total installation cost would be **\$68 million dollars**. Assuming that the administrative cost of billing electricity charges ranges conservatively from \$2.50 to \$4.00 per month per apartment, the total range of cost would be **\$425,000 to \$680,000 per month**.

In NYCHA's view, these overwhelming capital costs and the burden and additional expense of billing and attempting to collect electricity charges from 170,000 apartments on a monthly basis would be an administrative nightmare.

NYCHA indicated that, under present federal regulation, any reduction in operating costs would be recouped by HUD, so that there is no direct financial benefit to the buildings or the Housing Authority to undertake submetering. Unless HUD changes its rules to allow NYCHA to share in the savings, there is no incentive to submeter.

NYCHA is very attuned to energy conservation and would undertake a conservation program if it were cost-effective from both the residents and NYCHA's perspective. NYPA would also cooperate through extension of its existing conservation programs and educational development. A confirmation of this is a recent agreement with NYPA whereby NYPA will provide NYCHA with high-efficiency refrigerators at no cost, in exchange for an extension of the electricity supply agreement.<sup>26</sup> Since NYCHA purchases its electricity from NYPA at an attractive rate, converting from master-metering to **direct metering with Consolidated Edison** would be counterproductive to the agency, the residents, and HUD. The electricity cost would be substantially higher to the residents and the additional cost would be passed along to HUD. Direct metering would, thus, **not** be cost-effective.

There is some indication from HUD representatives that they are willing to consider allowing building owners and managers under their supervision (which would include NYCHA) to retain some (e.g. 50%) of the submetering energy savings to recoup capital and administrative costs. This would assume that submetering could be established as cost-effective from their point of view. NYCHA buildings, which are primarily public-assisted housing, may not have the same energy conservation savings potential as assumed for other types of housing. Studies to date<sup>27</sup> have primarily involved coops and only one rental property (Morris Heights), which was not publicly-assisted.

Initial funding from the Department of Energy (DOE) has been made available for an overall energy conservation demonstration project for HUD buildings (not including NYCHA buildings) which includes submetering as one of its components. However, the source of funding for a full-scale project, particularly at the levels required for submetering, would need to be found. The implications of mandating submetering may also need to be determined, since this would force NYCHA to either: 1) obtain a waiver; 2) obtain funding to meet the mandate; or 3) some compromise of the latter, with longer phase-in or partial waivers as possible alternatives.

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<sup>26</sup> NYPA will recruit manufacturers to produce small apartment-size refrigerators, which NYPA will provide to NYCHA to replace approximately 180,000 units over the next nine years. NYCHA would retain all savings after NYPA recoups its investment. As part of the agreement, NYCHA has extended its electricity supply agreement through 2004.

<sup>27</sup> Appendix A, Footnotes 5,8.

*Conclusions (recommendation #):*

- NYCHA needs to prepare a feasibility study to determine the potential energy and costs savings and overall cost-effectiveness of submetering implementation to ascertain to what degree prior case study assumptions (energy savings, costs, financing costs, administrative costs) are applicable to all or some of NYCHA buildings (A5-1)
- NYCHA needs to investigate capital funding sources (e.g. New York Power Authority - NYPA, DOE, HUD) and shared savings strategies, which could include one or more demonstration projects. (A5-2, A5-3)

**BARRIER A6: EXISTING UTILITY RATE STRUCTURES AND PROGRAMS ARE INSUFFICIENT TO STIMULATE SUBMETERING**

Rate Structure

The existing utility rate structure does not encourage submetering. Presently, Consolidated Edison offers two sets of rates for residential dwellings: one set for retail and one for bulk purchase. Rate SC-1 is the retail rate that applies to all residential individually metered buildings except those that are electrically heated, which are served under Rate SC-7. Rates SC-8 and SC-12 are the comparable rates that apply to bulk purchase, including master-metered buildings (submetered or not). The bulk rates represent a substantial discount of approximately 40% for purchase of master-metered electricity, as compared to the retail direct metered rates.

The rates that Consolidated Edison charges are closely regulated by the PSC and must be based on actual costs to provide the service. The lower bulk rate reflects the fact that it is less costly for Consolidated Edison to serve a large master-metered building than the same size individually metered building. In the past, the bulk rate discount offered an inducement to builders to build master-metered buildings, saving Con Edison the cost of reading hundreds of meters, providing customer services, allowances for credit problems, billing of individual renters, DSM programs, etc. There is no concomitant class/rate structure and discount to induce an owner to submeter. Creating a new rate class is time consuming and costly. Submeterers may not constitute a large enough group at this time to warrant their own "class" designation for costing purposes. However, if such a class could be established and a further discount could be justified and offered to submeterers for their contribution to reducing utility costs, submetering would provide additional incentive and a means of cost recoupment to the implementer.

In support of this proposal, case studies of submetering implementations established in demonstration programs since 1980 substantiate that submetering reduces energy consumption by 18-26% (see Appendix A). Furthermore, reduction

in contribution to system peak demand would be expected, given that savings due to submetering are higher during the utility summer system peak period based on recent studies (see Appendix A). These reductions in consumption and system peak coincident demand would be expected to reduce the utility's cost of production. Since utility rates are based on costs incurred by the utility, a submetered building **may justify a lower rate** than a non-submetered building. The utility would need to undertake a cost-of-service study to establish that submetered buildings do, indeed, contribute less to utility costs than comparable non-submetered master-metered buildings. If it can be shown that submetered buildings substantially reduce consumption and demand--and utility costs are reduced to a greater extent by them than by master-metered buildings, the bulk rate (as it presently stands) can be offered to submeterers and a differential established whereby a somewhat **increased** rate can be charged to the master-metered buildings who decline to submeter. The **increase** in rate can be phased in over a five or ten year period and reversed if the owner implements submetering in the future. If creating a new class and rate for submeterers offers the "carrot" approach, eliminating or reducing the bulk rate discount for those who fail to submeter is the "stick".

#### Uncertainty of Continuance of the Bulk Rate

Owners, managers and residents are unified in their distrust of utilities. All interviewees in these categories expressed concern that the buildings in Consolidated Edison territory might lose their bulk rate status once they submetered. They are not aware of the PSC's close scrutiny of utilities, nor the mechanism for rate setting.

If, as part of the submetering process, a contract can be made between the owner and Con Edison to assure the owner that the bulk rate will continue for a fixed period--five or ten years from the conversion date, this would go a long way to reassure owners and renters.

#### Distrust of Utilities

The prevailing wisdom is that "If Consolidated Edison is promoting submetering, it can't be good for residents". Pointing out this distrust, Mary Ann Rothman of the Council of New York Cooperatives and Charles Rappaport of the Federation of New York Housing Cooperatives recommend that Con Edison get out of the business of "promoting" submetering. They suggest that residents would be more receptive if an independent entity advanced the cause of submetering with Con Edison simply administering the incentive program by providing funds in the way of rebates, possibly supplemented by a shared savings approach designed to offset the initial costs, yet ensure cost-effectiveness to the utility so that other ratepayers are not affected.

### Con Edison Residential Submetering Program

The commencement of the initial phase of the Con Edison Residential Submetering Program (1991 through 1993) was inopportune because of the unfavorable economic conditions affecting owners of rental and cooperative properties at that time. The time lag between the introductory contact with participating buildings and the time the program was actually initiated in April 1991 (six months) handicapped the project. Since most boards are inactive during the summer and feasibility studies had to be conducted prior to meeting with the individual buildings, more than nine months often elapsed before participating buildings received their studies.

Over the course of the year, board elections occurred and, in many instances, the members of the boards who were to evaluate the feasibility studies were different than those who had been involved in the initial contact with Con Edison. New boards had their own agendas and, in numerous cases, submetering was not a high priority item. Many of these boards had to be re-acquainted with the issues that prompted the original response to the program. The timing of the program in combination with the then-existing poor economy were barriers cited by Mary Ann Rothman who stated that "state and utility funded programs were frequently out of phase with the real workings of the cooperative and condominium segments of the residential housing sector."

The PSC voting requirement, as discussed in this report, constituted the principal barrier identified during the program, which was primarily directed to Cooperatives. Cooperative boards generally conduct board elections and other shareholder votes at the end of their fiscal year (usually just before or after the summer). The timing was off and the program, failing to meet the expectations of the utility, was cut back just when interest in the program was being reawakened in the new boards. The program was unable to fulfill its initial goals because of this poor start and, therefore, did not inspire additional support and funding that it might have merited under different circumstances.

### Utility rebates

While the programmatic aspects of the Consolidated Edison Residential Submetering Program fell short of its goals, the concept of an up-front submetering incentive, in some form, is an absolute mainstay for any submetering implementation program. Owners, managers, residents, vendors, technical advisors, etc. all agree that **without** a rebate, submetering conversions are out of the question. Virtually all interviewees supported the need for greater rebates, perhaps large enough to cover the entire cost of the installation. In addition, the rebate program should be guaranteed for a fixed period -- ten years, for example -- to enable owners and boards to proceed with submetering at their own pace without fear that the rebate will no longer be available as they near their goal.

*Conclusions (recommendation #):*

- A rate differential between submetered and non-submetered master-metered buildings may be justified based on the greater efficiency of submetered buildings (demonstrated as having 18-26% lower usage than equivalent non-submetered buildings), above and beyond the difference in meter reading costs by the utility. A rate differential would offer an incentive to owners to submeter and create leverage with residents opposing submetering (A6-2). Consolidated Edison, with the PSC's approval, could implement this as part of a standard rate proceeding by requiring individual apartment metering for all customers on the bulk rates (SC8 or SC12) and phasing out the bulk rate for those who do not implement submetering.

The constraints to accomplishing this would be: 1) the potential logistics of maintaining a rate for a class of customers (master-metered submetered buildings with submetering) that currently only includes several hundred customers (buildings) that are not currently identified definitively in the Consolidated Edison billing system; 2) the cost differential would have to be established -- this may require some new significant study and primary data collection; 3) rate case filings are not made frequently and Consolidated Edison just completed one in the last few years; and 4) the time frame for this process, possibly involving cost of service study, rate design, rate filing, and PSC approval, would likely require several years, which may be too late to make an impact, as opposed to other, more achievable, short-term recommendations, or even the long-term recommendation to mandate metering (individual or submetered) through legislation.

*Responsible Parties:* PSC Customer Services and Utility Rate Department

- The elimination of the Consolidated Edison Rebate Program, which has been discussed as a possibility after 1995, would be a serious blow to the potential for implementation of submetering. The rebate should be extended for a set term (e.g. ten years) so that the "fear" of termination of the rebate program can be eliminated. Specifically, building owners fear pursuing the investment only to be told that a significant funding source has been eliminated. Agencies and organizations with the potential to reduce the barriers fear that their efforts will have no effect on implementation once the rebates end. Due to the barriers identified in this report, many buildings have been unable to take advantage of the incentives offered by the Consolidated Edison Program. The recommendations outlined in this report must have some time to be enacted while the incentives remain in effect. In fact, the incentives have not been adequately tested. Many of the applicable agencies and organizations, especially the PSC, that intend to use this report to eliminate impediments to submetering have delayed implementing actions until this report has been issued in order to optimize scarce political and other resources in the most efficient manner possible. (A6-1)

- Owners, residents, and building managers need to be educated to understand the general method of rate design and approval to allay fears of rate changes. NYSERDA is in the best position to assemble the information needed to develop educational materials. (D1-2)
- The PSC should permit and encourage Consolidated Edison and other utilities with master-metered customers to contract with those buildings to guarantee a bulk rate for a period of time (e.g., ten years) sufficient to ensure that submetering investments will be recovered. (A6-3)

## B. UNCERTAINTY AS TO POLICIES AND PROCEDURES FOR COST RECOVERY

### Introduction

Uncertainty has proven to be a significant barrier to submetering implementation in three major categories: 1) uncertainty as to dispute resolution mechanisms; 2) uncertainty as to rent reduction formulas; and 3) uncertainty as to the collectibility of submetered electricity charges. This section of the report will focus on these barriers to submetering.

### **BARRIER B1: UNCERTAINTY AS TO DISPUTE RESOLUTION MECHANISMS**

Owners cannot be expected to embrace submetering as long as the procedures they must follow to resolve billing disputes and collect charges are unclear. Public Service Commission regulations require the adoption of a dispute resolution procedure as a condition for approval of an application to submeter. However, no prototype dispute resolution procedure has been adopted by PSC. As a result, dispute resolution mechanisms are created on an ad hoc basis as submetering applications are processed. An owner considering submetering cannot determine what will constitute a dispute resolution procedure acceptable to the PSC, and whether that procedure is acceptable to the owner, simply by reviewing the regulations.

This uncertainty is compounded by the wording of the Public Service Commission regulations that an application for substitution of submetering for master-metering must contain complaint procedures and resident protections "consistent with the Home Energy Fair Practices Act" (HEFPA).<sup>28</sup> Among these requirements are stringent notice requirements to residents receiving electricity about their rights and fairly elaborate procedures for responding to resident complaints of broken meters or other billing irregularities. The Public Service Commission regulations do not make explicit whether compliance with these HEFPA requirements should be considered a condition that must be met before disputed charges may be collected. Thus, an uncertainty exists as to whether even a properly functioning submetering system producing proper bills for the actual consumption by the resident in question will be sufficient to favorably resolve a dispute raised by a resident as to the accuracy of the billing.

Furthermore, and more specifically, the PSC rule requiring "complaint procedures and tenant protections consistent with HEFPA" could be misused to impose unduly restrictive rules that would hinder submetering implementation. Taken literally, a resident opposed to submetering could use this portion of the regulation to block submetering by requiring specific measures that are included in HEFPA, such as levelized billing, special programs for the elderly, etc. that could not be implemented cost-effectively by the owners, were not intended by the PSC, and are not now available under

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<sup>28</sup> 16 NYCRR section 96.2 (b), item (4)

electric inclusion rent/common charge billing.

Rental owner vs. renter disputes are among the most intensely adversarial of disputes in our society. Both sides are extremely wary of attempts by the other to avoid their obligations through any means available. Accordingly, the perception that residents may be able to manipulate a cumbersome dispute resolution mechanism to significantly delay the date when properly billed submetered electricity charges must be paid, when combined with uncertainty as to the nature of the dispute resolution mechanism that will be imposed, represents a significant deterrent to owners who would consider installing a submetering system.

This barrier is further heightened by the overlay of housing supervision and rent regulation on the PSC requirements. The staff of all agencies interviewed in connection with this project stated that they would not approve submetering in a building under their jurisdiction unless an acceptable dispute resolution mechanism was in place. Yet, except for HPD, which adopted a written dispute resolution regulation in the 1980s (Appendix D), no written dispute resolution procedure has been published by any of the supervising housing agencies.

DHCR's Management Division, the U.S. Department of Housing and Urban Development (HUD) and HPD supervise large portfolios of publicly assisted high rise multi-family rental and cooperative developments, many of which are presently master-metered. These agencies are responsible for supervising the physical and financial condition of the developments under their aegis and submetering applications are subject to their approval from the initial evaluation process through monitoring of the installation and subsequent oversight of the system in operation. Any submetering installation in a building under their jurisdiction would be required to have in place a dispute resolution mechanism acceptable to both PSC and the applicable housing agency.

Similarly, another segment of New York's housing stock (which is not directly supervised by a housing agency) includes the rent-regulated apartments under the Rent Stabilization, Rent Control and the Emergency Tenant Protection Act. Rents in these buildings are regulated by DHCR's Office of Rent Administration (ORA). Residents in buildings under these programs look to ORA to protect them from unwarranted rent increases or evictions and to resolve rent disputes. ORA's involvement in submetering stems from the rent regulation requirement (under the various laws cited above) restricting a rental owner from changing the services provided to a renter from those provided on the date the apartment first became subject to rent regulation. Accordingly, a change from master-metering of electricity (i.e., electrical rent inclusion) to submetering requires ORA approval. Rents are fixed by the rent laws based on the provision by the rental owner of a level of required services. In the case of submetering, shifting the burden to pay for electrical consumption from the rental owner to their tenant represents a reduction in services received by the rental tenant, who becomes entitled to a rent reduction.

ORA's mandate differs from its sister agency, the DHCR Management Division, in that it does not directly supervise the rent regulated buildings and, therefore, lacks the staff necessary to oversee submetering conversions and their subsequent operation. While ORA has dispute resolution mechanisms in place for rent overcharge complaints, service reduction complaints and related matters, it does not have a procedure in place to handle submetering disputes, nor does it see itself as the best arbiter of such disputes. In fact, DHCR/ORA's position is that it has no jurisdiction to mediate disputes once the electrical charges are no longer part of the "rent" (see Barrier B3).

Staff members of the ORA have expressed grave concern that submetering of master-metered rent regulated buildings will expand the areas of conflict between rental owners and renters. They say that there are already a sufficient number of potential conflict areas to create a substantial backlog of cases in the agency and the courts. Renters may fear that rental owners will abuse the billing process to their detriment, while rental owners may fear that renters may be able to manipulate a cumbersome dispute resolution procedure to significantly delay the time when correctly billed submetered electricity charges must be paid. In any event, the lack of written dispute resolution procedures that offer protection and comfort to both rental owners and their renters creates an element of uncertainty that acts as a deterrent to submetering.

As long as these agencies remain without formal, written dispute resolution procedures, that spell out the rights and obligations of rental owners and their renters, submetering activity will be hampered.

*Conclusions (recommendation #):*

- Buildings and agencies supervising buildings considering implementation of submetering need a uniform dispute resolution procedure to eliminate the uncertainty of the present guidelines. Since the PSC regulates this function for utilities and initiated the requirements now in place for submetering, it must be responsible for establishing a standard procedure that meets their specific requirements, rather than just the general reference to HEFPA. This will require adoption of the New York State Administrative Procedure Act rule making procedures. HEFPA's stringent requirements and elaborate procedures may be an additional deterrent to owners to convert. Uncertainty as to which of these requirements and procedures are applicable must be resolved. Appendix D includes a recommended dispute resolution procedure, which was adapted from the HPD regulations that have been in place for several years. (B1-1, B1-2)
- In supervised housing, the supervising agency can administer dispute resolution. In rent-regulated but unsupervised buildings, an agency or organization needs to be designated as the administrating agency. (B1-3)

## **BARRIER B2: LACK OF SUBMETERING-SPECIFIC DHCR/ORA POLICY FOR RENT REDUCTION AND PROCEDURES**

ORA is responsible for the administration of rent control, rent stabilization, and the Emergency Tenant Protection Act (ETPA) regulation of rents and evictions throughout New York State. As stated in the discussion of **Barrier B1**, the agency's involvement in submetering stems from the rent regulation requirement restricting a rental owner from changing the services provided to their tenant from those provided on the date the apartment first became subject to rent regulation. Since submetering shifts the burden to pay for electrical consumption from the rental owner to their tenant, it represents a reduction in the services received by the rental tenant and requires a concomitant reduction in rent.

The uncertainty created by the lack of a clearly defined dispute resolution mechanism for rent regulated apartments is paralleled by the absence of regulations establishing the procedure for and rules applicable to rent reductions when submetering occurs. Regulations, forms, and procedures are in place for conversion to direct metering but not submetering.

ORA staff reports that practices and procedures are developed as particular applications and disputes are presented to them for resolution. Since no submetering applications have been received, no formal policy has been established. Since no submetering regulations are in place, rental owners and their renters may not even be aware that submetering is an available option.

Requests for information or prior opinions regarding these issues, including most notably the recent series of correspondence and prior opinions applicable to Stuyvesant Town in New York City, have elicited an evolving adaptation of the direct metering regulations by ORA. Metropolitan Life Insurance Co. (the owner of Stuyvesant Town) proposed to upgrade the wiring throughout Stuyvesant Town and to install submeters as part of the project. When Metropolitan Life initially approached DHCR with the plan, it was advised that current regulations only allowed 30% of the rewiring to be recovered as a major capital improvement (MCI) when rewiring is combined with submetering, even though 100% of the cost of rewiring could be recovered if it was not accompanied by submetering. Metropolitan Life contended that approximately 95% of the total cost of the project was devoted to the rewiring or upgrade component and only 5% was attributable to submetering. The percentage allocation for the MCI was based on original agency rulings that pertained to direct metering conversions and was formulated years ago when the technology for submetering was limited to hard-wiring of each apartment, unlike today's technology (documented in Appendix A) and did not take into account the current costs of submetering using modern technology. Consolidated Edison and its Project Team were eventually able to convince ORA that with state-of-the-art technology, the 30/70 ruling was outmoded and should not be applied to submetering. ORA representatives acknowledged this and have expressed a willingness to revise its ruling to increase the MCI allowance to an amount equal to the actual component cost associated with the electric upgrade. The

submetering component, however, remains ineligible for MCI treatment (see discussion of **Barrier A3**).

A further issue is created because the conversion from the unmetered supply of electricity to individual apartments to the submetered supply of electricity to individual apartments creates a need for various administrative tasks that did not previously exist, including meter reading, computation of charges and billing. ORA has indicated a willingness to allow the owner to recoup these administrative costs in the rent, but has also indicated an intent to carefully scrutinize the charges ascribed to these costs to ensure that they are reasonable. When policy is finally enunciated, the charges which may be passed through to renters for these administrative services may be capped. Accordingly, at this juncture, the owner of rent regulated apartments cannot determine with certainty that the administrative costs associated with a submetering installation will be recoverable.

*Conclusions (recommendation #):*

- Uncertainty as to the calculation of rent reductions on conversion, recoupment of billing expenses, availability of rent overcharge complaint procedures for submetered electricity charge billing disputes, and related issues stemming from the lack of a clearly enunciated policy, combined with the possible need to negotiate the applicable level of electrical upgrading cost recoverable as an MCI represent a deterrent to rent-regulated owners considering submetering.
- Without specific regulations for the preparation and processing of submetering applications, uncertainty and confusion will deter potential applicants from implementing submetering. DHCR's adoption of regulations will not only clarify any confusion, but also send a clear message that DHCR acknowledges submetering as a viable choice for implementation by owners affected by its regulations. (B2-1)

*Responsible Party:* ORA of DHCR.

*Procedure:* The New York State Administrative Procedure Act rule making procedures.

#### **BARRIER B3: UNCERTAINTY CONCERNING COLLECTIBILITY OF SUBMETERED ELECTRICITY CHARGES (AND ADMINISTRATIVE COSTS)**

The primary legal tool available to an owner to compel the payment of rent is the non-payment of rent summary proceeding. The hallmarks of the summary proceeding are the relatively simple pleading requirements, the summary nature of the procedure followed in Landlord and Tenant Court, and the prompt (as compared to ordinary actions) disposition by trial of issues raised by the parties. The pre-trial procedures that are available to litigants in an ordinary

action are severely proscribed in a summary proceeding. In addition, the proceeding is commenced contemporaneously with placing the case on the calendar for trial. In a typical civil action, several months or years may pass before a case is considered ready to be placed on a trial calendar. Summary proceedings therefore represent a far more expeditious and cost-effective means of collecting unpaid rent than an ordinary action against the renter. Moreover, the summary proceeding carries with it the threat of eviction if the owner is successful -- a strong inducement to the rental tenant to make payment of amounts due.

As the name implies, non-payment of rent summary proceedings are available only for the recovery of amounts owed by a rental tenant as rent. Other amounts that may be owed by a renter to an owner, such as the costs of repairing damage done by the resident's negligence, may not be recovered in a non-payment of rent summary proceeding unless the lease agreement under which the renter leases the premises specifically provides that such costs shall constitute rent and be recoverable as rent if unpaid.

Clearly, it would not be difficult to insert into apartment leases a provision that submetered electrical charges constitute rent that may be collected as such from the rental tenant and for which failure to pay subjects them to eviction. We recommend that owners who submeter make this change if possible. This may represent a sufficient solution for cooperatives with leases subject to amendment and for unregulated rentals. This characterization, however, raises a number of issues for rent-regulated units that are not as easily resolved and create an additional level of uncertainty with respect to the collectibility of submetered electricity charges.

In the rent regulated sector, rents are heavily regulated. Only the actual legal regulated rent may be recovered from a rental tenant. All forms of rent regulation restrict the amount of rent that can be charged for an apartment and/or the increases in rent that can be passed on to a rental tenant upon expiration and renewal of the tenancy. Charging amounts in excess of the legal regulated rent constitutes an illegal overcharge. Under the rent regulation system, overcharges may subject the owner to triple-damage awards in favor of the rental tenant. Owners of rent regulated housing are thus justifiably concerned that they not be accused of rent overcharges where submetered electricity is billed to renters.

In other words, if submetered electricity charges and related administrative expenses are characterized as rent so as to make summary proceedings available for the eviction of residents who fail to pay these charges, this characterization could subject an owner to triple damage rent overcharge complaints based upon billing errors or the fluctuating nature of the electrical charges billed to the rental tenant. Conversely, if this problem is avoided by characterizing the submetered electricity charges as something other than rent, the summary proceeding for eviction of the resident would not be available in the event of non-payment.

As a separate issue, ORA has cautioned that submetered electricity charges may not be collectible in summary

proceedings under present law, absent legislative action, even if the lease characterizes these charges as rent. We feel that this conclusion does not properly flow from the one lower court case cited by DHCR.<sup>29</sup> But this very disagreement underlines the uncertainty surrounding this issue. The Windsor Park case involved a claim for legal fees asserted by an owner in a summary non-payment proceeding. The Court dismissed the proceeding on the grounds that the demand for rent which the owner made prior to commencing the proceeding improperly included a demand for payment of legal fees, collection costs and late charges. While the Court found that such charges could not be included in the concept of "rent" for purposes of the demand required before a summary non-payment proceeding could be commenced, the Court went on to state that the owner might include claims for attorneys fees, costs, etc. in the petition commencing the proceeding and recover them as part of the proceeding. It appears that the Court was stating that the remedy of eviction would be unavailable for non-payment of the ancillary charges but no appellate decision to this effect has been located and the appellate courts have routinely permitted both the recovery of legal fees in summary proceedings where the lease so provides and the eviction of the resident for non-payment of those charges.

It must be noted that submetered electrical charges are qualitatively different from legal fees and collection costs in that they represent charges for services directly related to the habitability of the housing, as opposed to the Windsor Park case, where the charges were a result of the dispute itself. Accordingly, there is no reason to conclude that a lease provision denominating submetered electricity charges as "additional rent" would be unenforceable in a summary non-payment of rent proceeding.

However, DHCR/ORA's current position is that electricity charges cannot be considered as rent for regulatory purposes, so it would be inconsistent to consider them as such for collection purposes. This basic contradiction is the basis for what could be considered an intractable barrier, resolvable only by mandating the elimination of master-metering.

Other problems are involved in this issue in the supervised housing sector. In supervised housing, rents are fixed at rent hearings or pursuant to similar public procedures. In the City of New York, a local law restricts the HPD to one rent hearing of this type every two years. Rents should be fixed as a result of this hearing. Submetered electricity charges, however, will fluctuate. Whether this represents an impermissible failure to fix the rent as required by applicable statute is an area of uncertainty that represents a deterrent to submetering.

Other issues raised by the characterization of submetered electricity charges and related administrative expenses as rent or non-rent include: 1) the impact on the Senior Citizen Rent Increase Exemption (SCRIE) program, under which New York City subsidizes the rent of low income senior citizens; 2) the Federal Section 8 rent assistance program, which

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<sup>29</sup> Windsor Park Associates v. New York City Conciliation and Appeals Board n.o.r., New York Law Journal February 23, 1983, p. 11, col. 1 (Supreme Court, New York County, Fraiman, J.), aff'd. New York Law Journal June 9, 1993, p. 12, col. 1 (AD1)

subsidizes the rents of low income residents throughout the country; and 3) the requirements of various programs that rent increases not exceed a certain specified percentage.

*Conclusions (recommendation #):*

- Whether electricity charges are included in the definition of rent could have a major impact on submetering's adoption in rent-regulated buildings. Housing courts will surely not evict solely on the basis of failure to pay the electric charges, even if those were formerly included as rent. The other options to rental owners if electricity charges are not paid are: 1) turn-off of electricity, which is not technically possible with current equipment; or 2) allow it to be part of any collection process. The latter would be sufficient to minimize the barrier identified above, but would have to be resolved as a result of litigated cases over time or by legislative or regulatory action declaring that submetered electricity charges may be recovered as rent in a summary proceeding, but do not constitute rent for regulation purposes. DHCR/ORA does not now consider this a viable option.
- The dispute resolution should specifically address this issue, rather than attempt to apply regulation or legislation, that would be too cumbersome and controversial. In effect, this would provide a separate agreement between owner and resident on payment for electricity, rather than rely on regulations. (C1-2)

*Responsible Parties:* ORA, Housing Agencies

*Interrelated Issues:* Uniform dispute resolution (E1-2)

## C. PROCEDURAL CONSTRAINTS

### Introduction

The project team found that procedural constraints and conflicting regulations exist that have impeded the implementation of submetering at a number of sites. These barriers are the result of certain well intentioned government agency regulations, specifically by the PSC and within the State Energy Conservation Construction Code, that also may conflict with other regulatory agency priorities. Issues of consumer protection, energy conservation, life/safety codes, etc. are often addressed differently by different agencies, with overlapping and conflicting mandates resulting.

In the development and application of submetering regulations, the PSC chose a method that made the "shareholder" (defined as cooperative shareholder or condominium unit owner) a direct participant in the decision to submeter by requiring Boards to obtain an affirmative vote of a **majority of all shareholders** to approve a submetering plan, making non-voters essentially "no" voters. Submetering also represents the only expenditure of corporate funds for alteration of the building or buildings owned by the corporation for which shareholder approval is required. Even if it is determined ultimately that a vote is desirable, requiring a vote premised on anything larger than a majority of a quorum goes beyond normal procedural safeguards and, in effect, assigns decision-making authority to those who have, in nearly all cases, voluntarily chosen not to participate in the process.

The voting requirement would not be as much of an issue if submetering were a high priority of cooperatives. Boards of Directors of housing cooperatives are frequently faced with difficult choices. With limited funds in reserve in most cases, the Boards must determine the most effective manner in which the building funds will be spent. The older the building, the greater the problems, from the deteriorating physical structure to the aging building systems. If the roof is leaking and the boiler is balky, submetering of electricity will never make it to the Board's agenda. As expressed by many agents, there is a lack of urgency about the whole issue of submetering. Mary Ann Rothman, Director of the Council of New York Cooperatives, advised that "submetering is a relatively minor consideration now because most buildings are hurting more now than they have in a long time. The following pressing issues tend to constrain submetering activities: (1) defaults and (2) lack of financing, including underlying mortgages, individual loans and loans to implement improvements."

Add to the lack of urgency on the part of management, owners, and Boards, the lack of enthusiastic support by supervising agencies, and the general lack of knowledge about submetering, cooperatives and condominiums may never even approach the more obvious and difficult barriers. As long as Boards find little clear-cut financial benefit from the conversion and there are competing needs for their available funds, a voluntary program will not accomplish the stated goal. Telling a Board that submetering electricity will stabilize the building's budget and that they will be free from the

vagaries of rate and consumption increases might make an impact if there are no other significant problems with their building. If presented with alternatives that provide a faster payback or a more obvious savings to the cooperative, they will opt for these alternatives. Unfortunately, a submetering installation cannot be seen or touched and generally will not bring joy or improved quality of life to the shareholders for the expenditure made.

The PSC, in attempting to ensure a consistent level of consumer protection for all shareholders, did not differentiate between cooperatives under the aegis of regulatory agencies and those in the private sector. The significant degree of oversight agencies provide publicly-assisted cooperatives appears not to have been considered, nor was the way in which this supervisory role could be employed to achieve the protections that the PSC desired.

An excellent example of procedural constraints and conflicting regulations is at a large, multi-family New York City Mitchell Lama cooperative. As a result of factors unrelated to submetering, the day-to-day operation of this cooperative (which ordinarily would be under the aegis of a Board of Directors) is being conducted by HPD, the cooperative's supervisory agency. The agency is seeking to upgrade the electrical wiring, which is inadequate for today's needs. Further, the wiring is aluminum, rather than the preferred copper. This places it under the jurisdiction of the State Energy Conservation Construction Code, which mandates that if 50% or more of a system (e.g., electrical wiring) is being replaced, the building(s) must directly meter the apartments.<sup>30</sup> DHCR (previously SEO) must approve any request for submetering in lieu of direct metering (SEO had indicated its intent to do so in interviews with key representatives).

The Public Service Commission rules state that if HPD chooses to directly meter, it can do so without PSC approval. However, if, in an effort to save considerable installation cost<sup>31</sup> and to prevent shareholders from paying the significantly higher retail rate, HPD chooses to submeter, **it could not do so without a shareholder vote under the present PSC regulations.** HPD will experience at least the same opposition to submetering, if not greater, than a duly elected Board would in trying to get a affirmative majority vote from this cooperative. It has been noted that HPD already has regulations in place regarding bidding, installation and grievance procedures to protect the shareholders.

Despite the fact that: 1) the existing wiring is out of compliance with the present code; 2) the applying party is a city agency; and 3) the State Energy Office indicated their intent to issue an interpretation permitting the installation of submeters, the PSC can overrule all these entities and the building would be forced to institute direct utility metering at a higher cost to both the owner (for installation) and resident (higher electric rates).

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<sup>30</sup> Ibid

<sup>31</sup> Due to the unavailability of powerline carrier technology for direct utility metering, additional re-wiring would likely be required to isolate apartment circuits, requiring additional wiring costs, which may be offset by lower costs for the meter itself.

## **BARRIER C1: PSC RULE REQUIRING AN AFFIRMATIVE VOTE OF A MAJORITY OF ALL SHAREHOLDERS.**

In residential cooperatives and condominiums where all residents are "shareholders", conversion to submetering is permitted under 16 NYCRR §96.2(e) based upon a number of conditions including:

- (1) The prospective submeterer shall certify to the utility that a majority of the shareholders [defined as cooperative shareholders and condominium unit owners] voted in favor of the submetering proposal.

Practicality - Historical evidence of abuses such as price gouging by submeterers resulted in a ban on submetering in 1951 (see Appendix A) to protect electricity consumers from abuses by landlords. Years later, the PSC decided to repeal the ban for cooperatives, but wanted to protect submetered shareholders from potential abuse. They chose a method that made the shareholder a direct participant in the decision to submeter by requiring Boards to obtain an affirmative vote of a majority of all shareholders to approve a submetering plan. A few cooperatives with leaders who demonstrated perseverance and force of personality were able to obtain the necessary vote to convert to submetering. Others saw the potential for positive returns from submetering defeated, despite the fact that a majority of the voters who turned out to vote favored submetering. With such a stringent attendance and voting requirement, non-voters are essentially "no" voters. Many Boards became gun-shy, preferring to forgo submetering rather than subject themselves to an embarrassing defeat (which could deter positive activities on other building matters.)

An affirmative vote of a majority of all shareholders is extremely difficult, if not impossible, to attain. Substantial experiences from Project Team and information discussed by interviewees indicate that most Boards cannot even get a quorum to conduct an annual meeting or election. Boards have gone so far as to raffle television sets at the meeting to those in attendance. Other Boards have been forced to convene a meeting, adjourn it, and continue to collect proxies until there were sufficient proxies to establish a quorum to continue the meeting. On numerous occasions, runners have been sent door-to-door to obtain proxies or "bodies", while the Board and the shareholders in attendance waited for a quorum to commence business.

Unless there is a significant carrying charge increase or an assessment on the agenda, most shareholders stay home. Worse yet, if the building does not have its own community space and the Board is forced to rent a room in another building, attendance will drop precipitously.

As in any controversy, those who feel most threatened by the outcome of a vote will be present and will solicit the attendance of neighbors, friends, and allies to their cause. It has been vividly demonstrated that one or two vocal opponents of submetering can defeat the measure, even when most of the shareholders are in favor or at least neutral on the subject. The problem with a shareholder vote on submetering is that the advocates are not generally enthusiastic in

their support, but rather accepting of the inevitable, while the opponents, who either have a great deal to lose or the perception that they have, will lobby to kill the measure. For example, opponents to submetering will inevitably include electricity abusers, defined (arbitrarily) as the highest 10% of the electricity users in the building. These residents may "abuse" their shared electric charges by running businesses out of their homes, leave their air conditioning units on while at work so they can return to a cool apartment, or have an extraordinary number of high electricity-consuming appliances, compared to their neighbors who are paying the same amount for electricity under master-metering.

Legal Foundation - The PSC voting requirement is more restrictive than the Business Corporation Law<sup>32</sup> of New York State, which grant Boards of Directors and a quorum of voting shareholders of a housing cooperative wide-ranging authority to manage the business affairs of the corporation. No distinction is drawn in these laws between a corporation formed for profit and a housing cooperative. Except for certain decisions considered to substantially alter the nature of the investment made by the shareholder -- such as votes to merge or dissolve the corporation, to sell substantially all of its assets, and to modify the certificate of incorporation under which the corporation is chartered -- the Board of Directors has full discretion to make decisions regarding the expenditure of corporate funds, the purchase and sale of corporate assets, the mortgaging of property owned by the corporation, and the price to be charged to customers of the corporation for the purchase of its products or services. In the case of a housing cooperative, this means that the Board of Directors has full discretion to determine the level of carrying charges that is to be paid by the shareholders as well as the disposition of funds raised through the payment of these charges. Boards have full discretion and authority to expend those funds for major capital improvements and other modifications to the building or buildings owned by the cooperative. No dollar limit restricts that authority.

**The PSC requirement for "shareholder" approval of a submetering installation represents the only expenditure of corporate funds for alteration of the building or buildings owned by the corporation for which shareholder approval is required. As such, it is an anachronism and also contrary to the basic public policy expressed in the Business Corporation Law of this state.**

Moreover, the requirement for approval by a majority of the total number of shareholders is extraordinary. As a general rule, the holders of a majority of the shares constitute a quorum for the transaction of business by the shareholders of a corporation.<sup>33</sup> Except with respect to the decisions that affect the basic nature of the corporation such as merger, dissolution, and so forth as outlined above, **the standard for shareholder approval is the vote of the holders of a**

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<sup>32</sup> The Business Corporation Law ("BCL") provides that a simple majority vote of the shareholders present and voting at a meeting at which a quorum is present is sufficient for any corporate action unless the certificate of incorporation provides otherwise. BCL Sections 601, 614(b), 616(a)(2).

<sup>33</sup> The shareholders of individual corporations may approve a higher or lower quorum requirement.

**majority of the shares present and voting at a meeting.** Thus, a majority of a quorum is the standard for action by shareholders. This standard is clearly premised on the concept that shareholders interested in a particular proposition have an obligation to vote on the issue (either directly or by proxy) and those who choose not to participate should not be permitted to complain about an outcome that is contrary to their wishes. *Requiring a vote premised on anything larger than a majority of a quorum (as the PSC vote for submetering) is counter to this premise and, in effect, assigns decision-making authority to those who have, in most cases, voluntarily chosen not to participate in the process.*

Oversight - In the development and application of submetering regulations, the PSC took a broad approach intended to ensure a consistent level of consumer protection for all shareholders and did not differentiate between cooperatives under the aegis of regulatory agencies and those in the private sector. Apparently, there is already a significant degree of oversight provided publicly-assisted cooperatives by the U.S. Department of Housing and Urban Development (HUD), the New York State Division of Housing and Community Renewal (DHCR), and the New York City Department of Housing Preservation and Development (HPD).

Moreover, the current voting requirement does not protect the shareholders in the actual application, bidding, installation and operational phases of the conversion -- important elements that need scrutiny and oversight. The housing regulatory agencies, in their supervisory role, offer that protection and more. The current voting requirement has the effect of discouraging a Boards' attempt to achieve energy savings and to stabilize operating costs.

Within the past year, the PSC realized (in part due to the information brought to light by this project) that the voting requirement's impact on submetering was far greater than anticipated. There is still strong feeling that since submetering, unlike most other Board decisions, creates a variable cost component, that consumer protection is needed. The PSC staff presently is considering alternatives to the voting requirement.

*Conclusions (recommendation #):*

- There are a number of measures that can be implemented that offer the type of protection envisioned by the PSC. Rather than a shareholder vote, a Board could be obligated to provide adequate notice, an opportunity to comment, and a shareholder informational meeting to permit shareholders to question the experts as to the feasibility and cost-effectiveness of the conversion. (C1-1,3) This would serve the purpose intended by the PSC with its voting requirement more directly and more consistent with standard Cooperative building practices, eliminating the stigma currently attached to the PSC vote requirement.
- Further, as presently required, a dispute resolution mechanism procedure could address billing questions, the bidding process, installation and testing of meters, billing methods, etc. and offer further comfort to the

shareholder. (C1-2) (Note example in Appendix D.)

- The PSC should delegate its role in submetering of publicly assisted buildings to the applicable housing agencies. A significant number of master-metered buildings are supervised in terms of their fiscal and physical operation by HUD, DHCR, and HPD. These agencies are diligent in their protection of the interests of residents, as well as the properties under their supervision. The PSC should guide the housing agencies, but should leave the actual methods to achieve consumer protections up to the agencies. (C1-4) Most agencies have a full panoply of regulatory protections regarding tenant notification, letting of contracts, overseeing contracts, etc., which with minimal modification can apply to submetering conversions.
- In the non-supervised private sector cooperatives (and condominiums), the housing cooperatives could adopt the same dispute resolution mechanism and Notice procedures, but file the documents and report to the PSC as the last recourse, instead. (C1-5)
- It is clear that the PSC sought, through the voting requirement, to address the protections it expected were necessary for the building residents. However, the PSC could not have foreseen the impact of its actions. It would be beneficial for the PSC staff to visit a sampling of sites and observe Cooperative Board and Shareholder meetings, in order to promote a better understanding of the process. (C1-6)

*Procedure:* Article II of the New York State Administrative Procedures Act. It should be noted that the goal of the dispute resolution mechanism is to enable the "owner" to collect electricity charges as if they were rent or common charges, not to enable the "owner" to turn off the electricity.

*Responsible Parties:* The policy and rule-making PSC Staff in Albany and New York City (Counsel, Energy Efficiency Department, and Consumer Services Division.), in conjunction with supervising housing agencies

## **BARRIER C2: NEW YORK STATE ENERGY CONSERVATION CONSTRUCTION CODE REQUIREMENT FOR UTILITY-OWNED METERS**

The State Energy Conservation Construction Code mandates that if more than 50% of a building's electrical system is being replaced, the owner is required to **individually meter**, using **utility-owned meters**.<sup>34</sup> The New York State Energy

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<sup>34</sup> The State Energy Conservation Construction Code is set forth at 9 NYCRR Parts 7810 to 7815. §7810.6 of the State Energy Conservation Construction Code provides that with respect to substantial renovations of existing buildings, whenever such substantial renovations equal more than 50% of any building system, measured in units appropriate to that system, within any twelve month period, that portion of such building system which is replaced shall be made to

Conservation Construction Code (Energy Code) addresses electrical metering in two sections:

"**7813.52 (b)** Electrical system. In all residential buildings, each dwelling unit shall be provided with a separate electrical meter.

**7810.16 (32) ELECTRICAL METER.** A mechanical/electrical device which can individually measure the electricity consumed by each dwelling unit and which is **owned and operated by the electric utility.**" (emphasis supplied)

In the latter, an acceptable electric meter is defined as "utility owned and operated". If building management wanted to install submetering, it would now have to apply to DHCR (formerly to the State Energy Office) for an **interpretation** (which would allow submetering). SEO had previously addressed this on a case-by-case basis, and indicated that submetering may be permitted but only if the building meets PSC submetering regulations. Obtaining an interpretation of the code requires one additional step in a process already made cumbersome by other regulations.

*Conclusions (recommendation #):*

- The NYS Energy Conservation Construction Code does not reflect actual state policy on submetering and thus should be amended to directly address the issue/technology of submetering. For example, Section **7810.16(32)** should define an **ELECTRICAL METER** as either **utility owned or a submeter qualified by the utility**, as a way of ensuring that submetering can be used and preventing the use of inferior metering equipment. Consolidated Edison already has a process for qualifying meters for its Residential Submetering Program, so it can ensure that rebates are paid only to "legitimate" submetering equipment options. Of course, the code should also require that the building meet PSC submetering regulations, as well (C2-1).

*Responsible Parties:* DHCR Bureau of Codes and Standards

*Procedure:* The process defined under New York State Administrative Procedures Act can be used. The time required to effect any such change would be about six months.

*Interrelated and Associated Issues:* Building and Energy Code Enforcement (F1-1)

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conform to the provisions of the Code. 9 NYCRR §7813.52(d) provides that all residential buildings other than one- two-family dwellings must separately meter individual dwelling units to determine the energy consumed by each tenant.

#### **D. KNOWLEDGE AND EXPERIENCE CONCERNING SUBMETERING**

##### Introduction

Conclusions reached as a result of this project's interview process, coupled with the project team members' past experience, including participation in programs such as the Consolidated Edison Residential Submetering Program and the joint NYSERDA/DHCR Demonstration of New Submetering Technologies Program, underscore the compelling need for education of all those who play a key role in making submetering happen. A statewide informational program is needed, which would include the preparation, compilation, and dissemination of written material, as well as the establishment of workshops and seminars by agencies to familiarize their staff with the latest submetering technology and to educate owners, board members, residents, and building managers as to the economic and energy conservation benefits of conversion to submetering. The "Facilitating Submetering Implementation" project itself, which includes this report, is one aspect of this informational program.

The ramifications of this barrier are far-reaching. At the commencement of this project, the management and rent regulating divisions of the federal, state, and city housing agencies did not have sufficient data to advocate and support a submetering conversion program. Their technical bureaus had little experience with actual installations and were not aware of the advances in technology over the past decade. Agency staff relied upon outdated codes, regulations, and procedures, a number of which were predicated on formulas and methodology relating to the conversion of master-metering to direct metering.

Similarly, most owners, board members and building managers lack the knowledge, information and experience necessary to effectively consider submetering for their buildings. Issues raised regarding the financial impact of submetering on the building, as well as the residents, the installation process, submetering technology, the billing process, dispute resolution, etc. are not understood clearly. In many instances, submetering opponents argued successfully that residents would pay more for electricity on a "pay for what you use" basis, even though the historical evidence of submetered buildings has proven otherwise. Few proponents were sufficiently knowledgeable to refute such statements.

To best promote submetering for the substantial portfolio of master-metered buildings in New York State and particularly, in New York City, the following barriers must be overcome. The project team believes that the easy access to information about submetering, and a streamlined approach to obtaining approvals are key to the elimination of barriers to submetering implementation.

## **BARRIER D1: LACK OF EXPERIENCE RELATED TO SUBMETERING IN THE MANAGEMENT AND TECHNICAL DIVISIONS OF THE REGULATORY AGENCIES**

There have been virtually no applications for submetering received by DHCR, HPD, and HUD during the last decade.<sup>35</sup> Without the impetus of an application, the understaffed agencies did not use their limited staff resources to investigate advances in submetering technology. Agency representatives advised the Project Team interviewers that, in such matters, they are "reactive" rather than "proactive", not out of choice, but out of necessity. The few buildings under their auspices that were submetered had completed their installations by the mid-1980s, largely through participation in the joint NYSERDA/DHCR-sponsored Demonstration of New Submetering Technologies Program.<sup>36</sup> The inability to utilize funding from such sources as the State HEAP (Home Energy Assistance) Program<sup>37</sup> for electrical submetering within the residential housing sector under the supervision of DHCR further limited this agency's exposure to this technology. These agencies have not been approached by applicants seeking to submeter and have not received information about submetering from the energy agencies, consultants, vendors, building managers, etc.

The primary focus of DHCR's management and technical divisions relating to submetering installations has been on technical issues, such as establishing equipment and testing standards, reflecting the use of electronic metering and powerline carrier communications equipment in submetering projects the agency has overseen. As a result, only DHCR's management divisions has implemented testing procedures. The single written DHCR guideline regarding meter installation testing was formulated in 1986 as a result of the Demonstration of New Submetering Technologies Program.<sup>38</sup> At that time powerline carrier technology and electronic metering were in their infancy and a testing requirement of 25% of installed meters was established by DHCR. For example, in a 2,000 unit cooperative, installers would have to gain initial access to all 2,000 apartments to install the meters and a second access to 500 of the apartments to inspect the meter installation. The time-consuming nature and attendant cost of this extensive inspection process is itself a barrier to submetering. While this 25% testing requirement may have been appropriate in 1986, it is no longer valid today, as substantiated by Consolidated Edison's requirement of testing either 5% of the total or 20 installed meters. The Con Edison testing requirement has been utilized throughout the residential submetering program

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<sup>35</sup> Since the time of the DHCR Management Division interview, New York Eye and Ear Staff Housing has submitted an application to Consolidated Edison for their Submetering program incentive.

<sup>36</sup> Demonstration of New Submetering Technologies, NYSERDA Report 86-8, Hirschfeld and Stone Consulting Engineers, 1986

<sup>37</sup> DHCR administered the HEAP Program for SEO, since the funds were used to improve the energy efficiency of buildings under DHCR jurisdiction. At that time (mid-1980s), Submetering was not considered eligible for the HEAP Program as directed by DHCR, whose technical management had unresolved concerns regarding the technology.

<sup>38</sup> Ibid, Demonstration of New Submetering Technologies, Appendix B - NYS DHCR Requirements for Apartment Electric Submetering, section 4 (c): "These Tests shall be performed on a random sample consisting of 25% of the meters installed at the project and will be witnessed by representatives of the housing company and DHCR."

and has been considered sufficient to date, based on over 2,000 meter installations, covering four different manufacturers, and some limited post-implementation meter-reading experience.

*Conclusions (recommendation #'s)*

- A comprehensive program is needed to inform and educate housing agency management and technical staffs about the technological advances in the field (D1-1), enabling them to ensure that regulations reflect technological advances.
- NYSERDA is the best source of information and studies on submetering. (D1-2)
- An ad-hoc committee (Ad-hoc Submetering Committee) (D1-3), including NYSERDA and Consolidated Edison representatives should be formed to develop a set of standardized specifications, guidelines, and a certification process for acceptable meters and installers, engineering consultants, etc. applicable to submetering installations. Specifications can be based on the existing process for qualifying submeters presently utilized by Consolidated Edison, which observes the metering requirements established by the American National Standard Code for Electricity Metering (ANSI C12.1) and adopted by DHCR in 1986.<sup>39</sup> Use of these standardized documents should result in an expedited approval process.
- There should be an expedited process developed as part of the Ad-hoc Submetering Committee for submetering implementation, whereby owners (rental owners/boards) would use standardized documents and employ certified vendors and consultants approved by their supervising housing agencies. This would provide a means whereby lack of experience would not unduly hamper an application and provide some protection for the inexperienced owner wishing to take advantage of the benefits of submetering. (D1-3)
- The Ad-hoc committee should also create a uniform set of procedures covering notice and dispute resolution issues. Appendix D includes a recommended dispute resolution procedure predicated on HPD regulations that were developed in conjunction with PSC representatives by a former assistant commissioner of HPD, currently a member of this Project Team. It should be noted that the dispute resolution mechanism enables the **owner** to collect electricity charges, **not to turn off** electricity. (C1-2)
- A "How-to" Manual on submetering is needed to provide procedural guidelines for the evaluation and

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<sup>39</sup> Ibid. (Demonstration of New Submetering Technologies, NYSERDA Report 86-8) section 4 (a): "... in conformance with applicable provisions for in-service testing of ANSI C-12.1"

implementation of submetering. (D1-4) This was considered for inclusion in the Consolidated Edison Residential Submetering Program, but not implemented since the Program was extended and Consolidated Edison staff were providing ongoing procedural assistance as part of the Program.

#### **BARRIER D2: OWNERS AND MANAGERS' LACK OF EXPERIENCE AND UNDERSTANDING OF SUBMETERING TECHNOLOGY, ECONOMICS AND AGENCY PROCEDURES**

The vast majority of managing agents and owners (rental owners and Boards) are not knowledgeable about existing submetering technology, economic considerations, and agency procedures. Interviews with managing agents indicate that the majority have no knowledge of prior demonstration projects either conducted by Consolidated Edison or other agencies. Additionally, they were unable to recall receiving any relevant educational material. The few agents who were familiar with submetering either participated in submetering projects years ago or recalled recent conversions from directly metered buildings to submetered.

Managing agents were generally found to be unfamiliar with the history of submetering, but some have vague recollections of price gouging and other past abuses that led to its ban by the PSC in 1951. They are not up to date on submetering technology, are unfamiliar with the procedures presently in place to accomplish submetering, and find when they take the initiative to place the matter on the owner's or Board's agenda, that it usually finds its way to the bottom and rarely gets reached.

These agents have not been encouraged by the supervising agencies to promote submetering and believe that the conversion process is unduly cumbersome and rife with bureaucratic delays, as well as a source of additional unpaid work and resident complaints. As a result, many agents are reluctant to recommend its implementation.

While the ultimate choice of whether or not to submeter lies with the rental owner or cooperative Board, frequently it is the managing agent who would actually initiate the project, move it along, or decide not to start a submetering program. Many Boards and owners rely on their building managers for guidance regarding these types of technical applications. Since many property managers are overburdened with the number of properties they manage, they are inclined to take the path of least resistance when it comes to a complex issue like submetering and not promote it.

Those who manage cooperatives and were familiar with submetering complained about the PSC voting requirement; those who manage rentals complained about the lack of information regarding submetering of rentals (many were unaware that master-metered rentals could submeter). Those who were aware of the fact that rentals could submeter, complained about either the restrictive nature of or the lack of regulations that apply to the process.

In assessing the best approach to consumer education, interviewees suggested that Consolidated Edison should not take a direct role in consumer contact, only in assisting in the development of materials and information, since its motivation is considered suspect by housing constituencies. This perception by building residents was frequently observed during the Consolidated Edison Submetering Program and seems to be a result of the apparent contradiction between Consolidated Edison being in the business of selling electricity and its promoting of submetering as a means of saving electricity. As a result, some ulterior motive other than conservation was assumed to exist, such as the elimination of the building's bulk rate.

*Conclusions (recommendation #):*

- Building Owners and Managers need access to a comprehensive set of documents, including past studies, in order to effectively pursue submetering. These should be made available by the supervising agencies (where applicable), the PSC, Consolidated Edison, or directly from NYSERDA , which would have the responsibility for assembling, compiling, and disseminating the information with the assistance of PSC and Con Edison. (D1-1, D1-2, D1-3, D1-4)

**BARRIER D3: MASTER-METERED BUILDING RESIDENTS PERCEIVE THAT THEY ARE RECEIVING "FREE" ELECTRICITY**

Many residents who reside in master-metered buildings believe that submetering will cause them to pay for electricity that is presently provided "free of charge". Under master-metering they never have to be concerned about turning out lights or turning off air conditioners when they leave their apartment. All manner of appliances can be operated without concern as to cost. This is often used as a selling point in the advertising and sales efforts of owners and rental agents, who often refer to electric charges as "free", or at least "included".

The elderly, in particular, fear they will be economically harmed by submetering, and, in many instances, opponents of submetering emphasize that concern in their efforts to defeat submetering proposals. These fears are generally unfounded. Contrary to the perception of many, elderly are not higher users of electricity. While retirees are home more during the day and may use a higher percentage of electricity during the day than younger residents who work, they have fewer high-use appliances and tend to be more conservation-conscious.

During the interview process it became evident that there are many examples of long-term (particularly senior citizen) residents who have never received an electric bill during their lifetime or can vaguely remember an electric bill of a few dollars. Their perception is that electricity is free. They also believe that submetering will make it more difficult to sell their apartments because the new residents will have to "pay" for electricity. For example, in federally insured, Section

213 cooperatives, (under the jurisdiction of HUD), aging residents are often concerned with retirement and selling their apartments. Some cooperatives receive a significant percentage of the sale proceeds of apartments above a pre-established selling price. Accordingly, the primary focus of building management has shifted to issues that would attract apartment buyers and away from submetering (perceived as eliminating "free" electricity), which is perceived to have a negative impact on sales.

For those residents who use an excessive amount of electricity, submetering **will** have a severe impact on their quality of life, but the vast majority of responsible residents, with reasonable care, will not be adversely affected. These facts were demonstrated by the results of several studies, including the Demonstration of New Submetering Technologies Program and individual case studies developed as part of the Consolidated Edison Residential Submetering Program. The highest users included those who objected to submetering, and were typically not elderly.

*Conclusions (recommendation #):*

- Resident meetings are an effective means of provide a forum to discuss issues such as fairness, feasibility, cost, benefits, etc. Residents should be given information prepared and disseminated by NYSERDA (D1-2) and an opportunity to question experts first hand. Case studies developed as part of the Consolidated Edison Residential Submetering Program amply demonstrate the abuses resulting from the existing method of distribution of electricity costs in master-metered buildings. Availability of these studies should go a long way to further the goals of owners who wish to submeter. While resident cost savings, building budget stability, dispute resolution, etc. should be addressed, the **fairness** issue should be stressed to counter the misleading and often erroneous misinformation distributed by opponents to submetering.
- The extension of the Consolidated Edison Residential Submetering Program (A6-1) is key to this aspect of the educational process.

*Responsible Parties:* Consolidated Edison, NYSERDA

## E. HISTORICAL ANIMOSITY AND DISTRUST AMONG PARTICIPANTS IN THE SUBMETERING PROCESS

### Introduction

To achieve a successful conversion from master-metering to submetering requires the cooperation of a number of participants including the owner (rental owner or board of directors), residents, the supervising housing agency (where applicable), the utility, and the vendor who will be performing the installation. Historically, there has been tension among these entities, for a variety of reasons. For example, there is an inherent conflict between rental residents whose most basic requirement -- shelter -- is controlled by owners, whose interests are primarily profit-oriented. This and other sources of animosity have hampered adoption of any significant measure that relies on **cooperation** for results.

The longstanding animosity between rental owners and renters cuts across all economic strata. Dissension, disharmony, and distrust are the hallmarks of this uniquely urban relationship. While people own their own homes in the greater part of this country, a substantial percentage of New York City consists of renters of apartments in high-rise multi-family buildings.

The underlying basis for the hostility may be the strong attachment one develops toward one's shelter, defined as dwelling, home, sanctuary, refuge, shield, protection, and haven. Thus, **housing** clearly represents more to people than bricks and mortar.

In the past decade or so, a significant portion of New York City's rental housing inventory has been converted to cooperative status, conferring on the resident the designation of **shareholder** of the cooperative corporation. The resident, however, remains a **tenant** of the cooperative and frequently transfers his or her traditional owner hostility to the elected Board or building management.

Disputes regarding rent increases, primary residency and habitability have filled our court dockets. Housing agencies face backlogs of protests filed by renters against owners. Much of the resident resistance to submetering is based on their fear of abuse by rental owners. These fears were expressed by renters, tenant organizations, and echoed by the PSC and ORA representatives during this project. Tenant organization leaders who were asked to participate in the submetering forums declined the invitation to attend, but made it clear that they were opposed to submetering. In numerous instances, the team members were advised that renters see the owners as wielding inordinate power over them and, in the case of submetering, they fear that owners will have another **weapon** to use to control them. Residents expressed the fear that they will be billed inaccurately and will have no recourse, that they will not get an adequate rent reduction, that the owner will be able to evict them for non-payment of utility charges and, finally, that their electricity

may be unilaterally cut off by the owner.

Project Team members have observed signs of such distrust at board meetings, agency hearings and during interviews with end users. The resident's greatest fears are that: 1) his or her cost of electricity will increase after submetering; and 2) the reduction in rent or carrying charges will be insufficient to offset future electricity costs. Unfamiliarity with submetering technology, wariness regarding the motives of owners and boards, anxiety regarding billing accuracy, and fear of inadequate recourse in dispute situations all contribute to the resistance owners and boards face when they raise the specter of conversion.

Residents who understand the ramifications of submetering -- and recognize that they are at the higher end of the consumption spectrum-- frequently attempt to influence other residents by raising concerns about paying higher electricity costs after conversion, meter inaccuracy, and potential billing discrepancies, etc. The PSC's required shareholder vote is the mechanism used to defeat the measure. In one particular cooperative, submetering was defeated by a single shareholder who played on the misgivings of the residents regarding a possible devaluation of apartments at time of resale. In another case, a shareholder attempted to block the conversion by taking the issue to court. The court eventually ruled (after significant costs were incurred) against this shareholder. Subsequent post-submetering consumption data confirmed that this same shareholder was, by far, the highest user of electricity in the Coop.

In cooperative conversions, sponsors who are holders of unsold shares (who are also shareholders and, as such, control votes for the number of apartments they own), may perceive submetering as contrary to their interests.

To counter any specious arguments, owners, Boards, and residents must be adequately armed with facts and figures. The old cliche holds true here: the best defense is a good offense. Submetering advocates must be able to make convincing arguments about the economic benefits to residents and the building. They must believe and affirm that submetering is a viable energy conservation measure that is cost-effective and **will result in savings for the vast majority of resident electricity users**. This was confirmed by data obtained during the Consolidated Edison Submetering Program.

Other adversarial relationships complicate submetering implementation. Utilities are perceived by many of their customers as large, impersonal enterprises, charging excessive rates for what consumers deem to be an essential public service. Request for rate increases inspire almost as much enmity as requests by owners for rent increases. Advocacy on the part of utilities for conversion from master-metering to submetering is met with suspicion. Owners have expressed concern that Consolidated Edison will renege on the bulk rate for master-metered buildings after conversion.

Finally, there is a natural conflict between owners/managers and vendors, with the latter trying to maximize profits at

the expense of the former. The credibility of vendors, in the case of submetering, is in question. There is a significant history -- still relatively fresh in the minds of building owners and managers -- of the early days of submetering implementation after the reinstatement of submetering in 1979. During this period, many new vendors, including equipment manufacturers, installers, and meter-reading service companies, emerged to meet the new market. The relatively slow adoption of submetering, however, caused many of the firms to fail, in some cases abandoning partially completed installations. Vendor quality was also an issue since the lack of a track record made evaluation of vendor qualifications extremely difficult.

Consolidated Edison, in response to the need for quality equipment, initiated a research and development project in 1979, which included the development of a solid state metering system (Intellimeter). It was partially concern for this issue that prompted NYSERDA, in cooperation with DHCR, to initiate the "Demonstration of New Submetering Technologies" project in 1981 to evaluate both the technical and economic merits and establish standards for this new generation of submetering systems.

While these projects and the passage of time have served to improve the quality of submetering equipment and expanded the knowledge and experience of submetering vendors, recollection of earlier mishaps make owners wary.

Even in terms of more recent experience, the continued delays in the implementation of submetering has placed a strain on the remaining vendors who have adopted the ANSI C12.1-1982 standard. For example, there were five vendors originally qualified for the Consolidated Edison Residential Submetering Program and eligible for the \$200 per apartment incentive; i.e. Schlumberger Industries, E-Mon Corporation, GD California, Osaki Meter Sales Inc., and Quadlogic Controls Corporation. Of these, Schlumberger has recently divested itself of its submetering business, with the MACS line sold to North American Products of Snellville, Georgia; Ohio Semitronics of Hilliard, Ohio, is the third company (after GD California and NETA Corporation) attempting to market the Intellimeter system line since its original co-developer, Robinton Products, Inc. (along with Consolidated Edison), ceased its operation.

Without sales to support the market, it will be difficult to sustain an adequate number of qualified vendors offering a broad choice of warranted equipment competitively priced and with a service component. Astute building managers are concerned justifiably about recommending submetering to their owners and boards, given the uncertain nature of the market and the uncertain viability of the equipment vendors. Survival of these vendors and, indeed, of the future of submetering, is dependent on the removal of sufficient barriers to provide some impetus to submetering implementation.

*Conclusions (recommendation #):*

- Consolidated Edison should be removed from the promotional aspects of submetering and should focus entirely on qualifying equipment and rebate administrative. Information should be forwarded to NYSERDA for inclusion in the information packages provided to agencies and organizations.
- Information (case studies, expert advice, etc.) must be provided by regulatory agencies. The availability of information (D1-2) and education of management and agency staff (D1-1) provided by independent sources should dispel much of the misunderstandings and misconceptions that often bring about mistrust and hostility. Education, once again, is the key. Proving the efficacy of submetering is the only way to dispel anxiety.

## F. OTHER BARRIERS

### Introduction

There are numerous other considerations or barriers that by their nature do not belong to the other groups or categories outlined in this report, but due to their significance must be included in this evaluation. The barriers listed below have had major impact in preventing more widespread implementation of electrical submetering in the residential housing sector. The lack of government mandate to submeter, the lack of compliance to codes specifically designed to foster energy conservation, the apparently unlimited need for funds by apartment buildings to maintain their building systems and economic viability, the uncoordinated state and utility programs designed to address this residential housing sector and the political considerations are all formidable barriers.

During the Consolidated Edison Residential Submetering Program, Project Team members encountered a seemingly incongruous example of submetering barriers where, in spite of rules and regulations, including those mentioned in this section, one of the largest and most visible master-metered residential housing developments in New York underwent a major upgrade to its electric wiring systems without submetering. This has created a negative precedent and could influence how other builders, developers, boards of directors, and building owners adopt submetering.

While master-metering of electricity runs counter to today's energy conservation goals, conversion to submetering or direct metering obviously has not been considered of sufficient public benefit to warrant the type of political support required to mandate such conversions. Apparently, it has been assumed that owners and Boards would opt for submetering on a voluntary basis because of the conservation benefits. While master-metering in new dwellings has been eliminated by the State Energy Conservation Construction Code, there was a valid reason not to make this provision retroactive at the time (1984) and, thus, "grandfather" existing buildings with master-metering and without submetering. Direct metering would have been prohibitively expensive, since re-wiring buildings would have been necessary. At the same time, submetering technology was not sufficiently advanced or proven to ensure that it would be possible to submeter buildings instead without either risk or burdensome expense. The code was promulgated even before the submetering demonstration projects that eventually confirmed the technical feasibility, although some other problems remained that were not specifically related to technical issues (e.g. many of those mentioned in this report). Given the current state of the art and knowledge, DHCR (replacing SEO), as the issuer of the State Energy Conservation Construction Code, could reasonably reconsider the grandfathering of the master-metering ban.

A parallel to this is the experience of utility-sponsored conservation programs and appliance efficiency standards. Even though the paybacks to the customer for purchase of high-efficiency appliances were reasonably short, many consumers and businesses did not opt to pursue conservation investments until utility rebates were offered or standards were

established by state and federal law. Once incentives were provided to "jump-start" the process, the marketplace embraced conservation investments and now have been transformed, resulting in much less incentive. This means that manufacturers produce -- and distributors and retailers make available -- equipment in sufficient quantities and at competitive prices to enable consumers to access and purchase conservation equipment without as much (if any) need for artificial market stimulation. In some cases, this has been supplemented by the imposition of state and federal standards mandating minimum efficiency levels for new appliances or new construction practices.

Given that the free market has not embraced submetering and utility incentives have only made slow progress, the establishment of standards and the enactment of legislation should be considered, as they have been for other energy efficiency measures. Standards are already in place for new construction, where the incremental cost is negligible. These standards (specifically the Energy Conservation Construction Code) also apply to major rehabilitations of existing buildings, although they appear to have been circumvented by lack of enforcement in many cases.

Political opposition can often derail a submetering implementation effort prematurely. Most owners are reluctant to pursue submetering (or any other initiative) in the face organized political opposition.

#### **BARRIER F1: INCONSISTENT STATE-WIDE ENFORCEMENT OF CODES APPLICABLE TO SUBMETERING**

##### State Energy Conservation Construction Code (Energy Code) Compliance

According to the New York City Building Code, the New York State Energy Conservation Construction Code (Energy Code) must be enforced with respect to submetering.<sup>40</sup> The Energy Code states that whenever more than 50% of a residential building's electrical system is replaced within a twelve (12) month period, each dwelling unit shall be provided with a separate electric meter.<sup>41</sup> This applies to buildings where the electric upgrade occurred subsequent to 1984, when the code was adopted, according to SEO.

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<sup>40</sup> The New York City Building Code provides in Section 27-104 thereof that any conflict or inconsistency between the requirements of the Building Code of the City of New York and applicable state and federal laws and regulations shall be resolved in favor of the more restrictive requirements.

<sup>41</sup> The State Energy Conservation Construction Code is set forth at 9 NYCRR Parts 7810 to 7815. §7810.6 of the State Energy Conservation Construction Code provides that with respect to substantial renovations of existing buildings, whenever such substantial renovations equal more than 50% of any building system, measured in units appropriate to that system, within any twelve month period, that portion of such building system that is replaced shall be made to conform to the provisions of the Code. With respect to electrical distribution, 9 NYCRR §7813.52(d) provides that all residential buildings other than one- or two-family dwellings must separately meter individual dwelling units to determine the energy consumed by each tenant.

With respect to compliance and enforcement section 11-107 of the State Energy Law stipulates that:

Administration and enforcement of the ...Code... shall be the responsibility of that governmental entity which is responsible for the administration and enforcement of the ... building construction code... Energy Law §11-107.

According to SEO, this responsibility was deliberately given to local government by the legislature as a part of the original statute that initiated the promulgation of the Energy Code (and) a building is considered to be in compliance if it has received a certificate of occupancy.

These enforcement provisions are parallel to the enforcement for buildings, fire prevention, and housing codes of other buildings in New York State. In practice, however, it appears that this code has not been adhered to in numerous instances. The reason for this lack of enforcement could be local interpretation, lack of information, or other reasons that have not been determined.

The penalty for non-compliance is provided for in the Energy Law §11-108. Under the local law, the applicable energy code enforcement officer would not issue a building permit or certificate of occupancy if the code has not been met. Subdivision one thereof provides that "...any owner, builder, architect, engineer, contractor, or subcontractor taking part or assisting in the construction or use of any building who shall knowingly violate any applicable provisions of the code or any lawful order of the governmental entity responsible for the administration and enforcement thereof shall be punishable by a fine of not more than five hundred dollars or by imprisonment of not more than thirty days in jail, or both." But, as has been observed in the field, permits are being issued at many sites in apparent conflict with the above Energy Code provision. Project Team members involved in the Consolidated Edison Residential Submetering Program conducted numerous site surveys of participating buildings. A significant percentage of these buildings underwent a major electric system upgrade and yet these buildings remained master-metered. The most significant building complex in New York State that brings this lack of enforcement issue to the forefront is Stuyvesant Town.

Metropolitan Life Insurance Company, the owners of this building complex, has proceeded with re-wiring, the scope of which appears to qualify it for application of the Energy Code. The implementation, however, is somewhat unique. Residents have been given the option of "opting in" or "opting out." All buildings will be electrically upgraded from the street to each apartment's circuit breaker panel. Residents who "opt in" will have the apartment branch circuits and electric receptacles upgraded to accommodate air conditioning units. These residents will receive a rent increase due to the MCI attributed to the electrical upgrade. Additionally, these residents will be charged an extra \$18 per month per air conditioner as a surcharge to offset the additional electrical consumption anticipated in the apartment due to the air conditioners. Those residents who "opt out" will not have their apartment branch circuits and electric receptacles upgraded. They will receive no rent increase due to the MCI nor will they be able to install large capacity air conditioners, as their apartments' existing wiring will be insufficient to support any significant air conditioning load.

More than 50% of the electrical system in each building has been upgraded, even though some of the branch circuits have not, yet Met Life has chosen not to individually meter. The State Energy Office was reportedly contacted by Met Life as to the code requirements on this matter. During project interviews, SEO has reported that cases such as this (main system re-wiring without necessarily branch re-wiring) would warrant individual unit metering, even if the project were spread over several years. SEO also indicated that they had not been asked for nor have they granted a waiver of the code requirements specifically for metering. Local building code inspectors have apparently approved this plan since it is proceeding.

Met Life initially discussed submetering with Consolidated Edison based on the existence of the \$100 per apartment incentive (the incentive was subsequently increased to \$200 per apartment), and also discussed the plans with ORA as the administrator of rent regulation for the complex. What is unfortunate is that should this conversion proceed as outlined, the largest and most visible residential rental property in New York State will not submeter despite the Energy Conservation Construction Code provisions that apply and require separate meters (without a waiver allowing submetering existing codes), the initial intent of the owner (in their discussions with Consolidated Edison), and despite the appropriateness of submetering for this particular application. As other builders and developers will examine Stuyvesant Town and utilize this model in their own decision making process, it is clear that this will have a major negative impact on electrical submetering.

In cases such as these, code enforcement officials should determine whether the proposed electrical upgrade constitutes a "major" upgrade requiring metering. Stuyvesant Town, while unique in its re-wiring plan, is typical of a number of the buildings surveyed as part of the Consolidated Edison program that had undergone electric upgrades subsequent to 1984. When the requirement became effective, apparently local inspectors may be either unaware of the Energy Code provision or may choose to not enforce it in many cases. It may be that, with the primary concern of these inspectors being safety issues, energy conservation issues are considered less important and the metering requirement may be considered burdensome in the context of the overall project.

#### Compliance With NYC Building Code Provisions

The NYC Building Code, under the jurisdiction of the New York City Department of Buildings, prohibits the placement of electric meters in clothes closets.<sup>42</sup> When the code provision was developed, electro-mechanical meters, which are enclosed in glass casings, were utilized in submetering retrofits. These casings could inadvertently be broken by the apartment resident (e.g., through contact with a broom handle) exposing internal electric connections. Given today's metering technology, however, this is no longer the case as qualified electronic meters are fully encased in metal

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<sup>42</sup> New York City Electrical Code

containers that protect the apartment resident from direct contact with internal electric connections. In a recent case, however, submetering was permitted in one building (Park Ten) in the Consolidated Edison Residential Submetering Program, contingent on the placement of the electronic meters inside clothes closets in each apartment in order to accommodate the desire of the residents to preserve aesthetics under a variance granted by the Bureau of Electrical Control (also known as the Advisory Board).

Thus, the Advisory Board will, on a case-by-case basis, review each individual building application to locate the meter inside the closet and a variance may well be often available, based on the Park Ten example. However, the process can be lengthy in time and contingent on the Advisory Board's agenda.

Another situation, however, illustrates an inappropriate application of the NYC Building Code. The submetering installation at High Meadow Cooperative was delayed for several months due to the local inspector's strict interpretation of a code requirement that precludes more than 20% of the volume of the gutter space (in the electric panel) being occupied.<sup>43</sup> This code requirement was developed to prevent overheating by current (amps) carrying circuits (in excess of 30 amps), but did not consider the use of control circuitry for present residential submetering systems, which carry very small currents (fractions of amps). To submeter the apartments, current transformers (CTs) were located in the electric panels such that approximately 25% of the volume was occupied. Despite the submission of documentation by the installing contractor and equipment manufacturer citing other precedents that permitted such installations, the local inspector adhered to his interpretation of the code, necessitating an expensive and lengthy modification to the installation process. Board members of any building considering submetering who contacted the Board of Directors at High Meadow during this delay would have likely received a report that would discourage further consideration.

*Conclusions (recommendation #):*

- Education of applicable code enforcement officers around the state is needed to clarify and prioritize the issues related to submetering. (F1-1) Specifically, DHCR, now responsible for the Energy Code, other government agencies, utilities, and public officials should contact building code enforcement agencies (local building departments, especially in New York City) to ensure that they are informed of and prioritize the provisions of the Energy Code specifically pertaining to the requirement for metering when there is an electrical upgrade.
- A review by the New York City Bureau of Electrical Control of existing electric codes is needed (F1-2). This review would determine whether and what amendments are warranted to account for submetering and the use of qualified state-of-the-art electronic meters. As a specific example, the issue of installation of utility-qualified

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<sup>43</sup> National Electrical Code Article 370-6 and 374.5 - Number of Conductors

electronic meters in clothes closets should be reviewed. In this and other cases, a code amendment could be adopted to facilitate submetering without the requirement of submission and approval on a case-by-case basis.

*Responsible Parties:* DHCR Bureau of Codes and Standards; New York City Bureau of Electrical Control, New York City Buildings Department.

#### **BARRIER F2: POLITICAL OPPOSITION TO SUBMETERING**

Rarely is a resident issue free of political implications. Advocacy groups have actively lobbied in New York for many years and have regularly enlisted the aid of elected officials in favor or in opposition to particular causes. Lobbying activities in Albany and New York City have led to numerous laws offering protections and benefits, particularly with regard to rent matters.

Although submetering is in reality a "rent" issue since it basically shifts the burden to pay for electrical consumption from the owner to the resident, necessitating a rent reduction, residents often perceive efforts to convert from master-metering to submetering as an erosion of their quality of life. As such, they mobilize themselves and their advocacy organizations. Elected officials may make every effort to remain aloof, but once the frantic calls start coming, it is very difficult to stay out of the fray.

Since the calls received by public officials are generally from activists (usually tenants) who oppose submetering, rather than supporters, these officials will feel obligated to satisfy their prospective voters, rather than support what is best for them. The presence of an elected official at a meeting or communication from one can be a strong deterrent to an owner who is seeking to minimize confrontations. It is little wonder that rental owners have assiduously avoided submetering buildings with active, organized tenant associations.

Until a level of comfort is reached whereby residents, owners, Boards, agents, housing agencies, and elected officials are fully informed about the merits of submetering, the conversion process, rent reduction formula, consumer protection regulations, and guarantees regarding favorable rates, politicians will continue to be wary of supporting such conversions and be vulnerable to pressure from opponents. Electricity abusers, disguised as "concerned residents" and other vocal opponents are typically not being balanced by advocates. Agency officials with a complete understanding of all aspects of submetering, including the positive, could balance the opponents. However, the agencies themselves have not formulated policy, nor sufficiently encouraged conversions, so elected officials cannot be expected to become advocates when their fellow government representatives from housing agencies who they rely on for information in this area are not sufficiently prepared.

*Conclusions (recommendation #):*

- Elected officials represent their constituents in all manner of issues and are duty-bound to support their interests. These officials are vocal in their support or opposition to matters that affect the rent or quality of life of residents in their district. To ensure that submetering receives their informed consideration and, hopefully, advocacy, it is essential that these political representatives be presented with educational materials that explain the economic advantages, the technological advances and the procedural steps involved in submetering conversions, as well as one-on-one lobbying by designees of the regulatory agencies. The availability of case studies and apartment usage comparisons demonstrating the savings accrued by the majority of residents after a conversion -- as well as the abuses in consumption by a minority, should go a long way toward converting the uninitiated. **The fairness issue is a compelling one and should be hard to ignore.** (D1-2)
- Since State and City agencies have generally not yet developed a consistent policy regarding submetering, politicians will not tend to actively advance the implementation of submetering because of the tendency for vocal opponents to enlist their support. Competing bureaus and divisions of state and city agencies must acknowledge the energy conservation and fairness aspects of submetering as an alternative to master-metering and support it through policy and actions. If it is a housing goal, it must also be an energy conservation goal and vice versa. (F2-1)
- A law extending the ban on master-metering to existing housing stock through phase-in of submetering in buildings over a five or ten year period may be the only way to ensure that master-metering is eliminated. (F2-2) As a contingency, NYSERDA, PSC, and DHCR should collaborate on draft legislation for submission to the state legislature. The bill could become the focus of an educational program with a legislative hearing as a forum for discussion. The provisions of the legislation would include:
  1. Phase-out of the bulk utility rate for buildings that do not submeter. This would simply add a condition to qualifying for the bulk rate for apartments that a metered method for charging individual apartments for actual consumption be in place.
  2. Guarantee that the bulk rate would be maintained for an extended period of time for those buildings that undergo conversion.
  3. Phase-out of the utility incentive (rebate) -- i.e.; conversions that are completed in the first two years would receive a **full rebate**, up to a maximum level more than the present \$200 per meter; those that are completed in the next two years would receive a somewhat decreased rebate; and so on, until the

rebate would no longer be available.

4. As a further inducement, a capital investment recoupment method could be introduced as part of this package, perhaps, through the provision of an MCI rent increase for a fixed recoupment period or through receipt of J-51 benefits, low interest loans (from agencies or utilities) or other financial incentives such as shared savings where the initial investment by a third party (agency, bank, utility) is recouped through "attaching" some of the savings generated by the submetering implementation.

This "carrot and stick" approach will accomplish what the voluntary approach may not.

- Clearly, if submetering conversion is legislated, the procedural obstacles (dispute resolution mechanisms, rent adjustment formulas, etc.) become a higher priority and would require expeditious resolution by the appropriate agencies. There would be a number of constraints associated with the effort to enact legislation to mandate submetering. As with any legislative action, it might be time-consuming, subject to opposition by any number of special-interest groups, including owners, NYCHA, and others who would feel "burdened" with potentially unfunded mandates and subject to other legislative priorities. For this reason, this option should be considered as neither a panacea for submetering, a reason not to proceed on other recommendations, nor a foregone conclusion, even given every effort to implement the mandate. Many of the other recommendations would ease the process, even with the mandate. In any event, foregoing efforts on any recommendation in the expectation of a mandate would not be advisable.

#### 4. RECOMMENDATIONS

This chapter identifies recommendations of the Project Team designed to overcome the barriers to submetering, and specifies the applicable regulatory agencies and other entities that the Project Team suggests should implement these recommendations. This chapter also prioritizes the recommendations and outlines an overall strategic plan and a strategic plan by responsible agency or organization.

The criteria for assigning priority was generally as follows:

- Long-term impact in terms of energy conservation (proportional to number of apartments)
- Viability of recommendations
- Timing of recommendations.

Before assigning priority, Project Team members and key NYSERDA representatives reviewed the catalog of recommendations, combining some that would be naturally implemented together and omitting those that essentially would be duplicated through implementation of others.

This prioritized list may require reevaluation at a later date when elimination of certain significant barriers may shift the importance of others that remain. See Chapter 3 for full barrier descriptions and additional detail.

Some of the recommendations have been reworded to address the specific role that the particular agency would take in the implementation of the recommendation. Chapter 3 should be referred to in determining the barriers that the recommendations are designed to address. Additional responsible parties and procedures to be followed, where applicable, are also included in this chapter.

Many of the recommendations require administrative action: i.e., develop guidelines and procedures for implementation of submetering. Some suggest amendatory language needed to clarify or revise existing definitions. Others are more sweeping in nature in that they focus on long range informational/educational programs, incentives, and measures to take place over the next decade. A few necessitate legislation that, if enacted, would eliminate the need for others -- and would compel conversion.

As a result of this study, a paramount goal has been achieved -- the merits of modern submetering technology have been brought to the attention of the relevant agencies and other entities. As a by-product of the submetering forums, the various participants began to appreciate perceived barriers to submetering from each other's point of view. Even the staunchest defenders of the status quo indicated a willingness to reappraise existing guidelines and procedures.

We can be reasonably confident that the recommendations that can be easily effectuated will be. Others will require zealous lobbying efforts. Mind sets will have to be modified. There will need to be considerable rethinking and retraining. This final report is only the commencement of the process to enlighten and educate agency heads, political leaders, owners and residents alike that energy conservation and fairness are the goals and submetering is a great way to realize them.

The full set of recommendations, with abbreviated descriptions, in prioritized segments, are listed below:

<u>Priority</u>	<u>Rank</u>	<u>Action (Recommendations Code)</u>
A	#1	Repeal PSC vote requirement, develop Notice & Comment (PSC) (C1-1,3)
	#2	Extend Consolidated Edison Rebate Program (PSC, Consolidated Edison) (A6-1)
	#3	Uniform dispute mechanism for housing agency, coop adoption (PSC, Housing Agencies) (C1-2)
	#4	Education of code enforcement officers to clarify and prioritize Energy Code (DHCR) (F1-1)
	#5	Ad-hoc Submetering Committee and Submetering Manual (D1-3,4)
	#9	State Legislature mandate to phase out master-metering (F2-2)
B	#6	Amend Energy Code to reflect State policy on submetering (DHCR) (C2-1)
	#7	Prepare and disseminate information package (NYSERDA) (D1-2)
	#8	Rate differential between submetered and non-submetered through bulk rate phase-out (PSC) (A6-2)
	#10	Management, agency tech staff education (D1-1)
C	#11	Raise incentives to cover full initial cost (PSC, Consolidated Edison) (A1-1)
	#12	Amend J-51 rules to designate submetering as conservation (HPD) (A4-1)
	#13	ORA regulations for rent decreases, Pass-on admin costs to tenants (A2-1,2)
	#14	State and City consistent policy on submetering (F2-1)
	#15	Allow MCI for submetering/rewiring or "conservation" MCI (ORA) (A3-1,2)
	#16	PSC should permit/encourage bulk rate contracts (PSC, Consolidated Edison) (A6-3)
D	#17	Educate PSC staff on issues through site visits (C1-6)
	#18	Use same dispute resolution for unsupervised (PSC) (C1-5)
	#19	Distinguish supervised, unsupervised housing in regs (PSC) (C1-4)
	#20	PSC dispute resolution, identify dispute resolution agency (B1-1,3)
	#21	Utilities all should address submetering as DSM (A1-2)
	#22	Define and clarify HEFPA specific to submetering (PSC) (B1-2)
	#23	NYCHA feasibility study, funding and HUD allowance (A5-1,2,3)
	#24	Adopt regulations for applications (B2-1)
	#25	NYC Bureau of Electrical Control review (F1-2)

Recommendation #9 - State Legislature mandate to phase out master-metering (F2-2), has been placed in the Priority A group, because components of it (e.g., phase-out of bulk rate) are already represented by other recommendations and can be implemented sooner, facilitating this key recommendation.

## OVERALL STRATEGIC PLAN

The ability to successfully implement the recommendations provided in this chapter, which are based on eliminating the barriers identified and analyzed in Chapter 3, is contingent on the efforts of the agencies and organizations responsible for their implementation. The overall strategic plan and those provided for each agency and organization being recommended will be designed to accomplish this by prioritizing the recommendations in a way that enable the responsible agencies to both efficiently and effectively carry out their initiatives. There are two key elements to promoting submetering of master-metered buildings: 1) educating the potential constituency as to its benefits; and 2) facilitating the process for submeterers to follow by eliminating unnecessary impediments.

NYSERDA and the PSC must take a leadership role in facilitating both key elements, for the following reasons:

- NYSERDA, as a sponsor of virtually all the initiatives on submetering since its re-initiation in 1979, has access to all the documents, studies, experts and other information related to submetering. This includes co-sponsoring the recent Consolidated Edison Residential Submetering Program. NYSERDA also commissioned the Demonstration of New Submetering Technologies project conducted from 1981 through 1986, which dealt with the technical aspects of submetering, including ascertaining whether the equipment on the market really performed as expected. In NYSERDA's archives are case studies pertaining to Scott Towers, a Mitchell Lama cooperative and Carlyle Towers, a Federal "213" cooperative that submetered under the auspices of NYSERDA in participation with Consolidated Edison. As such, they should immediately begin to assemble information packets for dissemination to any agency and organization that may require information on submetering in order to support their responsibilities or constituency.
- The Public Service Commission, with its mandate to protect the interests of the consumer and oversee the actions of the utilities, should act in that capacity to protect the consumer from any potential risks from the implementation of submetering, but also provide them with the means to be charged fairly for electricity. With the recommendations provided in this report, submetering should accomplish both objectives.

1) Education

The first stage of the education effort requires that information and materials be assembled for distribution to the heads of all federal, state, and city housing agencies and their technical and managerial staff. The second stage requires that these agencies disseminate the materials to owners, building managers, and tenant associations. In the third stage, the data must reach the hands of the renters and shareholders who are directly affected by submetering, as well as their political and legislative representatives who must be enlightened as to the progress made in the technical areas and

advised of the inherent unfairness of the present manner in which electricity costs are apportioned.

Educating these constituencies will require more than just the distribution of literature, however. It is crucial that regulatory agencies, both energy and housing, provide expert guidance and assistance to owners, managers, cooperative boards, etc. who can, in turn, educate their residents. As with other programs in the past, NYSERDA should consider conducting periodic seminars, workshops, or forums to bring the written materials to life. As witnessed in the two forums conducted as part of this project, an open, informed, and forthright discussion among the parties to submetering conversion, which includes housing agency and utility representation, is the best strategy to break down these real or perceived barriers.

The Project Team suggests that a "How To" manual be commissioned by NYSERDA to be distributed to master-metered buildings either directly or through agencies and organizations involved in submetering. The manual should have a question and answer format that reflects issues already experienced and anticipates the types of questions raised by potential submeterers and residents. In addition, a Building Data Sheet should be distributed to be completed by building owners or managers to determine if the building in question would be a good candidate for submetering. Consolidated Edison in its Residential Submetering project utilized such a screening process, examining data to determine whether a building might benefit from submetering. The form can include average apartment consumption and demand derived from prior studies, against which the building can compare its own data. Responses to questions regarding location of apartment breaker panels, whether meter pans are in place, and type of heating and air conditioning systems will aid all the concerned parties in making a preliminary assessment. As this educational program proceeds, simultaneously, key agencies must take the necessary steps to facilitate the submetering process and eliminate barriers within their control.

## 2) Removal of Barriers

Introduction - The Public Service Commission, which oversees the sellers of electricity (submeterers fall into this category) will be asked to remove a most vexing barrier: the majority voting requirement imposed on cooperatives who seek to submeter. In recognition of the reason for the PSC's instituting the voting requirement, the PSC will be asked to develop uniform notice and grievance procedures and a notice and comment requirement. This will serve the same purpose -- protecting the resident -- as the vote, but within a more standard procedural framework.

Recommendations are offered regarding amending state codes to acknowledge submetering as an effective energy conservation measure, and to ensure enforcement of codes, including the State Energy Conservation Construction Code, which promote submetering. Finally, there are a series of recommendations regarding recoupment of purchase, installation, and administrative costs that are designed to minimize the initial investment and enable the recoupment of that investment in a fair and equitable manner.

Assuming that sufficient voluntary conversions do not occur, the State Legislature should adopt a law phasing out master-metering in favor of individual metering, specifically naming submetering as a viable alternative, coupled with a guarantee that the bulk rate will be maintained. This recommendation is consistent with prior state mandates for new construction and appliance efficiency. It maintains the intent of and essentially extends the extent of the State Energy Conservation Construction Code, which banned master-metering in newly-constructed dwellings after 1979, to existing dwellings. To streamline the actual approval procedure, it is suggested that an Ad-hoc Submetering Committee, including the PSC, Consolidated Edison, NYSERDA, and other agency representatives, prepare a set of standardized documents, including engineering specifications, guidelines, and a certification process for qualifying meters and vendors.

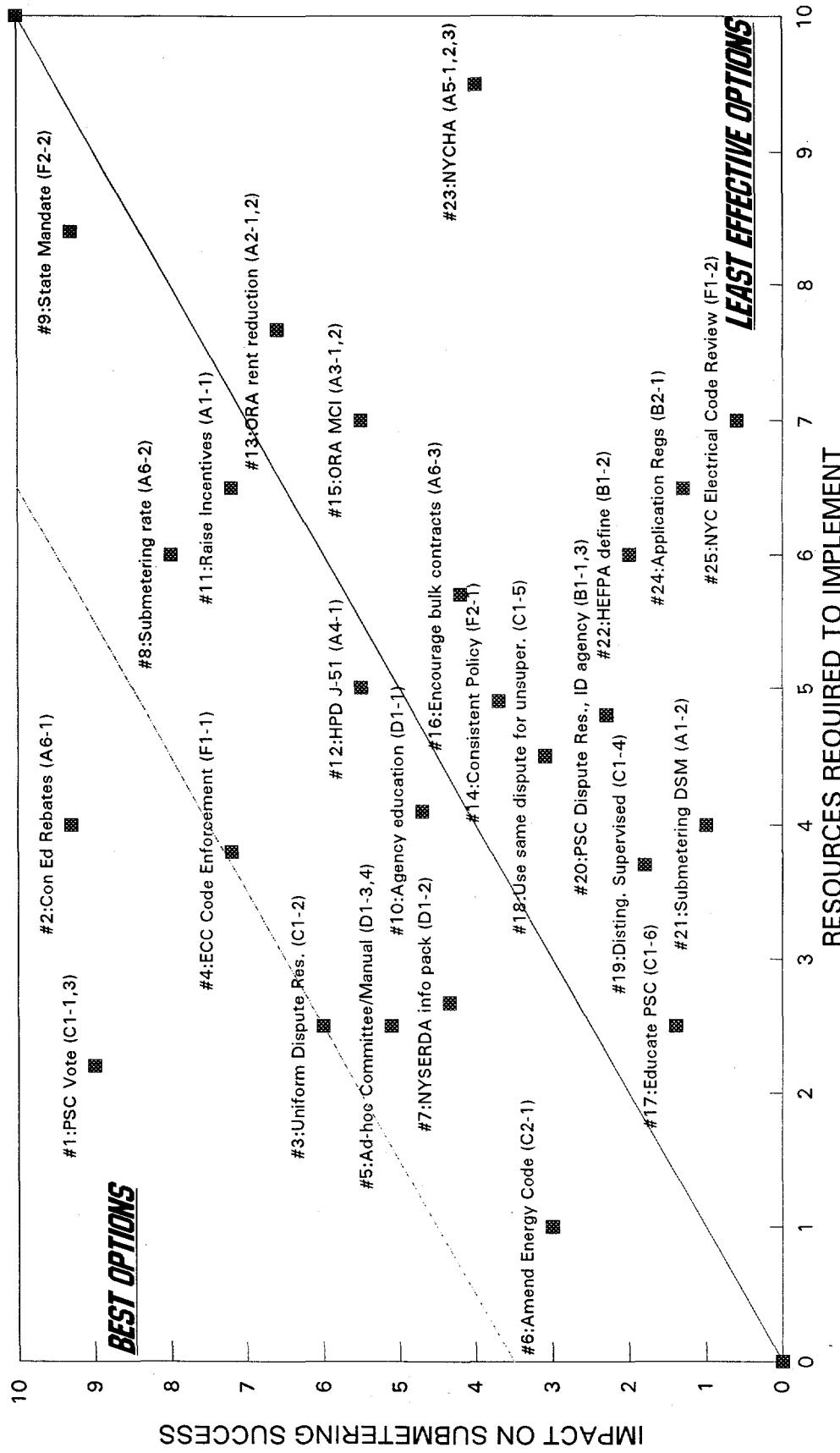
Once the potential submetering constituency learns: a) that it has the right to submeter; b) that procedures are in place to expedite the submetering installation process; c) that technology has improved dramatically since the "early" days of submetering; d) that two thirds of the residents will save money and abusers will be forced to pay their fair share; e) that rebates will remain available and other methods of cost recoupment are being examined; and f) that onerous and unnecessary impediments have been removed, and most importantly, that their supervisory agencies have become advocates of conversion, demand will naturally be created.

To begin the process, NYSERDA should make available to the regulatory agencies and housing organizations a copy of this report, as well as the data described above, and to urge the agency representatives to attend the final workshop to be conducted in conjunction with this project. Since there was a recent change of state and city administrations, newly appointed executives and staff members should be invited to participate in the workshop to bring them up to date. An additional package of information, many of the components of which are mentioned in this report (e.g. past case studies), would then be developed as one of the recommendations.

Recommendations - Figure 4-1 on the next page provides a visual representation of the results of the priority assessment, balancing impact of recommendation with degree of difficulty in terms of resources and time required. As indicated, those recommendations closest to the top left of the graph (high impact and low resources required) are the most highly recommended, while the ones on the lower right indicate the least recommended. Those on or above the upper (dotted) diagonal line are the highest priority (Group A), along with two other strategic recommendations (#5 - Ad-hoc Submetering Committee and #9 - State mandate). Those recommendations near or above the second (solid) diagonal line are considered the next highest priority (Groups B and C). Finally, the remainder (Group D, or #17 or higher) indicate lesser priority recommendations, although they are included because they may represent: 1) critical recommendations for a smaller group; or 2) potential critical recommendations if other barriers are removed.

**Figure 4-1**

**NYSERDA FACILITATING SUBMETERING IMPLEMENTATION PROJECT  
ASSESSMENT OF RECOMMENDATIONS**



Recommendations toward the upper left corner are the most cost-effective, in terms of the tradeoff between impact and resources required. Recommendations above the upper (dotted) line are the highest priority. Priority (#'s) and Recommendation Code (in parentheses) are indicated

Strategies and prioritized recommendations are provided for each of the agencies and organizations in the sections below. Critical recommendations are noted as to where they appear in Figure 4-1, in terms of their degree of resources required (Low: under 3, Medium: 4-8, High: above 8) and impact on submetering success (Low: under 3, Medium: 4-8, High: above 8).

## PUBLIC SERVICE COMMISSION

The Public Service Commission plays the most significant role in the campaign to eliminate the barriers to submetering. Of all the regulatory agencies, the PSC historically has controlled the destiny of submetering. Public Service Law §5<sup>44</sup> mandates that the PSC regulate the sale of electricity as well as the persons and entities operating the plants. Submeterers (including housing cooperatives, rental property owners, etc.) are embraced by this definition. In addition, one of the principal barriers defined in the evaluation of submetering barriers was found to be the PSC Vote requirement for Cooperatives (Barrier C1).

### *Recommendations Applicable to the PSC:*

#1 (C1-1) - Repeal the majority voting requirement that now requires that the prospective submeterer certify to the utility that a majority of the shareholders (defined as cooperative shareholders and condominium unit owners) voted in favor of the submetering proposal. The procedure for repealing this requirement is detailed in Article II of the New York State Administrative Procedures Act. (Low resource, high impact)

#1 (C1-3) - Develop a Notice and Opportunity to Comment procedure (with or without the shareholder/unit owner informational meeting component). This recommendation ostensibly replaces the voting requirement and serves the same purpose, but in a manner more in line with standard procedures. Procedure: Article II of the New York State Administrative Procedures Act. (Combined with C1-1 on Figure 4-1)

#2 (A6-1) - Approve continuation of the Consolidated Edison Residential Submetering Program so as to give it ample time to work after some barriers described in this report have been reduced or eliminated. Procedure: Each year, utilities are required to file with the PSC a plan for their Demand-side Management Programs. Consolidated Edison's filing should include a request to continue funding the Residential Submetering Program, which would require approval of the PSC before implementation. (Medium resource, high impact)

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<sup>44</sup> Public Service Law §5 defines the powers and duties of the PSC, which include the supervision of the manufacture, conveying, transportation, sale or distribution of gas (natural or manufactured or mix of both) and electricity for light, heat or power, of gas plants and electric plants and the persons or corporations owning, leasing or operating the same.

#5 (D1-3) - Create an Ad-hoc Submetering Committee, to include Consolidated Edison, NYSERDA, DHCR Code divisions, and also selectively incorporating DHCR Management and HPD representatives, as needed, to prepare a set of standardized specifications, guidelines, and a certification process (administered by Consolidated Edison) for qualifying meters (confirming what is already in place), installers, engineering consultants, etc. This would be distributed by NYSERDA as part of the standard information package it would assemble and disseminate as part of Recommendation #7 (D1-2). Adoption of a uniform set of procedures, including both the technical aspects of submetering and notice and grievance procedures (C1-2) should also be part of the Committee process (see Appendix D). This would be offered for adoption by the housing agencies and ultimately the housing companies for use in an expedited approval process to be developed by the Committee. The Ad-hoc Submetering Committee would also assess whether legislation would be effective and support lobbying efforts for changes in legislation as a way of promoting energy conservation and fairness to the majority of consumers currently residing in master-metered buildings without submetering. (Low resource, medium impact)

#5 (D1-4) - Participate, along with Consolidated Edison and NYSERDA, in the development of a Submetering Manual that would outline procedures for owners and managers of master-metered buildings to use when implementing submetering. The guidelines developed by the Ad-hoc Submetering Committee recommended in D1-3 would be included in the manual. (Low resource, medium impact)

#9 (F2-2) - Advocate that the State Legislature adopt a law requiring the phase-out of residential master-metering, specifically advocating submetering, over a five- or ten-year period. NYSERDA, DHCR and PSC should collaborate in the drafting of legislation. The provisions of this mandate would include:

1. Phase-out of the bulk rate for buildings that continue as master-metered, but do not implement submetering
2. Guarantee that the bulk rate for buildings in compliance would be maintained for an extended period of time
3. Phase-out of the utility incentive; i.e., initial increase from the present \$200, followed by a gradual decrease to create an incentive for earlier implementation.

See recommendation discussion for "Other Agencies/Organizations" for procedure discussion. (High resource, high impact)

#18 (C1-5) - In the non-supervised private sector cooperatives (and condominiums), require that the housing cooperatives adopt the same dispute resolution mechanism and Notice procedures, obtain an affidavit signed by the President of the Board attesting to the adoption and implementation of these procedures, and present these items to the utility company as part of the application package. A set of the housing cooperative's documents can be kept on file at the PSC offices for shareholder review. (Medium resource, medium/low impact)

#22 (B1-2) - Determine the extent of the applicability of the complaint procedures under the Home Energy Fair Practices Act (HEFPA) to submetering conversions. HEFPA's stringent requirements and elaborate procedures may be an additional deterrent to owners to convert. Uncertainty as to which of these requirements and procedures are applicable must be resolved. This recommendation can also be incorporated into the Ad-hoc Submetering Committee process (Recommendation D1-3). PSC policy and rule-making staff (Counsel and Consumer Services) will be required for review and incorporation of specific HEFPA items into regulations through the use of the New York State Administrative Procedure Act. (Medium resource, low impact on its own)

#8 (A6-2) - Encourage development and approve Consolidated Edison's establishment of a rate differential between submetered and non-submetered master-metered buildings by adding a requirement for metering to the bulk rate provision and phasing out the bulk rate if it is not met. Procedure: For Consolidated Edison's next rate filing, ensure that it includes a proposal to this effect. Additional procedural discussion is included in the Utility recommendations. (Medium resource, medium/high impact)

#11 (A1-1) - Direct Consolidated Edison to assess the feasibility of increasing DSM incentives offered through its Residential Submetering Program to cover the full initial cost of submetering implementation through a combination of rebates and shared savings. The direct outlay (rebates) would be capped at the installed equipment cost. The increased incentive cost could be partially offset by a reduction in the degree to which Consolidated Edison, through the Program, offers information and educational assistance and by recoupment of its outlay over time from the savings generated by the submetering implementation. Educational and informational materials would, instead, be provided by NYSERDA (Recommendation D1-2), as part of a standard package, with the assistance of Consolidated Edison and other interested parties involved in the PSC Ad-hoc Submetering Committee (see Recommendation D1-3). (Medium/high resource, medium/high impact)

#16 (A6-3) - Permit and encourage Consolidated Edison and other utilities with master-metered customers to contract with those buildings to guarantee a bulk rate for a period of time, such as ten years, sufficient to ensure that submetering investments will be recovered. This recommendation is incorporated into the recommendation to mandate elimination of master-metering (F2-2) above, but can be implemented prior to any legislative action.

Procedure: Consolidated Edison must receive approval from the PSC for any rate filings or special contract provisions. Special contracts do not require a general rate filing, so these can be initiated at any time. Additional procedural discussion is included in the Utility recommendations. (Medium resource, medium impact)

#17 (C1-6) - The PSC staff should visit a sampling of sites and observe Cooperative Board and Shareholder meetings in order to promote a better understanding of the process. The PSC sought, through the voting requirement, to address the protections it expected were necessary for the building residents. However, the PSC was not able to foresee the impact of its actions, which only served to arouse suspicions because it added an unusual element to the standard Cooperative approval process. (Medium resource, medium impact)

#14 (F2-1) - Support an information and education program targeted to political representatives, so as to ensure the informed support of these political representatives in the efforts to facilitate submetering implementation as an energy conservation goal. (Medium resource, medium impact)

#19 (C1-4) - In revamping existing regulations and formulating new ones, distinguish between governmental supervised housing, such as HPD's or DHCR's Mitchell-Lama stock, and buildings with similar type of oversight and unsupervised private sector housing. (medium resource, low impact)

#20 (B1-1) - Produce a uniform dispute resolution procedure that can be offered for both general use and to the housing agencies for adoption, such as the one included in Appendix D. Once the regulations are adopted, owners under any of the regulatory schemes could proceed with adoption of the procedure. A determination should be made as to whether the resident will be obligated to pay the disputed electricity charge prior to commencing the dispute process and the specific language required to produce a process that will not permit abuses on either side. This recommendation can be incorporated into the Ad-hoc Submetering Committee process (see Recommendation D1-3) as a specific deliverable. PSC policy and rule-making staff (Counsel and Consumer Services) will be required for preparation of the uniform dispute resolution procedure through the use of the New York State Administrative Procedure Act. (Medium resource, low impact)

#20 (B1-3) - Collaborate with the housing agencies to determine which agency would be responsible for handling disputes in rent-regulated but unsupervised buildings. (Medium resource, low impact)

*Strategic Plan for implementation of PSC recommendations:*

The PSC should pursue three specific aspects of recommendations addressing internal rule-making, utility regulation, and educational and procedural support of submetering advocacy.

- Internally, the PSC should draft changes in regulations, specifically to: 1) repeal the rule requiring a vote of shareholders in a cooperative; and 2) replace it with a requirement for notice and comment. Consolidating these changes as part of a single effort, supported by the results of this report, will be expected to streamline the normally cumbersome process of changing regulations. This should have an immediate effect on the cooperative market, based on the experience of the Consolidated Edison Residential Submetering Program. Many of these buildings, which cover approximately half of the 400,000 master-metered apartments in New York City alone, have resisted pursuing submetering out of fear of confrontations and opposition that would be focused on the voting process.
- In its role as regulator of utilities, the PSC must work to: 1) approve continuation of the Consolidated Edison Residential Submetering Program, specifically its critical initial financial incentive feature in some form (rebates, loans, shared savings) and direct Con Edison to assess and establish a higher initial reimbursement level, partly recoverable through shared savings; 2) establish a rate differential that provides incentive to submeter in master-metered buildings by phasing out the bulk rate where metering is not implemented; and 3) encourage long-term contracts between Consolidated Edison and owners of buildings (rental properties and coop/condo owners) to ensure continuation of the bulk rate once the building is submetered. These efforts will provide the financial incentive and alleviate the concerns expressed by many prospective submeterers about Con Edison's motives in promoting less use of electricity.
- In its role and educational and regulatory support, the PSC should help form an Ad-hoc Submetering Committee to prepare standards for submetering implementation, including a "How-to" manual, uniform dispute resolution, HEFPA component applicability, and assignment of oversight responsibility where housing supervision already exists.

## STATE ENERGY AGENCIES/ORGANIZATIONS

NYSERDA is the primary agency (along with ESEERCO, the Empire State Electric Energy Research Corporation) involved in energy research in New York State. DHCR has been assigned some of the policy functions of the former SEO, but NYSERDA remains the state's principal energy policy and research arm. The responsibility for preparation, compilation and dissemination of information and educational materials intended to clarify the issues involved in submetering, therefore, should fall under its jurisdiction. DHCR has replaced SEO as the responsible agency for formulation of building code policy, rules, and regulations relating to energy-related issues.

*Recommendations Applicable to State Energy Agencies/Organizations (NYSERDA, DHCR):*

### NYSERDA

#9 (F2-2) - NYSERDA, DHCR and PSC should collaborate on drafting state legislation requiring the phase-out of residential master-metering, specifically advocating submetering, over a five- or ten-year period. (High resource, high impact) The provisions of this mandate would include:

1. Phase-out of the bulk rate for buildings that fail to eliminate master-metering
2. Guarantee that the bulk rate for buildings in compliance would be maintained for an extended period of time
3. Phase-out of the utility incentive.

#5 (D1-3) - Participate in the creation of an Ad-hoc Submetering Committee, including PSC, Consolidated Edison, NYSERDA and DHCR Code division, to prepare a set of standardized specifications, guidelines, and a certification process, to be administered by Consolidated Edison, for qualifying meters (already in place), installers, engineering consultants, etc. that can be distributed by NYSERDA as part of the information it would assemble and disseminate. The committee would also develop a uniform set of procedures, including both the technical aspects of submetering and notice and grievance procedures that can be offered for adoption by the housing agencies and ultimately the housing companies. (Low resource, medium impact)

#5 (D1-4) - (NYSERDA) Along with the PSC and Consolidated Edison, develop a Submetering Manual that would outline procedures for owners and managers of master-metered buildings to use when implementing submetering. The guidelines developed by the Ad-hoc Submetering Committee would be included in the manual. The manual should cover at least the following aspects of submetering implementation:

1. Background and explanation of submetering, describing what it is, how it works, and a brief description of past demonstration projects (with a bibliography) to provide for a factual basis

and precedent. The format could include typical questions asked by owners, managers, Boards and residents, and corresponding answers.

2. Case Studies demonstrating and documenting savings, persistence of savings, and how submetering addresses the issue of fairness.
3. Procedures on how to perform preliminary assessment tasks, such as a feasibility study, savings estimate, and implementation cost estimate.

NYSERDA could utilize Consolidated Edison's lists of master-metered buildings, HPD's list Mitchell-Lama buildings, and DHCR's list of their supervised buildings to conduct mailings offering these manuals. The manuals could be supplemented by participation by a representative of NYSERDA at key seminars and workshops conducted by the Council of New York Cooperatives, Coordinating Council of New York Cooperatives, the Federation of New York Housing Cooperatives and the Builders, Owners and Managers Association. (Low resource, medium impact)

#7 (D1-2) - (NYSERDA) Prepare, compile, and disseminate a standard information package, including: 1) descriptive and historical background literature, building case studies, financial data, training materials, etc., designed to assist agency representatives in establishing training programs; 2) standard specifications, guidelines, certification process for acceptable meters (based on existing Consolidated Edison Program materials), and vendors (installers and engineering consultants); and 3) a uniform set of procedures, for technical and dispute resolution aspects of submetering. This standard information package would be enhanced by the work performed by the Ad-hoc Submetering Committee (Recommendation #5, D1-3) and the resulting Submetering Manual (#5, D1-4), which would outline the aforementioned procedures. (Low resource, medium impact)

#14 (F2-1) - (NYSERDA) Prepare, compile and disseminate information targeted to political representatives so as to ensure the informed support of these political representatives in the efforts to facilitate submetering implementation as an energy conservation goal. (Medium resource, medium impact)

#### DHCR Code Enforcement

#5 (D1-3) - Participate in the Ad-hoc Submetering Committee, along with PSC, Consolidated Edison, NYSERDA and DHCR Management, and HPD, as needed, to prepare a set of standardized specifications, guidelines, and a certification process, to be administered by Consolidated Edison, for qualifying meters (already in place), installers, engineering consultants, etc. that can be distributed by NYSERDA as part of the

information it would assemble and disseminate. The committee would also develop uniform procedures, including both the technical aspects of submetering and notice and grievance procedures that can be offered for adoption by the housing agencies and ultimately the housing companies. (Low resource, medium impact)

#7 (D1-2) - (DHCR) Compile and disseminate literature, including building case studies, financial data, training materials, etc., along with the NYSERDA standard information package, as well as establishing training programs. (Low resource, medium impact)

#4 (F1-1) - (DHCR) Educate, clarify, and prioritize the issues related to submetering for code enforcement officers around the state which may arise in the performance of their duties. (Medium resource, medium/high impact) Specifically:

1. Contact local building code enforcement agencies to ensure that each is informed of and understands the provisions and priority of the Energy Code specifically pertaining to the requirement for metering when there is an electrical upgrade.
2. Develop a program targeted at code enforcement agency commissioners, supervisors, and inspectors to promote the awareness and enforcement of applicable codes that promote conservation by metering individual dwelling units.

#6 (C2-1) - (DHCR) Amend the NYS Energy Conservation Construction Code to directly address the issue/technology of submetering. Section 7810.16(32) should define an ELECTRICAL METER as either "utility owned or a submeter qualified by the utility". The code can then require that a submetering installation be allowed only if the building meets PSC submetering regulations. DHCR Bureau of Codes and Standards will amend the code by the process defined under New York State Administrative Procedures Act. (Low resource, low/medium impact)

#14 (F2-1) - (DHCR) Using submetering information, including the NYSERDA standard information package, develop a consistent policy toward submetering. This will also ensure the informed support of staff and interested parties contacting DHCR Code officials in their efforts to facilitate submetering implementation as an energy conservation goal. (Medium resource, medium impact)

*Strategic Plan for implementation of State Agency/organization recommendations:*

NYSERDA's primary responsibility is to act as a conduit for information relating to submetering. Its role as an independent acknowledged expert with no competing agenda will provide the credibility that Consolidated Edison cannot provide because of its profit motive, and the technical understanding that the PSC cannot provide because of its different mandate. The availability of information from a source such as NYSERDA will eliminate the excuse often used to dissuade potential submeterers through uncertainty and, in some unfortunate cases, misinformation. The standard information package, cited as Recommendation #7 (D1-2) would serve this purpose and be a natural outgrowth of NYSERDA's participation in the Ad-hoc Submetering Committee and the Submetering Manual development (#5). A particularly key target are the politicians, who must have access to complete and credible information to properly counsel their constituents. The drafting and passage of legislation, while potentially a long and time-consuming process, may be the only way to ensure that master-metering is eliminated, and submetering used in its place as a cost-effective option.

DHCR, based on its new role as administrators of the State Energy Conservation Construction Code, must ensure that local building code officials enforce the code, specifically in relation to the requirement for metering when electrical upgrades are performed. This aspect of the recommendation alone will reduce the number of lost opportunities over time, as master-metered buildings, all built prior to the adoption of the code in 1979, pursue electrical upgrades. The wording of the code should also be aligned with the option for submetering since, in its present form, it causes uncertainty and additional unnecessary administrative effort in an already overburdened state bureaucracy.

## **STATE HOUSING AGENCIES**

The State Division of Housing and Community Renewal (DHCR) through its Office of Rent Administration (ORA) is the primary state housing supervisory agency involved in the submetering implementation process. DHCR is responsible for determining the legal regulated rents for residential housing accommodations throughout New York State if such housing accommodations are subject to the Emergency or Local Emergency Housing Rent Control Laws, the Emergency Tenant Protection Act, or the New York City Rent Stabilization Law. This includes many master-metered dwelling units.

*Recommendations Applicable to State Housing Agencies (DHCR/ORA):*

- #7 (D1-2) - The housing agencies should cooperate, provide feedback for, and disseminate to their memberships:
  - 1) the standard information package developed and provided by NYSERDA, including literature, building case studies, and financial data; 2) standard specifications and guidelines; 3) a certification process for acceptable meters, installers, and engineering consultants; and 4) a uniform set of procedures for technical and

dispute resolution aspects of submetering. (Low resource, medium impact)

#5 (D1-3) - Assist as needed, provide feedback for, and disseminate: 1) standards developed through the Ad-hoc Submetering Committee, including specifications, guidelines, and a certification process for acceptable meters, installers, and engineering consultants; and 2) a uniform set of grievance procedures, developed through the Ad-hoc Submetering Committee (such as those indicated in Appendix D) for technical and dispute resolution aspects of submetering. (Low resource, medium impact)

#14 (F2-1) - State and City agencies must develop a consistent policy regarding submetering, defining and supporting it as a significant goal to be accomplished. Coupled with Consolidated Edison's continuing incentives, methods of funding the installation or a recoupment process must be established to help cover purchase and installation costs. (Medium resource, medium impact)

#3 (C1-2) - Develop a specific uniform dispute resolution mechanism to be adopted by housing regulatory agencies and rental buildings. HPD has had a dispute resolution procedure in place since the mid-1980s. DHCR can adopt a procedure similar to HPD's. The housing stock supervised by the housing agencies is very similar, despite the fact that the buildings were constructed under State or City programs. (Low resource, medium/high impact)

#10 (D1-1) - Implement a comprehensive program to inform and educate housing agency management and technical staffs about the technological advances in the field, enabling them to ensure that regulations reflect technological advances. (Medium resource, medium impact)

#13 (A2-1) - (ORA) Adopt regulations specifically governing rent decreases for submetering installations. (High resource, medium/high impact)

#13 (A2-2) - Stipulate that reasonable and documented administrative costs should be approved for passage on to the rental tenants. (See previous recommendation)

#15 (A3-1) - (ORA) Reevaluate its finding that submetering is not eligible for MCI treatment or, at the very least, make submetering eligible if installed in connection with a rewiring of the building. Procedure: Rule-making procedure prescribed by the Administrative Procedure Act and legislative approval of new "energy conservation MCI." (Medium/high resource, medium impact)

#15 (A3-2) - (ORA) As an alternative, make electrical submetering eligible for a new type of MCI; i.e., an "energy conservation" MCI, that allows owners a vehicle to recover their investment, but not make it a permanent increase in rent. That is, rather than using the typical MCI formula whereby, for example, 1/84th of the total cost is passed on as a rent increase *ad infinitum*, it would only be charged over 84 months and then stopped, as in a J-51 tax abatement. (See previous recommendation)

#20 (B1-3) - Work with the PSC to determine who would be responsible for handling disputes in rent-regulated, but unsupervised buildings. (Medium resource, low impact)

#24 (B2-1) - Adopt regulations for the preparation and processing of submetering applications. Implementation may require the New York State Administrative Procedure Act rule making procedures. (Medium/high resource, low impact)

*Strategic Plan for implementation of State Housing Agency recommendations:*

The principal role that the State housing agencies (specifically DHCR/ORA) should pursue is to provide information to owners who are considering submetering, participate in the process of developing practice and procedures for submetering implementation and, most importantly, facilitate recoupment of owners' investment in submetering so that owners and residents can ultimately both share in the energy conservation savings potential of submetering. Specifically, DHCR must allow submetering to be eligible for MCI, either as a permanent or one-time recovery item. For the benefit of both owners and residents, uniform procedures must be established to implement submetering and handle disputes once implemented. Elimination of cumbersome processes and dissemination of information through the supervising agencies to the residents will also be key to eliminating barriers. The rental housing segment, in particular, is constrained in adopting submetering because of the many layers of procedures designed to protect consumers. Elimination of barriers in the rental sector through the recommendations made in this report will, thus, tend to be difficult to adopt, but could have a major impact on the submetering market, which has scarcely penetrated the rental market (approximately 200,000 apartments).

## **NEW YORK CITY HOUSING AGENCIES**

The New York City Department of Housing Preservation and Development (HPD) is the supervising agency of city-aided housing organized under Articles 2, 5, 8a and 11 of the Private Housing Finance Law (Sections 2(15) and 102(2)). As such, they supervise many master-metered dwelling units. The New York City Housing Authority (NYCHA) administers public housing owned by New York City and funded through the US Department of Housing and Urban Development (HUD).

*Recommendations Applicable to New York City Housing Agencies (HPD, NYCHA):*

HPD

#7 (D1-2) - Cooperate, provide feedback for, and disseminate to their memberships: 1) the standard information package developed and provided by NYSERDA, including literature, building case studies, and financial data; 2) standard specifications, guidelines, certification process for acceptable meters and installers and engineering consultants; and 3) a uniform set of procedures, for technical and dispute resolution aspects of submetering. (Low resource, medium impact)

#5 (D1-3) - Assist as needed, provide feedback for, and disseminate: 1) standards developed through the PSC Ad-hoc Submetering Committee, including specifications, guidelines, and a certification process for acceptable meters, installers, and engineering consultants; and 2) a uniform set of grievance procedures, developed through the Ad-hoc Submetering Committee (such as those indicated in Appendix D), for technical and dispute resolution aspects of submetering. (Low resource, medium impact)

#3 (C1-2) - Participate in the development of a uniform dispute resolution mechanism to be offered for adoption by the housing regulatory agencies and for housing cooperative adoption, as well. HPD has had a dispute resolution procedure in place since the mid-1980s for its Mitchell-Lama rentals and cooperatives. Most are operated by building managers. A uniform procedure could be easily embraced by all the entities. (See Appendix D for proposed procedures and the HPD procedure.) In the case of cooperatives, a methodology should be developed for establishing an appropriate reduction in carrying charges based on actual usage. (Low resource, medium/high impact)

#12 (A4-1) - (HPD) Amend J-51 regulations to designate submetering as an energy conservation improvement. (Medium resource, medium impact)

#14 (F2-1) - Develop a consistent policy regarding submetering, defining and supporting it as a significant goal to be accomplished. Coupled with Consolidated Edison incentives, funds should be made available to help cover the purchase of equipment and cost of installation. (medium resource, low/medium impact)

#10 (D1-1) - Implement a comprehensive program to inform and educate housing agency management and technical staffs about the technological advances in the field, enabling them to ensure that regulations reflect technological advances. (Medium resource, medium impact)

## NYCHA

#7 (D1-2) - Cooperate, provide feedback for, and disseminate to their memberships: 1) the standard information package developed and provided by NYSERDA, including literature, building case studies, and financial data; 2) standard specifications, guidelines, and a certification process for acceptable meters, installers, and engineering consultants; and 3) a uniform set of procedures, for technical and dispute resolution aspects of submetering. (Low resource, medium impact)

#23 (A5-1)- (NYCHA) Prepare a feasibility study to determine the potential annual savings from submetering. (High resource, low/medium impact on its own, as are the following other #23 recommendations)

#23 (A5-2) - (NYCHA) Seek federal funding for capital expenditures entailed in the conversion to submetering

#23 (A5-3) - (NYCHA) Work with HUD to establish a process to allow recoupment by NYCHA of the savings generated by the conversion to submetering to cover NYCHA administration costs and permit NYCHA to create an energy conservation fund.

### *Strategic Plan for implementation of City Housing Agency recommendations:*

The best role for HPD to play in the support of submetering is to reach out to master-metered building owners and residents to advise them of their eligibility for submetering, the agency's support of submetering, the technical advances in the field and successful installations. This can be facilitated through NYSERDA's standard information package, which will provide case studies and other key information. HPD can supplement this by providing individual apartment consumption comparisons, by distributing self-evaluation forms for owners and boards to begin determining whether submetering is cost-effective for their purposes, and by contacting professionals in the submetering field and conduct staff meetings with them to update the staff's knowledge of the current state-of-the-art.

In coordination with the Ad-hoc Submetering Committee, PSC, NYSERDA, and DHCR, HPD should assist in developing and adopt standardized specifications and criteria for meters, installation and testing requirements, as well as provide a list of qualified engineers, consultants, vendors that can be offered to owners, managers, and Boards.

HPD's various divisions should coordinate the effort to encourage submetering so as to provide consistent policy and practice. The J-51 unit should amend its regulations to permit submetering as an energy conservation measure. The Division of Housing Supervision should permit reserve moneys to be expended for submetering. A percentage of agency loan program proceeds should be targeting to assist owners and boards in the initial capital expenditure.

Certainly, HPD is well on its way toward a comprehensive approach to submetering. Only with the guidance and direction from those in positions of authority will the second stage begin.

NYCHA should undertake an assessment of submetering in terms of their housing complement's specific potential for savings and costs to implement. Should the efforts recommended to mandate elimination of master-metering succeed, NYCHA may be forced to implement submetering or individual metering without a proper understanding of the implications. The NYCHA housing stock may be the most problematic for submetering implementation due to the age, resident profile (generally low-income), and complexity of funding (from HUD). Existing rules require NYCHA to turn over all savings to HUD, the principal subsidy provider.

## **UTILITIES**

The electric utilities of New York State, particularly Consolidated Edison -- in whose service territory the vast majority of master-metered apartments are located -- have a major role in facilitating submetering implementation through the dissemination of information and provision of incentives, and also have a significant stake in the energy savings which result. These incentives for submetering can be funded from the reduction in costs associated with lower energy consumption and, especially, reduced capacity requirements that submetered buildings would achieve. The utilities' technical expertise is key to developing the financial, energy conservation, system performance, and economic factors needed to foster submetering implementation.

*Recommendations Applicable to Utilities:*

#2 (A6-1) - (Consolidated Edison) Seek the PSC's approval to maintain the Residential Submetering Program and rebates. Consolidated Edison must submit a plan for implementation of DSM programs, of which submetering is one, to the PSC every year for approval of both content and funding. Given support from the PSC, Consolidated Edison should continue the program until the recommendations from this report to facilitate submetering have had a fair chance to take effect. (Low/medium resource, high impact)

#5 (D1-3) - Assist, participate (particularly Consolidated Edison), cooperate, provide feedback for, and disseminate: 1) standards developed through the Ad-hoc Submetering Committee, including specifications, guidelines, and a certification process for acceptable meters, installers, and engineering consultants; and 2) a uniform set of grievance procedures, developed through the Ad-hoc Submetering Committee (such as those indicated in Appendix D) for technical and dispute resolution aspects of submetering. (Low resource, medium impact)

#5 (D1-4) - (Consolidated Edison) Participate, along with the PSC and NYSERDA, in the development of a Submetering Manual that would outline procedures for owners and managers of master-metered buildings to use when implementing submetering. The guidelines developed by the Ad-hoc Submetering Committee would be included in the manual. A manual similar to the one envisioned by this recommendation was considered for inclusion in the Residential Submetering Program during the early stages when there was significant contractor involvement, but never implemented. (Low resource, medium impact)

#8 (A6-2) - Seek PSC approval to require master-metered buildings to individually meter to qualify for the bulk rate in order to establish a rate differential between submetered and non-submetered master-metered buildings. For the establishment of a rate differential, the utility's (e.g., Consolidated Edison's) rate department would need to identify and create separate pricing structures for master-metered non-submetered vs. master-metered submetered buildings. Within a cost-of-service study, these classes would be analyzed separately, with costs associated to each identified and revenue requirements calculated separately. The rate designs and resulting rates themselves could be then structured the same, but the master-metered submetered "rate" would be expected to be significantly lower than the retail rate of alternative master-metered non-submetered rate due to lower demand and energy contributions (assuming the 18-26% from case studies of submetered building savings and equivalent per-customer costs). PSC approval of the rates would be required. (Medium resource, medium/high impact)

#7 (D1-2) - Participate (particularly Consolidated Edison) in the development of the standard information package to be developed and disseminated by NYSERDA, and directed at housing agencies, building owners/managers and Coop/Condo Boards. Consolidated Edison, owing to its involvement in virtually all the studies on submetering, has a wealth of information and analysis, including the results of the Residential Submetering Program, but is constrained in making effective use of the information by its own lack of credibility with the targets of the information -- their customers. (Low/medium resource, medium impact)

#11 (A1-1) - (Consolidated Edison) Increase DSM incentives to cover the full cost of submetering implementation through a combination of rebates and up-front funding that would be at least partially offset by recoupment of the additional investment by providing the utility with some of the savings dollars achieved through submetering implementation. The increased cost could also be partially offset by a reduction in the degree to which Consolidated Edison, through the Program, offers information and educational assistance. Educational and informational materials would, instead, be provided by NYSERDA (Recommendation D1-2), as part of a standard package, with the assistance of Consolidated Edison and other interested parties involved in the Ad-hoc Submetering Committee (see Recommendation D1-3). Cost-effectiveness at higher levels of rebates than are presently offered is clear from the analysis presented in Appendix B. (Medium/high resource,

medium/high impact)

#16 (A6-3) - Pursue long-term contracts with selected master-metered buildings implementing submetering to guarantee a bulk rate for a period of time, such as ten years, sufficient to ensure that submetering investments will be recovered. In the present era of increasing utility competition, specialized contracts to "lock in" key customers are becoming more common and are acknowledged as a standard practice by regulatory commissions, as never before. This option would be more appropriate for larger building complexes that would have the resources to consider purchasing power from outside the local utility, although any building that has a specific concern about the continuation of the bulk rate could be offered a contract. (Medium resource, medium/low impact)

#21 (A1-2) - Utilities without residential submetering as part of their DSM program mix should include at least an informational aspect, using the standard information package developed and provided by NYSERDA (Recommendation D1-2) and Consolidated Edison. (Medium resource, low impact)

#23 (A5-3) - (NYPA) Work with NYCHA to identify conservation opportunities for implementation by the energy conservation fund that would be established through HUD with the remaining dollar savings from the submetering energy savings. (High resource, low/medium impact)

*Strategic Plan for implementation of Utility recommendations:*

The utility's, specifically Consolidated Edison's, role in the submetering process is very substantial, since it is the energy conservation benefits of submetering to the utility that fund the rebates and that have been established as the key to the economic viability of submetering to the owners of master-metered buildings. Recommendations for Consolidated Edison's efforts are centered around three aspects:

- Maintaining and expanding an incentive program for submetering implementation -- This involves obtaining PSC approval for extending the existing rebate program, as well as obtaining approval to increase incentives (covering rebates, shared savings and loans) to cover the full initial implementation costs.
- Providing rate incentives reflecting the benefits of submetered master-metered customers over non-submetered master-metered customers through phase-out of the bulk rate for customers who do not submeter. Since this would likely require a rate filing -- a significant logistical effort -- it may not be immediately feasible but should be included in any rate adjustment or related filings at the next opportunity.

- Contributing expertise, experience, and information to NYSERDA's information dissemination efforts, the Ad-hoc Submetering Committee, and the development of a submetering manual.

Other utilities with master-metered customers should obtain and disseminate educational and informational materials to their customers as part of their standard package of services, particularly large customers who may receive special care and attention from customer service representatives.

## **FEDERAL HOUSING AGENCIES**

US Department of Housing and Urban Development (HUD) plays a role in many master-metered residential housing properties in New York state by providing federally insured loans, interest reduction payments, Section 8 subsidies, and other deep subsidies. Frequently, HUD shares supervisory responsibilities over this housing stock with state and city housing agencies.

*Recommendations Applicable to Federal Housing Agencies (HUD):*

#7 (D1-2) - Cooperate, provide feedback for, and disseminate to their memberships: 1) information package developed and disseminated by NYSERDA, including literature, building case studies, financial data, and training programs; 2) standard specifications, guidelines, certification process for acceptable meters, and installers and engineering consultants; and 3) a uniform set of procedures for technical and dispute resolution aspects of submetering. (Low resource, medium impact)

#14 (F2-1) - Develop a consistent policy regarding submetering, defining and supporting it as a significant goal to be accomplished. Coupled with Consolidated Edison incentives, funds should be made available to help cover the purchase of equipment and cost of installation. (Medium resource, medium impact)

#3 (C1-2) - Assist in developing and adopting a uniform dispute resolution mechanism for application to housing under HUD supervision. HPD has had a dispute resolution procedure in place since the mid-1980s. HUD can adopt a procedure similar to HPD's procedure. The housing stock supervised by the housing agencies is very similar, despite the fact that the buildings were constructed under Federal or City programs. (Low resource, medium/high impact)

#10 (D1-1) - Implement a comprehensive program to inform and educate housing agency management and technical staffs about the technological advances in the field, enabling them to ensure that regulations reflect technological advances. (Medium resource, medium impact)

#23 (A5-3) - Establish a process to allow recoupment by NYCHA of the savings generated by the conversion to submetering to cover NYCHA administration costs and permit NYCHA to create an energy conservation fund. (High resource, medium impact)

*Strategic Plan for implementation of Federal Housing Agency recommendations:*

It is imperative that the HUD New York area office, which controls the reserve accounts of and exercises direct oversight over many of these properties, provide financial and technical support and advocate submetering as an essential energy conservation measure. HUD must take the lead since, in many instances, it controls the purse strings.

## OTHER ORGANIZATIONS

New York State Legislature:

#9 (F2-2) - Adopt a law requiring the phase-in of submetering in master-metered buildings over a five or ten year period, with the assistance of NYSERDA, DHCR, and PSC in drafting the legislation (high resource, high impact). The provisions of this mandate would include:

1. Phase-out of the bulk rate for buildings that did not submeter
2. Guarantee that the bulk rate would be maintained for an extended period of time
3. Phase-out of the utility incentive (rebate); i.e., an initial increase from the present \$200, followed by a gradual decrease to create an incentive for earlier implementation.

*Strategic Plan for implementation:*

For buildings that have not submetered, there would be a phase-out of the favorable bulk rate by a flat percentage per year over 5 years until the buildings that did not submeter would be paying retail rates. With respect to the utility incentive, a building that is submetered in the first two years of the program would receive \$400 per apartment; in the second two year period, the rebate would decrease to \$300; then subsequent reductions of \$100 each year, resulting in its elimination after a total of six years. These incentive levels would continue to be subject to the regulation of the PSC, based on continued demonstration of cost-effectiveness, consistent with other utility DSM incentive programs and established practice.

New York City Bureau of Electrical Control:

#25 (F1-2) - Conduct a review of existing electric codes that apply during the installation of submetering systems to determine whether and what amendments are warranted to account for submetering and the use of qualified state of the art electronic meters. Code amendments should be adopted to facilitate submetering without the requirement of submission and approval on a case by case basis. (Medium resource, low impact)

*Strategic Plan for implementation:*

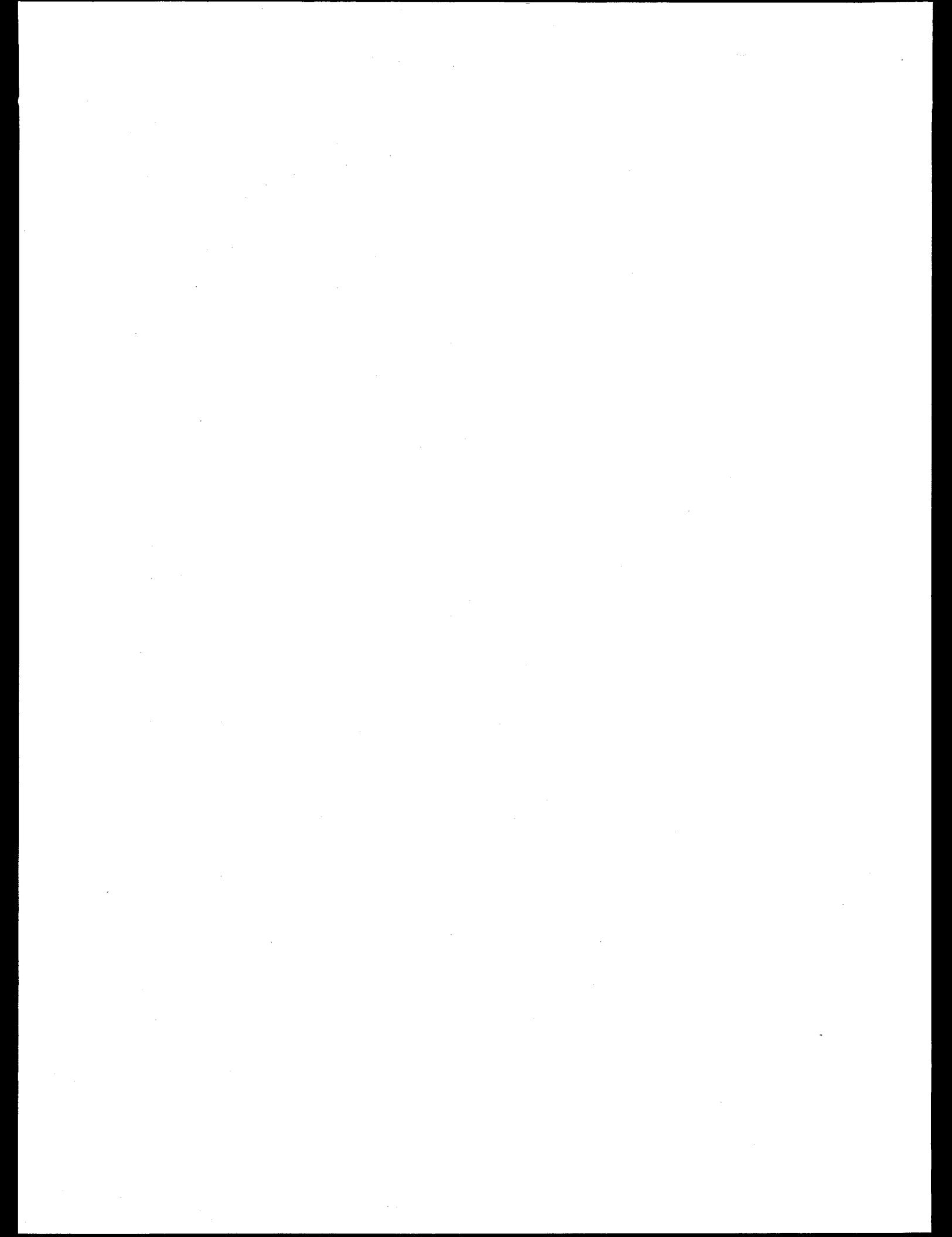
With the assistance of materials provided as part of this report and the standard information package developed by NYSERDA (Recommendation D1-2), the Bureau can assess the degree to which modifications to electrical codes are warranted. At the very least, a standard exception process related to submetering can be instituted.

New York City (and other Local) Building Departments:

#4 (F1-1) - Education of code enforcement officers to clarify and prioritize the issues related to submetering, in conjunction with DHCR, specifically the requirement for metering when there is an electrical upgrade. (Medium resource, medium/high impact)

*Strategic Plan for implementation:*

The results of experience with buildings and contacts with local building departments has shown that codes, especially those addressing the requirement for metering after an electrical upgrade, may not be enforced. With the assistance of materials provided as part of this report, the standard information package from NYSEDA (Recommendation D1-2), and DHCR's involvement in their capacity as the policy agency, the local building departments should obtain and disseminate information affecting codes relating to submetering.

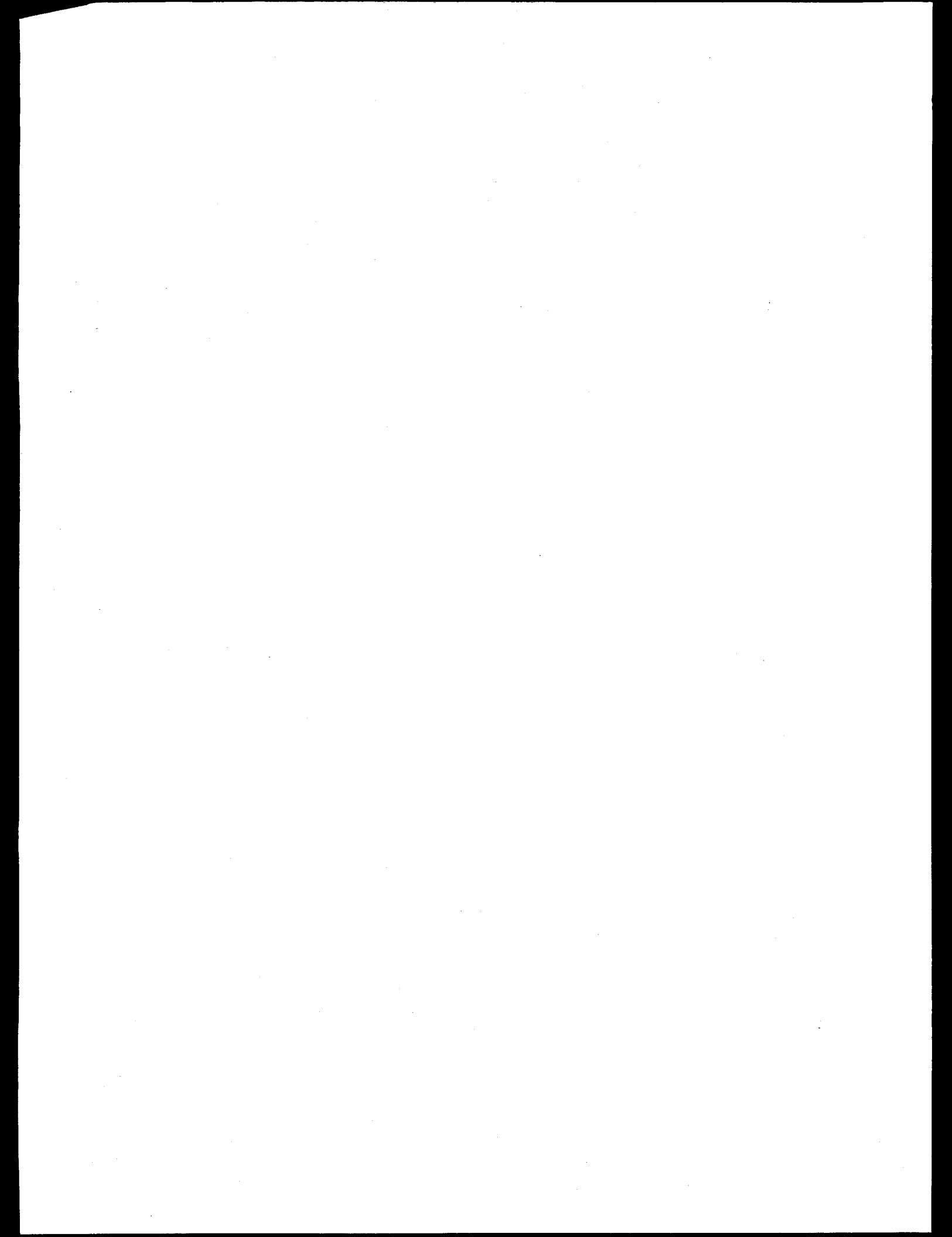


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## APPENDIX A - BACKGROUND OF RESIDENTIAL ELECTRICAL SUBMETERING

### INTRODUCTION

Submetering is the measurement and billing of electric use in individual apartment units in a master-metered building. Many residential multifamily apartment buildings were constructed with master metering in New York City and Westchester, Consolidated Edison's service area, prior to the early 1970's. The relatively low cost of electric energy, the lower bulk rate charged by Consolidated Edison to master-metered buildings, and the lower construction costs as compared with the installation of individual apartment meters, made master-metering attractive to building developers. Currently, there are approximately 400,000 dwelling units in approximately 1,800 master-metered buildings in the Con Edison service area.

Studies have indicated that residents in master-metered buildings tend to consume significantly more electricity than residents with individual apartment metering.<sup>1,2,3,4</sup> These studies have helped to establish electrical submetering as an effective energy conservation measure.

### Background of Submetering

The New York State Public Service Commission (PSC) banned submetering in 1951 because of abuses by landlords. At that time, the cost of electricity was relatively low and the submetering technology was limited to hard-wired metering options.

In 1979, the PSC reinstated electrical submetering, primarily because of its potential for energy conservation savings. In addition, master-metering was banned (by the energy conservation construction code) for all new construction in New York State. Thus, all new buildings must either have direct metering (individual apartment metering by the utility) or be submetered (individual apartment metering by the building).

NYSERDA, in cooperation with the New York State Division of Housing and Community Renewal (DHCR) initiated the "Demonstration of New Submetering Technologies" project in 1981 to evaluate both the technical

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<sup>1</sup> Alternative Metering Practices - Implications for Conservation in Multifamily Residences, US DOE Report HCP/M 1693-03, June 1979, Booz, Allen and Hamilton

<sup>2</sup> Electric Rate Design Study: Metering Topic 7, Electric Power Research Institute, 1977

<sup>3</sup> Energy Conservation Implications of Master Metering, Midwest Research Institute 1975

<sup>4</sup> Converting from Master to Individual to Electric Meters: A Case Study, Journal of Property Management, May/June 1978, Booz, Allen and Hamilton

and economic merits and establish standards for this new generation of submetering systems. The project showed: 1) significant energy savings potential (18-26%) due to submetering; 2) the viability of electronic metering and powerline carrier communications technology; and 3) established standards (American National Standard Institute Code for Electricity Metering ANSI C12.1-1982) that were adopted by DHCR<sup>5</sup> and, later, Consolidated Edison, in its Residential Submetering Program.

In 1979, Consolidated Edison initiated a research and development project that included the development of a solid state metering system (Intellimeter). The system was evaluated for NYSERDA by Consolidated Edison<sup>6</sup> and initially tested at several New York City apartment buildings between 1985 and 1987.<sup>7</sup> Consolidated Edison continued to evaluate the performance of the submetering equipment installed at both Scott Towers and Carlyle Towers as part of the 1987-1989 pilot program (Program G-9). NYSERDA co-funded part of the equipment development and system enhancements, which were subsequently tested in the Carlyle Towers installation. Consolidated Edison reported that "submetering can reduce an average apartment's contribution to the Company's system peak by 0.3 to 0.5 KW and that the (average) apartment's energy consumption fell by 10 to 18%."

In 1989, NYSERDA evaluated the long-term benefits of existing electrical submetering retrofits to demonstrate the persistence of the savings benefit of submetering. Annual savings in the apartment sector of these buildings averaged almost 20%.<sup>8</sup>

In 1990, the New York State Energy Office (SEO) initiated the Building Advanced Technologies Program (BATS)<sup>9</sup> to encourage the implementation of electrical submetering and other advanced building technologies, including energy management systems (EMS) and cogeneration.

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<sup>5</sup> Demonstration of New Submetering Technologies, NYSERDA Report 86-8, Hirschfeld and Stone Consulting Engineers, 1986

<sup>6</sup> Automatic Remote Integration Metering Center, NYSERDA Report 89-6, Consolidated Edison Company of New York, 1988

<sup>7</sup> Buildings in the 1979-1988 Con Edison Project included Park Ten (10 West 66th St., NYC), Scott Towers (3400 Paul Ave., Bronx, NY) and Carlyle Towers (138-10 Franklin Ave., Flushing, NY).

<sup>8</sup> Long Term Benefits of Electricity Submetering Retrofits, NYSERDA, July 1989, Steve Manwell and Joseph Rizzuto, P.E.

<sup>9</sup> The project was conducted by Hirschfeld and Stone Consulting Engineers between 1989 and 1992. Phase 2 of this Program was incorporated into Con Edison's Residential Submetering Program in 1991.

In 1991, Consolidated Edison Company of New York, Inc., with the co-sponsorship of both NYSERDA and the State Energy Office, instituted a Residential Submetering Program to promote and actively market electrical submetering. The primary objective of this program was to promote electrical submetering in the New York City area master-metered residential marketplace by providing financial incentives (rebates and Energy Investment Loans through SEO), technical services (site surveys and feasibility studies), and educational materials (case studies and articles) designed to facilitate submetering implementations. Consolidated Edison retained a team of consultants to provide services in order to assist the company in achieving its objective.<sup>10</sup>

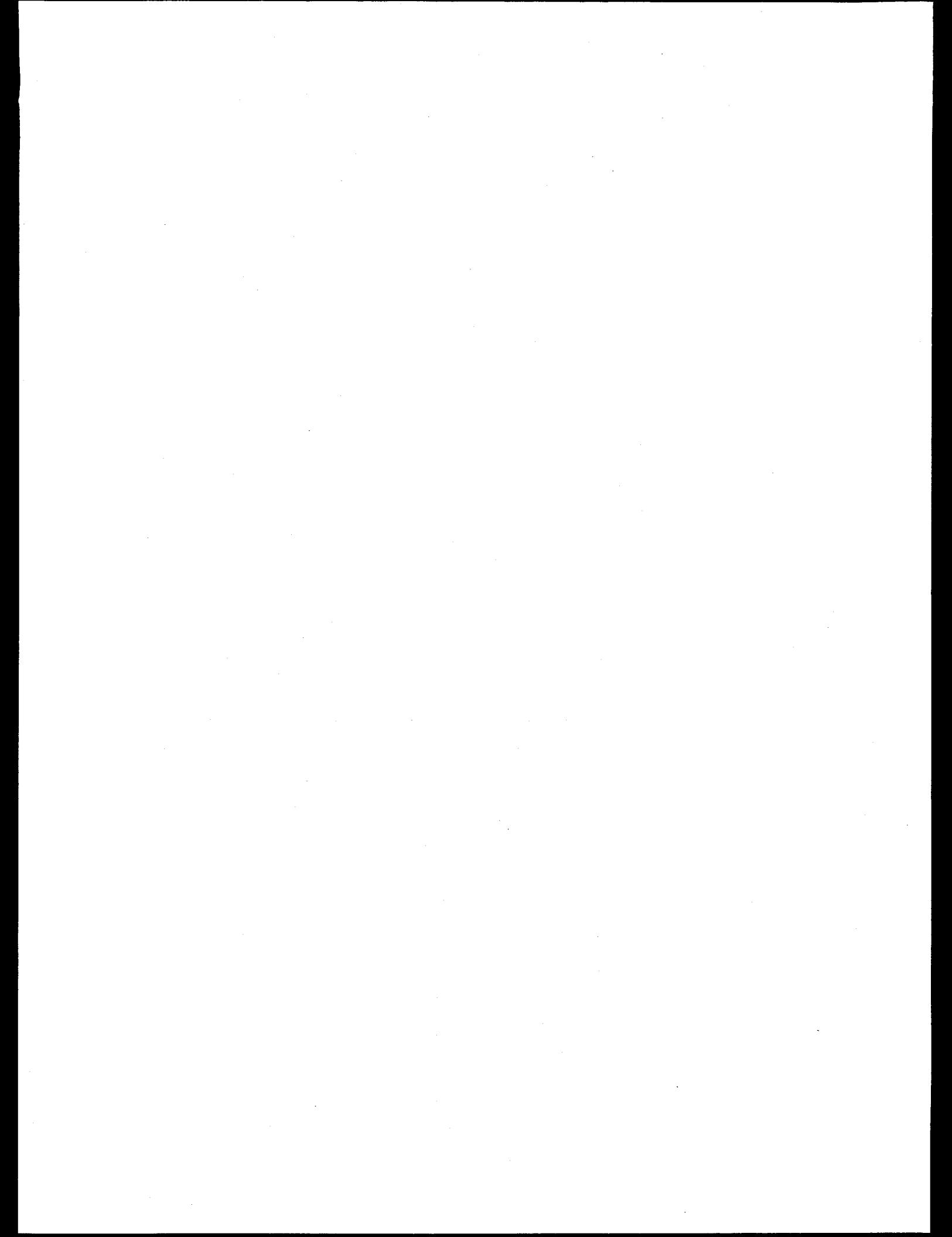
The specific tasks performed for the Residential Submetering Program included:

- Performing site surveys of prospective candidate master-metered buildings and preparing feasibility studies
- Assisting building owners/management by attending board meetings and shareholder meetings to provide clarification of submetering issues
- Participating in the actual marketing of submetering through mailings, telephone followups and provision of information, as requested
- Assisting buildings in the preparation and review of bids and monitoring the installations of the submetering systems
- Identifying and suggesting solutions for economic, institutional, and subjective barriers
- Providing other technical assistance to Con Edison management and staff to support their marketing efforts.

The initial goal of this program was to submeter 5,000 apartments. The project is currently in its final stages, with Phase 1 report issued in August 1994 and a Phase 2 report evaluating savings achieved issued early in 1996.

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<sup>10</sup> The Team of consultants consists of XENERGY, Inc., Applied Energy Group, Inc. and Herbert E. Hirschfeld, P.E.



## APPENDIX B - FINANCIAL ANALYSIS

### LIFE CYCLE COSTING

Submetering costs and other applicable financial parameters were compiled in order to conduct economic analyses. Life cycle costing (LCC) models used these values to evaluate the economic efficiencies of employing submetering in buildings. These analyses calculated a net present value (NPV) cost of owning and operating submetering systems over the course of a 20-year life (though the equipment is expected to be operational for 10 years). These results can be used to more realistically evaluate the investment in submetering.

The LCC analyses were undertaken by applying ENVEST (a standard energy investment financial analysis software package). To develop true life cycle costs it was necessary to configure the program with certain basic economic and non-case-specific parameters in addition to the installed equipment costs, energy savings and operating costs. These parameters included equipment depreciation schedules, initial electric cost, electric cost escalation, tax rates, discount rate, and financing options. These values were kept constant for all cases.

Submetering equipment in multi-family buildings fall into the Internal Revenue Service's MACRS (modified accelerated cost recovery system) depreciation classification of Residential Rental Property. This schedule allows for the equipment to be depreciated over 27.5 years using the straight line method. Discussion with building owners/managers, their accountants, and other financial professionals resulted in the selection of a 50% tax rate (as typical for most sole owners, partnerships, and subchapter S corporations); and a discount rate of 6.5%, chosen as the 20 year midpoint between 10- and 30-year treasury notes which are currently at approximately 6.2% and 6.8%, respectively. A base price of \$0.1261 per kWh was selected based on an average cost of electricity for most typical master-metered buildings. Electric cost escalations projections were taken from the US DOE's 1994 forecasts<sup>1</sup> for price changes in this end use sector over the next 20 years. The resultant annual growth rate applied in the models are: 0.13% beginning in 1995, 0.79% from 2000, and 1.78% from 2005 thru the end of the model. Where the financing option has been applied, buildings were assumed to take advantage of the SEO's Energy Investment Loan Program (EILP). This program currently writes loans down to 2.5% for a period of 5 years.

As neither J-51 or MCI currently recognizes, or allows for, submetering these potentially advantageous financial incentives/impacts have not been accounted for in the results presented here.

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<sup>1</sup> Reference Case. Part II, Table 12 - Energy Prices by End Use and Source, Middle Atlantic Census Division. Supplement to the Annual Energy Outlook 1994, DOE/EIA 0383(94), March 1994.

Examining the results of the LCC analyses it becomes apparent that submetering is a wise investment. In the example illustrated below we have looked at a 669-unit apartment building. Since the examination is of the economics of the technology, the example can be used to represent either a coop or a rental. For the purpose of these models an installed equipment cost of \$400 per apartment and a \$200 per apartment rebate has been used. Additionally, an administrative fee of \$2.75 per apartment per month (escalating at a rate of 1% per year) is included. The electric savings projected for this site was 25%, of the apartment area consumption, as has been typically experienced in many submetered buildings.

Two scenarios are depicted. The first assumes that the submetering is financed from building cash reserves (as is commonly kept by supervised housing). The second example assumes that the building management takes out a bank loan in conjunction with SEO's Energy Investment Loan Program (EILP) to cover their, non-rebate, portion of the cost. Table B-1 shows submetering to be a very cost-effective investment. Even without EILP financing an initial investment of \$133,800 rewards the management with an Internal Rate of Return of 28%, and a project with a net present value of \$305,069. The third measure, Cost of Conserved Energy (CCE), can be compared to the cost of purchasing an additional Kwh of electricity. In this case the current cost of electricity to the building is over 12 cents/kWh, investing in this submetering system is equivalent to purchasing the saved energy at 3 cents/kWh. All indicators reveal that this is a worthwhile conservation and building upgrade measure.

Tables B-2 and B-3 break down the yearly cash flows for each scenario.

Table B-1

	<u>No Financing</u>	<u>EILP Financing</u>
Internal Rate of Return (IRR)	28.08 %	n/a
Net Present Value (NPV)	\$305,069	\$324,230
Cost of Conserved Energy (CCE)	\$0.03 per KWH of Electricity (vs. Con Edison, SC-8)	\$0.02

Table B-2 - No EILP Financing.

	START-UP	Year 1 1994	Year 2 1995	Year 3 1996	Year 4 1997
INVESTMENT OUTLAYS					
Submetering (@ \$400)	267600				
Rebate (\$200/apt.)	-133800				
DEPRECIATION					
Submetering (@ \$400)		9634	9634	9634	9901
ENERGY USE (ENERGY UNITS)					
KWH-ELEC. (Con-Ed, SC-8)		-693894	-693894	-693894	-693894
ENERGY USE (DOLLARS)					
ELEC. (Con-Ed, SC-8)		-87500	-87614	-87728	-87842
OTHER COSTS (BENEFITS)					
Admin. (\$2.75/du/m)		22077	22298	22521	22746
INCOME BEFORE TAXES		55789	55682	55573	55195
INCOME TAXES (50%)		27895	27841	27787	27597
INCOME AFTER TAXES		27895	27841	27787	27597
CASH FLOW BEFORE TAXES	-133800	65423	65316	65207	65096
CASH FLOW AFTER TAXES	-133800	37528	37475	37420	37498
CUMULATIVE CASH FLOW AFTER TAXES	-133800	-96272	-58797	-21377	16122
	Year 5 1998	Year 6 1999	Year 7 2000	Year 8 2001	Year 9 2002
INVESTMENT OUTLAYS					
Submetering (@ \$400)					
Rebate (\$200/apt.)					
DEPRECIATION					
Submetering (@ \$400)	9634	9634	9901	9634	9634
ENERGY USE (ENERGY UNITS)					
KWH-ELEC. (Con-Ed, SC-8)	-693894	-693894	-693894	-693894	-693894
ENERGY USE (DOLLARS)					
ELEC. (Con-Ed, SC-8)	-87956	-88070	-88766	-89467	-90174
OTHER COSTS (BENEFITS)					
Admin. (\$2.75/du/m)	22973	23203	23435	23670	23906
INCOME BEFORE TAXES	55349	55234	55430	56164	56634
INCOME TAXES (50%)	27674	27617	27715	28082	28317
INCOME AFTER TAXES	27674	27617	27715	28082	28317
CASH FLOW BEFORE TAXES	64983	64867	65331	65798	66268
CASH FLOW AFTER TAXES	37308	37250	37616	37716	37951
CUMULATIVE CASH FLOW AFTER TAXES	53430	90680	128296	166012	203963

**TABLE B-2 - NO EILP (Continued)**

	Year 10 2003	Year 11 2004	Year 12 2005	Year 13 2006	Year 14 2007
INVESTMENT OUTLAYS					
Submetering (@ \$400)					
Rebate (\$200/apt.)					
DEPRECIATION					
Submetering (@ \$400)	9901	9634	9634	9634	9901
ENERGY USE (ENERGY UNITS)					
KWH-ELEC.(Con-Ed, SC-8)	-693894	-693894	-693894	-693894	-693894
ENERGY USE (DOLLARS)					
ELEC. (Con-Ed, SC-8)	-90886	-91604	-93235	-94895	-96584
OTHER COSTS (BENEFITS)					
Admin. (\$2.75/du/m)	24145	24387	24631	24877	25126
INCOME BEFORE TAXES	56840	57584	58971	60384	61557
INCOME TAXES (50%)	28420	28792	29485	30192	30778
INCOME AFTER TAXES	28420	28792	29485	30192	30778
CASH FLOW BEFORE TAXES	66741	67218	68604	70018	71458
CASH FLOW AFTER TAXES	38321	38426	39119	39826	40680
CUMULATIVE CASH FLOW					
AFTER TAXES	242284	280710	319829	359654	400334
	Year 15 2008	Year 16 2009	Year 17 2010	Year 18 2011	Year 19 2012
INVESTMENT OUTLAYS					
Submetering (@ \$400)					
Rebate (\$200/apt.)					
DEPRECIATION					
Submetering (@ \$400)	9634	9634	9634	9901	9634
ENERGY USE (ENERGY UNITS)					
KWH-ELEC.(Con-Ed, SC-8)	-693894	-693894	-693894	-693894	-693894
ENERGY USE (DOLLARS)					
ELEC. (Con-Ed, SC-8)	-98303	-100053	-101834	-103646	-105491
OTHER COSTS (BENEFITS)					
Admin. (\$2.75/du/m)	25377	25631	25887	26146	26407
INCOME BEFORE TAXES	63292	64788	66313	67599	69450
INCOME TAXES (50%)	31646	32394	33157	33800	34725
INCOME AFTER TAXES	31646	32394	33157	33800	34725
CASH FLOW BEFORE TAXES	72926	74422	75947	77500	79084
CASH FLOW AFTER TAXES	41280	42028	42790	43701	44359
CUMULATIVE CASH FLOW					
AFTER TAXES	441614	483641	526431	570132	614491

TABLE B-2 - NO EILP (Continued)

Year 20 2013	
INVESTMENT OUTLAYS	
Submetering (@ \$400)	
Rebate (\$200/apt.)	
DEPRECIATION	
Submetering (@ \$400)	82956
ENERGY USE (ENERGY UNITS)	
KWH-ELEC. (Con-Ed, SC-8)	-693894
ENERGY USE (DOLLARS)	
ELEC. (Con-Ed, SC-8)	-107369
OTHER COSTS (BENEFITS)	
Admin. (\$2.75/du/m)	26671
INCOME BEFORE TAXES	-2259
INCOME TAXES (50%)	-1129
INCOME AFTER TAXES	-1129
CASH FLOW BEFORE TAXES	80697
CASH FLOW AFTER TAXES	81827
CUMULATIVE CASH FLOW AFTER TAXES	696318

Table B-3 - With EILP Financing.

	START-UP	Year 1 1994	Year 2 1995	Year 3 1996	Year 4 1997
INVESTMENT OUTLAYS					
Submetering (@ \$400)	267600				
Rebate (\$200/apt.)	-133800				
DEPRECIATION					
Submetering (@ \$400)		9634	9634	9634	9901
DEBT/LEASE PRINCIPAL					
Loan	-133800	25441	26084	26744	27420
ENERGY USE (ENERGY UNITS)					
KWH-ELEC. (Con-Ed, SC-8)		-693894	-693894	-693894	-693894
ENERGY USE (DOLLARS)					
ELEC. (Con-Ed, SC-8)		-87500	-87614	-87728	-87842
OTHER COSTS (BENEFITS)					
Admin. (\$2.75/du/m)		22077	22298	22521	22746
INTEREST PAYMENTS					
Loan		3055	2411	1752	1076
INCOME BEFORE TAXES		52735	53271	53822	54119
INCOME TAXES (50%)		26367	26635	26911	27060
INCOME AFTER TAXES		26367	26635	26911	27060
CASH FLOW BEFORE TAXES	0	36927	36820	36711	36600
CASH FLOW AFTER TAXES	0	10560	10185	9801	9541
CUMULATIVE CASH FLOW AFTER TAXES	0	10560	20745	30546	40086

	Year 5 1998	Year 6 1999	Year 7 2000	Year 8 2001	Year 9 2002
INVESTMENT OUTLAYS					
Submetering (@ \$400)					
Rebate (\$200/apt.)					
DEPRECIATION					
Submetering (@ \$400)	9634	9634	9901	9634	9634
DEBT/LEASE PRINCIPAL	Loan	28113			
ENERGY USE (ENERGY UNITS)					
KWH-ELEC. (Con Ed, SC-8)	-693894	-693894	-693894	-693894	-693894
ENERGY USE (DOLLARS)					
ELEC. (Con-Ed, SC-8)	-87956	-88070	-88766	-89467	-90174
OTHER COSTS (BENEFITS)					
Admin. (\$2.75/du/m)	22973	23203	23435	23670	23906
INTEREST PAYMENTS					
Loan	382				
INCOME BEFORE TAXES	54967	55234	55430	56164	56634
INCOME TAXES (50%)	27483	27617	27715	28082	28317
INCOME AFTER TAXES	27483	27617	27715	28082	28317
CASH FLOW BEFORE TAXES	36487	64867	65331	65798	66268
CASH FLOW AFTER TAXES	9004	37250	37616	37716	37951
CUMULATIVE CASH FLOW AFTER TAXES	49090	86340	123956	161672	199623

**TABLE B-3 - With EILP (Continued)**

	Year 10 2003	Year 11 2004	Year 12 2005	Year 13 2006	Year 14 2007
INVESTMENT OUTLAYS					
Submetering (@ \$400)					
Rebate (\$200/apt.)					
DEPRECIATION					
Submetering (@ \$400)	9901	9634	9634	9634	9901
DEBT/LEASE PRINCIPAL					
Loan					
ENERGY USE (ENERGY UNITS)					
KWH-ELEC. (Con Ed. SC-8)	-693894	-693894	-693894	-693894	-693894
ENERGY USE (DOLLARS)					
ELEC. (Con-Ed. SC-8)	-90886	-91604	-93235	-94895	-96584
OTHER COSTS (BENEFITS)					
Admin. (\$2.75/du/m)	24145	24387	24631	24877	25126
INTEREST PAYMENTS					
Loan					
INCOME BEFORE TAXES	56840	57584	58971	60384	61557
INCOME TAXES (50%)	28420	28792	29485	30192	30778
INCOME AFTER TAXES	28420	28792	29485	30192	30778
CASH FLOW BEFORE TAXES	66741	67218	68604	70018	71458
CASH FLOW AFTER TAXES	38321	38426	39119	39826	40680
CUMULATIVE CASH FLOW AFTER TAXES	237944	276369	315488	355314	395994
	Year 15 2008	Year 16 2009	Year 17 2010	Year 18 2011	Year 19 2012
INVESTMENT OUTLAYS					
Submetering (@ \$400)					
Rebate (\$200/apt.)					
DEPRECIATION					
Submetering (@ \$400)	9634	9634	9634	9901	9634
DEBT/LEASE PRINCIPAL					
Loan					
ENERGY USE (ENERGY UNITS)					
KWH-ELEC. (Con-Ed. SC-8)	-693894	-693894	-693894	-693894	-693894
ENERGY USE (DOLLARS)					
ELEC. (Con-Ed. SC-8)	-98303	-100053	-101834	-103646	-105491
OTHER COSTS (BENEFITS)					
Admin. (\$2.75/du/m)	25377	25631	25887	26146	26407
INTEREST PAYMENTS					
Loan					
INCOME BEFORE TAXES	63292	64788	66313	67599	69450
INCOME TAXES (50%)	31646	32394	33157	33800	34725
INCOME AFTER TAXES	31646	32394	33157	33800	34725
CASH FLOW BEFORE TAXES	72926	74422	75947	77500	79084
CASH FLOW AFTER TAXES	41280	42028	42790	43701	44359
CUMULATIVE CASH FLOW AFTER TAXES	437273	479301	522091	565792	610151

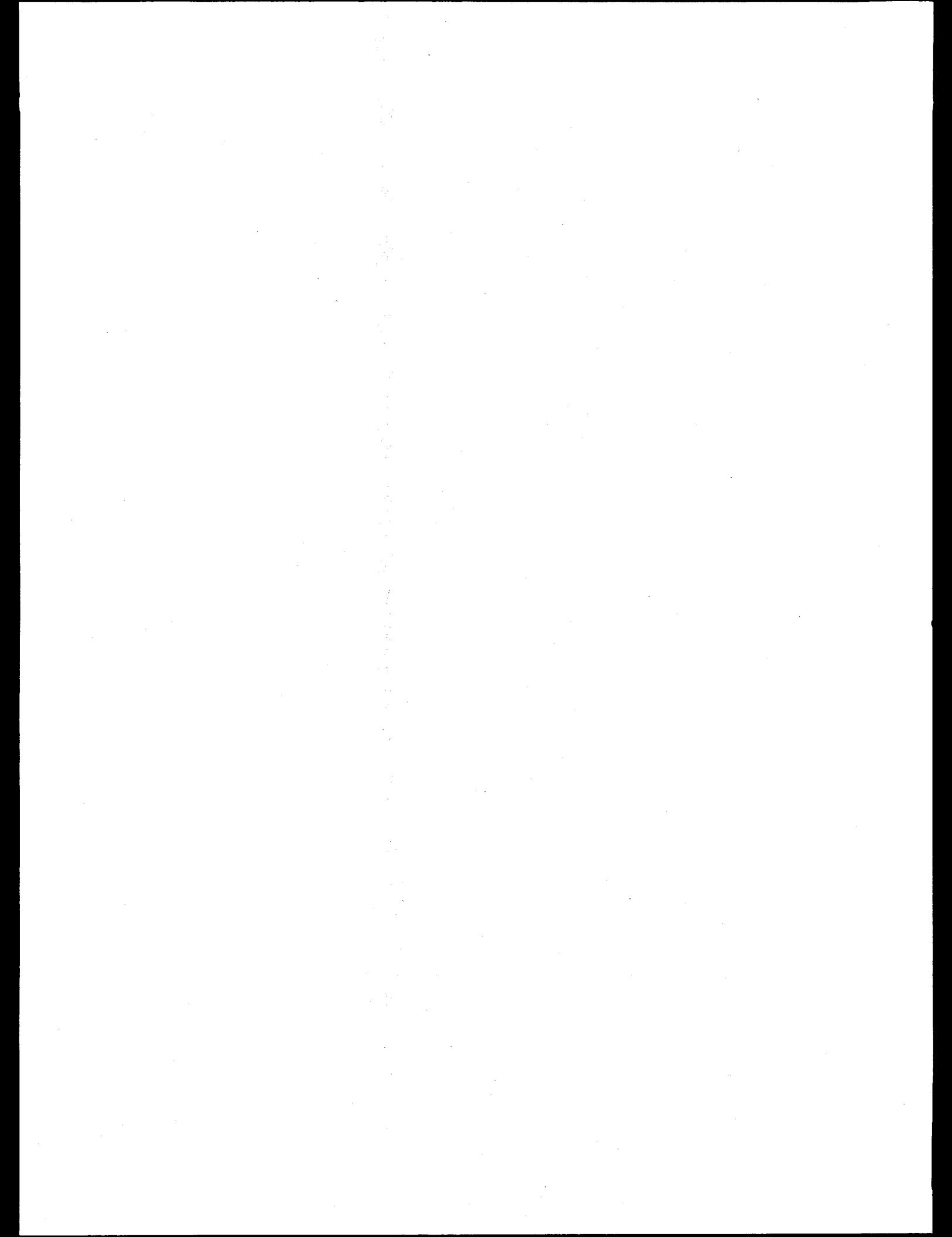
TABLE B-3 - With EILP (Continued)

Year 20 2013	
INVESTMENT OUTLAYS	
Submetering (@ \$400)	
Rebate (\$200/apt.)	
DEPRECIATION	
Submetering (@ \$400)	82956
DEBT/LEASE PRINCIPAL	
Loan	
ENERGY USE (ENERGY UNITS)	
KWH-ELEC. (Con-Ed, SC-	-693894
ENERGY USE (DOLLARS)	
ELEC. (Con-Ed, SC-8)	-107369
OTHER COSTS (BENEFITS)	
Admin. (\$2.75/du/m)	26671
INTEREST PAYMENTS	
Loan	
INCOME BEFORE TAXES	-2259
INCOME TAXES (50%)	-1129
INCOME AFTER TAXES	-1129
CASH FLOW BEFORE TAXES	80697
CASH FLOW AFTER TAXES	81827
CUMULATIVE CASH FLOW AFTER TAXES	691978

## APPENDIX C - LEGAL RESEARCH AND ANALYSIS

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## I. JURISDICTION

### A. THE PUBLIC SERVICE COMMISSION

Public Service Law §3 establishes a Department of Public Service in the New York State government. Public Service Law §4 establishes the Public Service Commission (PSC) consisting of five members to be appointed by the governor by and with the advice and consent of the New York State Senate. The PSC possesses the powers and duties necessary or proper to enable it to carry out the purposes of the Public Service Law. The jurisdiction, powers and duties of the PSC are defined by Public Service Law §2. Among the many powers and duties of the PSC is the supervision of the manufacture, conveying, transportation, sale, or distribution of gas (natural or manufactured or mix of both) and electricity for light, heat, or power, of gas plants and electric plants and the persons or corporations owning, leasing, or operating the same. Due to the nature of our inquiry, our focus on the PSC will deal with its regulation of the sale or distribution of electricity; however, the PSC also has broad jurisdiction over the furnishing or distribution of water, telephone lines, telegraph lines, and mobile radio telephone service.

Since the PSC is a creation of statute, it possesses only those powers expressly granted to it by the Legislature.

The Public Service Commission possesses only those powers expressly delegated to it by the Legislature, or incidental to its expressed powers, together with those required by necessary implication to enable the Commission to fulfill its statutory mandate (citations omitted).

Niagara Mohawk Power Corporation v. Public Service Commission of the State of New York, 69 N.Y.2d 365, 514 N.Y.S.2d 694, 696 (1987).

The PSC does, however, have such implied powers as are necessary for it to carry out the powers granted to it by the Legislature. City of New York v. Public Service Commission, 53 A.D.2d 164, 385 N.Y.S.2d 634, 635 (3d Dept. 1976). The PSC's implied powers are very broad due in part to the mandate in Public Service Law §5(2), which directs the PSC to encourage all persons and corporations to formulate and carry out long-range programs for the performance of their public service responsibilities with economy, efficiency, care for the public safety, the preservation of environmental values, and the conservation of natural resources.

The PSC regulates practically everything about electricity from informational notices in utility bills (Public Service Law §44) to the rates charged for the electricity consumed (Public Service Law §66). §66 of the Public Service Law details the general powers of the PSC in respect to gas and electricity. Pursuant to §66 of the Public Service Law, the PSC has general supervision of all gas corporations and electric corporations having authority to maintain or erect wires, pipes, conduits, or other fixtures over or under the streets, highways and public places of any municipality for the purpose of furnishing or distributing gas or furnishing or transmitting electricity for light, heat, or power. Further, pursuant to Public Service Law §66, the PSC has the power to: a)

investigate and examine methods employed by such persons or corporations for distributing and supplying gas or electricity for light, heat, or power and in transmitting same and has the power to order such reasonable improvements as will best promote the public interest, preserve the public health, and protect those using such gas or electricity (§66[2]); b) to prescribe uniform methods of keeping accounts, records, and books to be observed by gas corporations and electric corporations and to prescribe by order forms of accounts, records, and memoranda to be kept by such corporations (§66[4]); and c) to regulate rates and charges for gas and electricity (§66[5], [12], [14] and [16]).

Pursuant to §51 of the Public Service Law, the PSC has the authority to adopt such additional rules and regulations as it deems necessary and proper to implement the provisions of the Public Service Law.

#### B. NEW YORK STATE DIVISION OF HOUSING AND COMMUNITY RENEWAL

The New York State Division of Housing and Community Renewal (DHCR) is vested with the power to determine the legal regulated rents for residential housing accommodations throughout New York State if such housing accommodations are subject to the Emergency or Local Emergency Housing Rent Control Laws, the Emergency Tenant Protection Act (ETPA), or the New York City Rent Stabilization Law.

Originally imposed by the federal government during World War II (Emergency Price Control Act of 1942, Jan. 30, 1942, Ch. 26, Title I, §1, 56 Stat. 23), rent controls were continued by state legislation in 1946.

The Emergency Housing Rent Control Law (McK. Unconsolidated Laws §8581 *et seq.*) imposed rent control on housing throughout New York State built prior to February 1, 1947. Other than in New York City, housing accommodations that became vacant after July 1, 1957 became decontrolled. Those that have not become vacant since that date remain subject to control unless decontrolled under other provisions of the law.

In 1962, the Local Emergency Housing Rent Control Law (McK. Unconsolidated Laws §8601 *et seq.*) was adopted which transferred administration of state rent control within New York City to the City of New York and authorized the City of New York to adopt its own rent control laws. In 1962, the City of New York acted on this authorization by adopting the City Rent and Rehabilitation Law (Administrative Code of the City of New York §26-401 *et seq.*). Under these statutes supervision of rent control in New York City was vested in the City Rent Agency.

Thus both state rent control and city rent control exist under separate statutes. In 1964, the administration of state rent control was transferred to DHCR. In 1983, the administration of city rent control was transferred to DHCR.

Under these statutes, DHCR has the authority to establish maximum rents; to restrict evictions; to promulgate such regulations and rules as it deems necessary to effectuate the purposes of the acts; and in particular to issue regulations to assure maintenance of the same living space, central services, furniture, furnishings and equipment as were provided on the date determining the maximum rent; and to, by regulation or order, decrease the maximum rent for any housing accommodation if DHCR finds that the living space, central services, furniture, furnishings or equipment to which the tenant was entitled on such date, have been decreased.

The Rent and Eviction Regulations of the Division of Housing and Community Renewal (9 NYCRR §§ 2100 to 2109) were adopted and promulgated pursuant to the powers granted to the Temporary State Housing Rent Commission by the Emergency Housing Rent Control Law, Chapter 250 of the Laws for the year 1950, as last amended by Chapters 371, 373, and 383 of the Laws of 1971. These powers were transferred to the Division of Housing and Community Renewal by Chapter 244 of the Laws of 1964.

DHCR's Rent and Eviction Regulations - New York City (9 NYCRR §§ 2200 to 2210), were adopted and promulgated by DHCR pursuant to the City Rent and Rehabilitation Law (Title Y of Chapter 51 of the Administrative Code of the City of New York, now renumbered §26-401 et seq., and the Local Emergency Housing Rent Control Act (Chapter 403 of the Laws of 1983). DHCR is designated as the City Rent Agency in 26-403 of the Administrative Code of the City of New York and has the powers granted to the City Rent Agency by the City Rent and Rehabilitation Law.

New York City again acted to impose rent regulations by adopting the Rent Stabilization Law of 1969 (Title §§51 of the City of New York Administrative Code, now renumbered §26-501 et seq.). This statute regulated rents and evictions in multiple dwellings of six or more units built prior to May 31, 1968. It was extended to housing built prior to June 30, 1974 by the Emergency Tenant Protection Act (McK. Unconsolidated Laws §8621 et seq.).

The Rent Stabilization Law authorizes promulgation of a code of regulations called the Rent Stabilization Code by a local association of owners of property subject to the law.

The Emergency Tenant Protection Act also extended rent stabilization to localities in Nassau, Westchester, and Rockland Counties that elect coverage. DHCR was designated to administer ETPA outside New York City and to promulgate regulations thereunder.

In 1983, the power to promulgate and amend the Rent Stabilization Code and to administer rent stabilization in New York City was transferred to DHCR as well.

Thus, DHCR is now the single agency authorized to administer all of these various rent laws. Its powers are substantially similar under all of the statutes but the requirements of the statutes as to regulation of rents and other substantive items varies.

The Rent Stabilization Regulations of the Division of Housing and Community Renewal (9 NYCRR §2500 - 2510.13) were adopted and promulgated pursuant to the power granted to DHCR by the Emergency Tenant Protection Act of 1974, Chapter 576 of the Laws of New York for the year 1974 as amended. The Rent Stabilization Code (9 NYCRR §§ 2520-2530) was promulgated and adopted by DHCR pursuant to the powers granted to DHCR by Chapter 888 of the Laws of New York for the year 1985.

DHCR is also the supervising agency of state-aided housing organized under Articles 2 and 4 of the Private Housing Finance Law and public housing pursuant to Public Housing Law §§10-19.

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

HPD is the supervising agency of city-aided housing organized under Articles 2, 5, 8a and 11 of the Private Housing Finance Law. See PHFL Sections 2(15) and 102(2).

**D. NEW YORK CITY DEPARTMENT OF THE AGING**

Pursuant to Section 26-509 of the New York City Administrative Code, applications for rent increase exemptions and equivalent tax abatement for rent regulated property occupied by certain senior citizens are to be made to the New York City Department of the Aging.

## II. REGULATION

### A. THE PUBLIC SERVICE COMMISSION

In 1951, the Public Service Commission (PSC) prohibited all residential submetering in New York City subsequent to September 1, 1951 (PSC Case Number 14279 [July 25, 1951]). The PSC's decision was affirmed in Matter of Campo Corp. v. Feinberg, 279 App. Div. 302, affd. 303 N.Y. 995 (1952).<sup>1</sup> The PSC began reversal of its "no residential submetering" position in Opinion No. 76-17 wherein it noted the, "compelling public need today to encourage the efficient use of society's increasingly scarce and costly energy resources."<sup>2</sup>

The PSC in Opinion No. 76-17 determined that governmental landlords would be permitted a submetering option as soon as tariff amendments containing suitable terms and conditions were prepared in accordance with the Opinion and directed hearings on the issue of whether the change in submetering policy should be more widely applied.

In 1978, in the first phase of the proceeding in Case 26998, the PSC allowed owners of cooperatives and condominiums in the Consolidated Edison Company's service territory to convert their electric service from master metering to submetering in certain instances.<sup>3</sup> In Opinion 79-24 issued on November 14, 1979 the PSC announced its:

... willingness to consider individual proposals for conversion from directly metered to submetered electrical service in cooperatives, condominiums, commercial buildings and marinas; proposals for a conversion from master metered to submetered electrical service in government housing and privately owned rental housing; and, with regard to all types of proposed new residential buildings, proposals for exemption from the prohibition against submetered electricity in new construction. In addition, for government housing anywhere in the State, today's order adopts the same policies as those it prescribes for residential buildings in Con Edison's territory.<sup>4</sup>

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<sup>1</sup> The Court of Appeals did not issue an opinion in Campo but merely affirmed the order of the Appellate Division Third Department. Among the issues presented to the Court of Appeals by the parties in Campo was whether the petitioners had the constitutional right to continuance of residential submetering. While the Court of Appeals did not issue an opinion, its affirmance of the Appellate Division Third Department's order has the effect of holding that petitioners and others engaged in residential submetering do not have a constitutional right to a continuance of residential submetering.

<sup>2</sup> Opinion 76-17, page 8.

<sup>3</sup> Opinion 79-24, page 2.

<sup>4</sup> Opinion 79-24 prohibits submetering as an alternative to direct metering in houses anywhere in New York State other than cooperatives and condominiums.

In Opinion 80-20, the submetering policies applicable in Con Edison's territory were expanded to include the entire state.<sup>5</sup>

The PSC has promulgated regulations regarding residential submetering that are found at 16 NYCRR Part 96. The regulations permit owners of master metered residential premises to convert to submetering upon compliance with various conditions.

In residential rental premises owned or operated by private or governmental entities, submetering is allowed under §96.2(b) upon approval of the PSC of an application by the prospective submeterer that contains the following:

- (1) a statement substantiating the economic advantages of submetering over direct utility metering;
- (2) a description of the type of submetering system to be installed and a validation of its reliability and accuracy;
- (3) the method and basis for calculating rates to tenants, which shall include a maximum rate provision (rate cap) preventing charges to tenants from exceeding the utility's tariffed residential rate for direct metered service to such tenants;
- (4) complaint procedures and tenant protections consistent with the Home Energy Fair Practices Act (Public Service Law, §§ 31-50; 16 NYCRR Parts 11 and 12);
- (5) a procedure for notifying in writing all tenants of the proposal to submeter. The notification shall include a summary of the information provided to the commission under paragraphs (1) through (4) of this subdivision and an invitation to comment to the commission. The notification shall prominently display the address and telephone number of the nearest commission consumer services division office;
- (6) a demonstration that an enforcement mechanism is available to the tenants to ensure that their rights are protected under the law;
- (7) certification that the method of rate calculation, the rate cap, complaint procedures, tenant protections and the enforcement mechanism shall be incorporated in plain language into all leases governing submetered premises; and
- (8) a description of an appropriate rent reduction formula that accurately reflects the applicant's overall reduction in his total electric costs resulting from conversion to submetering.

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<sup>5</sup> Opinion 80-20, page 16.

In residential cooperatives and condominiums where all tenants are shareholders, conversion to submetering is permitted under §96.2(e) upon the following conditions:

(1) The prospective submeterer shall certify to the utility that a majority of the shareholders voted in favor of the submetering proposal.

(2) The prospective submeterer shall certify to the utility that the shareholder approved submetering proposal includes a rate cap at the utility's tariffed rate for directly metered service to the tenants, and grievance procedures as provided in paragraphs (3) and (4) above [as related to conversion of rental premises]; provided, however, that any excess revenues resulting from charges to tenants which exceed the utility's billings to the submeterer are to be used for the purposes of energy conservation.

In cooperatives and condominiums where not all tenants are shareholders, conversion to submetering is permitted on condition that:

(1) The prospective submeterer shall certify to the utility that all non-shareholder tenants have approved a plan which includes a rate cap at the utility's tariffed rate for directly metered service to the tenants, and grievance procedures as provided in paragraphs (b)(3) and (4) of 16 NYCRR §96.2; provided, however, that any excess revenues resulting from charges to tenants which exceed the utility's billings to the submeterer are to be used for the purposes of energy conservation.

(2) Where one or more non-shareholder tenants refuse to agree to the plan proposed by the submeterer, submetering to such tenants shall be permitted only upon approval by the commission of an application by the submeterer which contains items (1) through (7) above [as relates to conversion of rental premises]

In buildings that are 100% cooperative, the electric charge is capped at the utility's direct meter rates and the cooperative must certify to the existence of grievance procedures that are "consistent" with the Home Energy Fair Practices Act (HEFPA - Public Service Law §§ 31-50) and the regulations promulgated thereunder (16 NYCRR Parts 11 and 12).

Both the Home Energy Fair Practices Act and the regulations are applicable by their terms to utilities. Section 11.20 of the regulations requires a utility to investigate customer complaints about bills, deposit requests and other service problems, to respond within certain prompt stated time periods and to defer service termination while a complaint is pending before the utility or the PSC.

Part 12 of the regulations sets forth the procedure for utility customer complaints to the PSC. The PSC exercises jurisdiction to resolve such complaints, including staff investigations, informal fair hearings and reviews and internal administrative appeals.

The requirement that a cooperative adopt grievance procedures "consistent" with those in Parts 11 and 12 of the regulations leaves open the question of whether PSC intends to exercise jurisdiction of submetered tenant-shareholder complaints under Part 12 or whether some other agency or facility (such as arbitration) may be substituted to act in its place.

In Mitchell-Lama cooperatives under HPD supervision, complaint resolution regulations were adopted by HPD that allow for HPD intervention as the dispute resolution agency. We are informed that these have been accepted by PSC as satisfying the grievance procedure requirement of §16.2(e)(2).

Our research has failed to disclose any dispute resolution procedures adopted by any of the other agencies supervising cooperative housing (DHCR and HUD) or applicable to unsupervised cooperative and condominium housing and the procedures applicable to these classes of cooperative and condominium housing that would satisfy this PSC requirement remain unclear.

Far more problematic are the PSC requirements for residential buildings in which some or all of the tenants are renters rather than shareholders. As to these buildings, not only must complaint procedures consistent with the Home Energy Fair Practices Act and regulations be in place, but "tenant protections" consistent with the Act and regulations must also be in place.

Initially we note that the State of New York Division of Housing and Community Renewal, the agency responsible for administration of rent control, rent stabilization and the Emergency Tenant Protection Act throughout the state (where applicable), has not adopted any regulations providing for a submetering dispute resolution procedure for any of the rental units under its jurisdiction. Thus, the same questions concerning PSC jurisdiction and acceptable alternate procedures noted above as to cooperative housing apply to rent regulated rental housing.

Moreover, 16 NYCRR Part 11 provides an extensive series of tenant protection regulations that are presumably made applicable to partially or wholly rental premises.

The Home Energy Fair Practices Act establishes as State policy that the continued provision of gas, electric and steam service to residential customers without unreasonable qualifications or lengthy delays is necessary for the preservation of the health and general welfare and is in the public interest.

The regulations found in 16 NYCRR Part 11 place significant limitations upon the right to terminate residential services and establishes extensive procedures for virtually all aspects of the supply of electrical service to residential customers. Not only do the regulations place restrictions on a utility's ability to terminate electrical

service but they also obligate the utility to negotiate deferred payment agreements with those customers who do not timely pay for the services provided.

16 NYCRR Part 11 specifies the information that must be contained in a utility bill to a residential customer. Further, 16 NYCRR §11.17 provides that at the time that electrical service is initiated to a residential customer and at least annually thereafter, the customer must be advised of his rights and obligations under the Home Energy Fair Practices Act by a notice accompanying the regular bill or in a separate mailing.

At a minimum, the summary must include:

- (1) a description of the complaint-handling procedures available at the utility and the commission;
- (2) the rights and obligations of residential customers relating to payment of bills, termination of service and reconnection of service;
- (3) a description of special protections afforded the elderly, blind and disabled; persons with medical emergencies; persons receiving public assistance, supplemental security income benefits or additional State payments; and persons in two-family dwellings;
- (4) a request that residential customers who qualify for the protections referred to in subdivisions (b) and (c) of Section 11.5 of this Part voluntarily so inform the utility;
- (5) the right of a customer to designate a third party to receive copies of all notices relating to termination of service or other credit notices;
- (6) appropriate forms that customers claiming the protections of paragraph (3), (4) or (5) of this subdivision may fill out and return;
- (7) a description of the customers' rights in regard to deferred payment plans and the holding and demanding of security deposits; and
- (8) a description of the company's budget or leveled payment plans.

If the utility is located in a county where, according to the most recent Federal census, at least 20% of the population regularly speaks a language other than English, the utility must at the request of a customer residing in such county, send its messages on bills and notices in both English and such other language to the customer and must at least once a year supply to all residential customers in such county a notice in such other language spoken regularly by at least 20% of the population in such county of the right to request messages on bills and notices in such other language.

Presumably these requirements would be made applicable to a submeterer of rental apartments by the requirements of 16 NYCRR §§ (b)(4) and (h)(2) for tenant protections "consistent" with the Home Energy Fair Practice Act and regulations.

It would appear that these regulations are quite onerous, and it was suggested at the Interim Round Table held in connection with this project that the more burdensome of these requirements might be "waived" by the PSC rather than amended out of the regulations. Such an approach may, however, be problematic.

Although the PSC has the authority pursuant to statute to promulgate rules and regulations and it may amend and change these rules and regulations from time to time, it does not necessarily have the authority to waive its rules and regulations. The Appellate Division, Second Department in Lehman v. Board of Education, 82 A.D.2d 832, 439 N.Y.S.2d 670 (2d Dept. 1981), noted that it is a fundamental administrative law principal that an agency's rules and regulations promulgated pursuant to statutory authority are binding upon the agency as well as the individuals affected by the rule or regulation. The Court also noted at 672: A corollary of this principal is that rules of an administrative agency which regulate procedure affecting substantial rights of individuals may not be waived by the agency (citations omitted).

Further, as an administrative agency only has the authority to promulgate rules implementing statutory mandates, the PSC does not have the authority to waive regulations implementing statutory mandates.

While the PSC may be able to amend regulations or promulgate new regulations it appears pursuant to the case law that the PSC is bound by its regulations and has limited authority, if any, to waive its regulations. In any event, there is nothing that obligates the PSC to waive its regulations and, thus, any entity contemplating submetering must assume that it would be bound to follow the PSC regulations.

## B. RENT REGULATION

### 1. Background

A concise overview of rent regulation in New York City was set forth by the United States Court of Appeals for the Second Circuit in Resolution Trust Corp. v. Selma Diamond, \_\_\_ F.2d \_\_\_ (2d Cir. 1994) at page \_\_\_:

Owners of residential rental property in New York City have been subject to some form of rent regulation for over fifty years. Originally imposed by the federal government during World War II (Emergency Price Control Act of 1942, Jan. 30, 1942, ch. 26, Title I, §1, 56 Stat. 23), rent controls were continued by state legislation in 1946 (Emergency Housing Rent Control Law, L. 1946, c. 274 (codified at N.Y. Unconsol. Laws §§8581-8597 (McKinney 1987)). Since 1962, the City of New York has enforced its own local rent regulations, which (like the federal and state measures) regulate

rents and evictions in privately owned residential housing. Admin. Code of City of N.Y., §§26-401-415 (reported following N.Y. Unconsol. Law §8617 (McKinney 1987)) (N.Y.C. Admin. Code). Authorized by the State Legislature, these City laws were enacted pursuant to a City Council finding that a serious public emergency continues to exist in the housing of a considerable number of persons in the city, which emergency was created by [World War II], the effects of war and the aftermath of hostilities . . . [and therefore] such action, as a temporary measure to be effective until . . . such emergency no longer exists . . . [requires the council to intervene] to prevent exactions of unjust, unreasonable and oppressive rents and rental agreements.

N.Y.C. Admin. Code §26-401. This finding of emergency was renewed most recently by L.1985, c.907 (effective Sept. 1, 1986).

Currently, there are two systems of rent regulation in New York: rent control and rent stabilization.

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The maximum rent for each rent-controlled property is set by an administrative board on a biennial basis. N.Y.C. Admin. Code §26-405a(4), N.Y. Comp. Codes R. & Regs. tit. 9, §2201.5(a) ("9 NYCRR §\_\_\_\_"). Upon certain enumerated contingencies, such as an increase in operating expenses, a landlord may petition the rent control board for an extraordinary increase. N.Y.C. Admin. Code §26-405g, 9 NYCRR §2202. So long as the tenant continues to pay the regulated rent, the landlord may not institute eviction proceedings. N.Y.C. Admin. Code §26-408a. Rent control does not require or contemplate a current written and signed lease. In this way, the rent-controlled tenancy survives the lease-term of the original lease instrument (and any written renewals thereof), and becomes a so-called "statutory" tenancy. See, e.g., W.T. Associates v. Huston, 472 N.Y.S.2d 562, 564 (Sup. Ct. 1984).

The second program -- rent stabilization -- was adopted in 1969 in response to a perceived failure of rent control to adequately relieve the wartime housing emergency. N.Y.C. Admin. Code §§26-501-520 (McKinney 1987); see 8200 Realty Corp. v. Lindsay, 313 N.Y.S.2d 733, 742 (1970). Unlike rent control, rent stabilization does require and contemplate a current written lease-contract, 9 NYCRR §2522.5, and requires the landlord to offer a renewal lease to the tenant before the end of each lease term. N.Y.C. Admin. Code §26-511c(4), 9NYCRR §2522.5(b)(1). In that way, the rent-stabilized tenant, like his rent-controlled neighbor, enjoys occupancy for so long as he wishes. The City's rent guidelines board regularly fixes the maximum rent increase for one-year and two-year leases, N.Y.C. Admin. Code §26-512, the allowable percentage increase being based in part on market conditions. N.Y.C. Admin. Code §26-510b, 9 NYCRR §§2521-22. It was thought that by adopting a regulatory scheme more sensitive to market prices, and giving property owners (at that time) a choice between rent control and rent stabilization, new construction would flourish and the persistent housing emergency would abate. 8200 Realty Corp., 313 N.Y.S.2d at 742-43. However, the wartime housing emergency has been found to continue to this day, leaving most rental properties in New York subject to what the state's Court of Appeals once characterized as "an impenetrable thicket, confusing not only to laymen but to lawyers." In Matter of 89 Christopher, Inc. v. Joy, 360 N.Y.S.2d 612, 618 (1974).

2. New York City Housing Rent Control<sup>6</sup>

The New York City Rent And Eviction Regulations promulgated pursuant to the Local Emergency Housing And Rent Control Act (popularly referred to in New York City as the "Rent Control Law") Unconsolidated Laws Section 8601, et. seq., provide, inter alia, that with respect to housing accommodations covered by the New York City Rent And Eviction Regulations a landlord must maintain the same dwelling space, essential services, furniture, furnishings and equipment as were required to be furnished on April 20, 1962 or any subsequent date determining the maximum rent for the housing accommodations until the landlord has filed an application to decrease the dwelling space, essential services, furniture, furnishings or equipment and an order permitting such decrease has been entered by the administrator of the City Rent Agency (now DHCR). 9 NYCRR §2202.21.

In those housing accommodations where electricity is included in the rent, a switch from master metering to submetering is a reduction of essential services and, accordingly, a landlord of housing accommodations subject to the New York City Rent And Eviction Regulations may switch to submetering only after filing and approval of an application to decrease services. If the application is granted, the rents for the housing accommodations are decreased to reflect the reduction of services. 9 NYCRR §2202.16.

The regulations permit a change from master metering to direct metering with DHCR approval. No regulations for conversion to submetering are published.

Administrator's Interpretation No. 7 filed with the New York City Clerk on December 27, 1968 sets forth certain circumstances under which the Administrator would permit landlords to discontinue the practice of supplying unmetered electric current as a service included in rent to tenants. Administrator's Interpretation No. 7 states in pertinent part:

It is the policy of the Administrator to encourage the preservation of the City's existing housing supply. The rewiring of a building has been uniformly held to be a major capital improvement and in order to foster such improvements the Administrator deems it appropriate to permit the decrease of such service where the rewiring of the entire structure is contemplated. The landlord shall apply pursuant to Section 35a of the Regulations for permission to discontinue such service to the tenants and should set forth the fact that he has entered into a valid contract for the rewiring of the building in accordance with the provisions of Administrator's Interpretation No. 1 and that he will pay all costs attendant the installation of meters and the transfer of service from the public utility company to the tenants on a metered basis or has previously rewired the building in accordance with Administrator's Interpretation No. 1. The landlord will also be required to consent to the reduction of the maximum rents in an amount which will reflect the present rental value of the service previously supplied by him and is appropriate in

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<sup>6</sup> Housing Accommodations subject to the New York City Housing Rent Control defined in 9 NYCRR Section 2200.2(e).

accordance with the schedule hereinafter set forth. It is to be noted that the State Rent Commission in issuing rent inclusion orders granted dual increases, i.e. an increase based upon the occupant's average monthly electric bill for all tenants in the same tier of apartments. The second amount would only apply to new tenants. Tenants in occupancy were required to pay a rent increase based upon their own experience.

Although Administrator's Interpretation No. 7 applies to a switch-over to direct metering, DHCR has indicated that it would also apply to a switch-over to submetering.

### 3. New York City Rent Stabilization Code

Rent Stabilization is the second major category of residential rent regulation in New York City. The New York City Rent Stabilization Law of 1969, as amended, is now codified as Sections 26-501 through 26-520 of the Administrative Code of the City of New York. It authorizes the adoption of a code of regulations known as the Rent Stabilization Code. Authority to promulgate the Rent Stabilization Code was transferred to DHCR from a special purpose quasi-governmental entity created in 1969 pursuant to the Omnibus Housing Act of 1983. Chapter 403 of the Laws of 1983 amending N.Y.C. Administrative Code Section 26-511(b).

Under Rent Stabilization, legal rents are established as of a "Base Date" on which regulation became applicable to the particular housing accommodation affected. Subject to certain possible adjustments, the rent reserved in the lease in effect on the Base Date is the initial legal regulated rent. Rents may be increased in each new lease entered into thereafter but the increases are limited by applicable rent guidelines established annually. These rent guidelines are required to reflect increases in operating costs since the prior guideline and typically include an additional factor applicable to housing accommodations in which the cost of electricity is included in the rent. Base Date services and facilities may not be reduced without DHCR approval and the owner must annually certify to DHCR that the owner is maintaining and will continue to maintain all services as required by law. 9 NYCRR §2523.2.

Approval of service reductions is conditioned on rent reductions tied to the value of the reduced service or facility. Rents may also be increased to reflect increased services or facilities including major capital improvements. Subject to certain limited exceptions, tenants of accommodations subject to the Rent Stabilization Law have a right to the renewal of each expiring lease upon the same terms and conditions as the expiring lease. 9 NYCRR §2522.5(g). Under this scheme of regulation, a landlord of housing accommodations subject to the Rent Stabilization Code cannot switch to submetering without first applying to DHCR for an order

allowing the landlord to decrease services (electricity) coupled with a downward adjustment of the legal regulated rent for the housing accommodations.<sup>7</sup>

#### 4. Emergency Tenant Protection Act

The Rent Stabilization format of rent regulation was extended to previously exempt categories of housing accommodations in New York City and to various classes of housing accommodations in certain villages and towns in Nassau, Westchester, and Rockland Counties by the Emergency Tenant Protection Act of 1974, Unconsolidated Laws 8621, et seq. The New York State Division of Housing and Community Renewal has promulgated Emergency Tenant Protection Regulations pursuant to this law which apply to covered housing accommodations outside of New York City. These regulations are substantially similar to the Rent Stabilization Code. Procedures for conversion from master metering to individual metering are also similar.

#### 5. Conversion Procedures In Rent Regulated Housing

DHCR has adopted specific procedures for converting from master metering to direct metering in rent-regulated housing. See DHCR Fact Sheet #29. No comparable procedure is in place for conversion to submetering because, according to DHCR no owner has applied for such conversion. The applicable rules are expected to be similar to those applicable to direct meter conversions. See discussions of Stuyvesant Town below. A landlord submits to DHCR an Owner's Application for Termination of Rent Inclusion of Electric Current. If permission is granted, the landlord may then proceed to convert to submetering. The new rent is arrived at by the following procedures:

##### Rent Reductions

The rent reduction procedures for all systems of regulation are substantially similar except the rent stabilized rents in New York City and ETPA rents outside New York City are subject to an extra adjustment. First, for rent stabilized and ETPA apartments, prior rent guidelines adjustments for electrical inclusion are removed. Then a second reduction is made based on usage. In rent controlled apartments the rent is adjusted based on usage only.

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<sup>7</sup> The Conciliation and Appeals Board held in its Opinion Number 4968 that services would not be diminished by conversion from electrical inclusion to electrical exclusion provided such conversion is accompanied by an appropriate reduction in rent.

The reduction based on usage is calculated in two stages. Stage 1 covers the first year of submetering. During that first year, rents are temporarily reduced by set amounts.<sup>8</sup> The owner is required to file a Stage 2 application one year after the conversion including information on the reduction in usage during the year and the cost of electricity to the owner. The rents are permanently reduced by the owner's monthly savings due to the building's conversion. The owner's monthly savings due to submetering is determined by a formula based on the pre and post conversion cost of electricity, energy conservation, and the differing electrical rate structures. This second adjustment may result in an increase or decrease from the temporary Stage 2 level established for the first past conversion year.

#### Major Capital Improvement Rent Increases

Submetering by itself does not constitute a major capital improvement (MCI) under DHCR rules as it is a procedure which, although perhaps desirable for the general public policy aim of reducing energy consumption is not necessarily an improvement to a housing accommodation. Installations that are convenient and advantageous to the landlord are not necessarily MCIs. Elghanayan v. New York State DHCR, 181 A.D.2d 638, 582 N.Y.S.2d 13 (1st Dept. 1992).

In the event that a conversion to submetering is done in connection with rewiring of the housing accommodation or such other improvement as qualifies as an MCI, then in that event, the landlord might be entitled to receive MCI benefits under the Regulations and Code.<sup>9</sup> However, in 1992 DHCR issued an Advisory Opinion in which it stated that the cost of submetering does not qualify as an MCI since submetering does not directly benefit the tenants and which indicates that the "70/30" rule applicable to a switch-over to direct metering is not applicable to a switch-over to submetering. Rather, if the MCI application is approved the owner will be entitled to a rent increase based on 100% of the approved costs directly associated with the rewiring, excluding the cost of submetering. The cost of submetering will be based on actual expenditures rather than an assumed allocation between upgrading and submetering.

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<sup>8</sup> The reductions are: \$25.00 per month for each studio apartment; \$30.00 per month for each 1 bedroom apartment; \$35.00 per month for each 2 bedroom apartment; and \$ 5.00 more for each additional room.

<sup>9</sup> In order for rewiring to qualify as an MCI the rewiring must include new copper risers and feeders extending from property box in basement to every apartment and must be of sufficient capacity (220 volts) to accommodate the installation of air conditioner circuits in living room and/or bedroom. For a description of other work that qualifies as an MCI see 9 NYCRR §2522.4(3)(f). Further, DHCR has adopted the "70/30" rule which states that the proportion of the rewiring, effectuated as a result of a conversion from electrical inclusion to direct metering, constituting an MCI is 30% of the total basic rewiring, the remaining 70% being applicable to the switch-over to direct metering. Conversions to submetering will require a similar allocation if MCI status is denied to a submetering installation.

## 6. Practical Considerations

Owners of housing accommodations subject to Rent Control, Rent Stabilization, and ETPA are entitled to convert from master metering to submetering provided they meet and comply with the regulations promulgated by DHCR. Unfortunately, however, it is not always so simple. Even if the appropriate applications are submitted it could be years before DHCR authorizes a conversion to submetering. In Audubon Avenue Associates v. State Division of Housing and Community Renewal, Office of Rent Administration, 148 Misc.2d 831, 563 N.Y.S.2d 590 (Sup. Ct. N.Y. Co. 1990) petitioner commenced an Article 78 proceeding against respondent DHCR seeking a judgment in the nature of mandamus directing respondent DHCR to issue a final determination on petitioner's pending application for rent increases based on major capital improvements. Petitioner's application was filed with respondent DHCR on December 18, 1987. Despite the fact that respondent DHCR had issued no decision for over three years after petitioner filed its application, the petitioner's application was denied and the petition dismissed.

The Office of Rent Control in or about 1976 arbitrarily decided to impose a moratorium on electrical exclusion decrease applications until it prepared and promulgated a new regulation. The practical result was that such applications were not processed. In Amsterdam-Manhattan Associates v. Joy, 42 N.Y.2d 941, 397 N.Y.S.2d 1000 (1977), the Court of Appeals found that the Office of Rent Control's decision to impose a moratorium was arbitrary, capricious and offensive and held that the Office of Rent Control's refusal, for a period of over 15 months, to process the landlords' applications for electrical exclusion decrease orders was an unreasonable delay as a matter of law. Unfortunately the decision in Amsterdam-Manhattan Associates does not mean that today electrical exclusion decrease applications will be processed quickly or even within a 15 month period.

## C. CONVERSION PROCEDURES IN SUPERVISED HOUSING

### 1. City of New York Department of Housing Preservation and Development

The City of New York Department of Housing Preservation and Development (HPD) has promulgated rules and regulations governing the city-aided limited profit housing companies (those organized under Private Housing Finance Law Article 2). Article XI, Section 2 of these rules and regulations governs submetering. These regulations provide that the consent of HPD must be obtained before a housing company can install submetering equipment. The regulations further provide that a housing company seeking to convert to submetering must comply with the requirements of the Public Service Commission. Plans and specification for the submetering equipment must be submitted to HPD for approval and electrical design must be in accordance with the National Electrical Code and local ordinances and regulations of regulatory agencies with competent jurisdiction. The regulations set forth bidding requirements (Article XI, Section 2(b)) and provide that the contract must state that all material, equipment, and workmanship shall be subject to the inspection and approval of HPD during the

progress of the work and before final payment is made on the contract and that the contract shall include the language set forth in Article VII, Section 2 of the HPD regulations governing city-aided limited profit housing companies. The HPD regulations also set up grievance procedures [Article XI, Section 2(d)].

Article XI, Section 2(6) provides that before a housing company can commence an eviction proceeding based solely upon non-payment of sub-metered electrical charges, the housing company, through its attorney, must submit a verified petition to HPD setting forth the grounds why the occupancy agreement should be terminated. A copy of the petition is to be served upon the cooperator and a hearing with respect to the allegations set forth in the petition held by HPD. The hearing officer is to submit a written report to the Assistant Commissioner of his findings and the Assistant Commissioner shall thereafter advise the parties in writing whether the hearing officer's recommendations are accepted, modified or rejected.

HPD has no comparable regulations for housing under its supervision organized under Articles 5, 8a or 11 of the Private Housing Finance Law.

2. New York State Division of Housing and Community Renewal

Research has failed to disclose any published regulations governing conversion to submetering in housing under the supervision of DHCR under either the Private Housing Finance Law or the Public Housing Law.

**D. J-51 RULES AND REGULATIONS OF THE CITY OF NEW YORK DEPARTMENT OF HOUSING PRESERVATION AND DEVELOPMENT**

J-51 is a program of real estate tax exemptions and abatements for alterations and improvements to dwellings in the City of New York. It is authorized by Real Property Tax Law §489. Real Property Tax Law §489 subd.1(a)(3) specifically authorizes benefits for alterations or improvements "which are designed to conserve the use of fuel, electricity or other such energy sources . . ."

Chapter 2 of Title 11 of the City of New York Administrative Code adopts the J-51 program authorized by the Real Property Tax Law. Energy conservation alterations and improvements are also specifically made eligible by NYC Administrative Code §11-243 subd.b(6).

The City of New York Department of Housing Preservation and Development is authorized by the Administrative Code to adopt rules and regulations implementing the program.

HPD's regulations specify three categories of alterations and improvements: moderate and substantial rehabilitations, capital improvements, and ordinary repairs. Under the regulations, eligible alterations and

improvements are scheduled and categorized as major capital improvements or ordinary repairs. Energy conservation items on the list are treated as major capital improvements if they are so designated on the schedule. Submetering is designated neither as a capital improvement nor an energy conservation item and is therefore treated as an ordinary repair.

Owners of most types of eligible housing who perform a work item designated as a major capital improvement (MCI) or energy conservation item are entitled to J-51 benefits regardless of the amount spent per unit, i.e., there is no threshold expenditure required for eligibility.

Pursuant to Section 2.3 of the J-51 Rules and Regulations of the City of New York Department of Housing Preservation and Development an ordinary repair does not entitle an owner to tax abatement unless it: (a) is (i) made to a common area of an existing dwelling as defined in Section 1.3(14); (ii) certified to have been started and completed within a twelve month period; and (iii) is made concurrently with an MCI to such common area which requires a permit from the Department of Buildings;<sup>10</sup> or (b) is done pursuant to an alteration Type-I Permit issued by the Department of Buildings; or (c) is done as part of a Moderate Rehabilitation pursuant to Section 2.1(6) (i.e., together with replacement of certain major building systems where HPD certifies the reasonable cost of the MCI as at least an average of two thousand five hundred dollars (\$2,500) per dwelling unit).

Alternatives (a) and (b) are problematic for submetering eligibility. Alternative (a) applies only to improvements to common areas. Submetering is generally considered an improvement to individual units. Alternative (b) applies to substantial rehabilitations that go beyond the scope of most submetering retrofits, even if accompanied by a general energy upgrade.

Thus, as a consequence of HPD's classification of submetering as an ordinary repair rather than an MCI or energy conservation measure, J-51 benefits are available only if a moderate rehabilitation costing at least \$2,500 per dwelling unit is done at the same time.

In any event, the certified reasonable cost for submetering, the maximum cost that can be used as the basis for abatement, is \$280 per dwelling unit.

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<sup>10</sup> Ordinary repairs are made concurrently with an MCI if they are started no earlier than 60 days before or 60 days after the issuance of a building permit for the major capital improvement.

## E. BUILDING CODES

Landlords converting to submetering must comply with the New York State Energy Conservation Construction Code, the New York State Building Code and where applicable the Building Code of the City of New York. As discussed below, if a major alteration is undertaken involving submetering it is likely that the landlord will have to bring the entire electrical system into compliance with the New York State Building Code and where applicable the Building Code of the City of New York. Further, the landlord must obtain a variance from the New York State Energy Conservation Construction Code to submeter as said Code requires electricity in residential apartment buildings to be individually metered for each apartment by a utility company.

### 1. Building Code Of The City Of New York

The Building Code of the City of New York applies to the construction, alteration, repair, demolition, removal, maintenance, occupancy, and use of new and existing buildings in the City of New York, including the installation, alteration, repair, maintenance, and use of service equipment therein. Building Code of the City of New York Section 27-103. The New York City Building Code provides in Section 27-104 thereof that any conflict or inconsistency between the requirements of the Building Code of the City of New York and applicable state and federal laws and regulations shall be resolved in favor of the more restrictive requirements.

The Building Code of the City of New York requires that if alterations exceeding sixty (60%) percent of the building's value are made in any twelve (12) month period, then the entire building shall be made to comply with the requirements of the Building Code of the City of New York. Building Code of the City of New York Section 27-115. Further, such compliance would include compliance with the provisions of Sub-Article 2 of Article 2 of Sub-Chapter 4 of Chapter 1 of Title 27 of the Building Code of the City of New York entitled Facilities For People Having Physical Disabilities.

If the cost of making alterations in any 12-month period shall be between thirty (30%) percent and sixty (60%) percent of the value of the building, only those portions of the building altered shall be made to comply with the requirements of the Building Code of the City of New York. Building Code of the City of New York Section 27-116. If the cost of making alterations in any 12-month period shall be under thirty (30%) percent of the value of the building, those portions of the building altered may either be altered in accordance with the requirements of the Building Code of the City of New York or altered in compliance with the applicable laws in existence prior to December 6, 1968, provided the general safety and public welfare are not thereby endangered. Building Code of the City of New York Section 27-117.<sup>11</sup>

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<sup>11</sup> The formulas for arriving at the alteration cost and the building value are set forth in Section 27-119 of the Building Code of the City of New York.

Section 27-123.1 of the Building Code of the City of New York provides that the provisions of Sub-Article 2 of Article 2 of Sub-Chapter 4 of Chapter 1 of Title 27 of the Building Code of the City of New York applies to an entire existing building, as if hereafter erected, when the cost of any alterations, additions, or repairs, other than ordinary repairs, made within any 12-month period immediately following the filing of the application exceeds fifty (50%) percent of the cost of replacement of the building with one of similar floor space, as estimated by the Department at the beginning of that 12-month period. When such estimated cost of alterations, additions, or repairs, other than ordinary repairs, do not exceed fifty (50%) percent of such replacement cost, then the provisions of Sub-Article 2 of Article 2 of Sub-Chapter 4 of Chapter 1 of Title 27 shall apply to such alterations, additions, or repairs.

We have not researched the permit requirements applicable to an electrical upgrading or submetering retrofit but are advised that an electrical permit rather than a building permit would allow a submetering retrofit.

## 2. New York State Uniform Fire Prevention and Building Code

Executive Law Section 370 et. seq. known as the New York State Uniform Fire Prevention and Building Code grants to DHCR the authority to establish a building code for the State of New York. The regulations relating to conversions, alterations, additions, and repairs to existing buildings is found in 9(B) NYCRR Part 1230. Pursuant to 9(B) NYCRR Section 1231.3 the provisions of Sub-Chapter B of the Code entitled Building Construction shall apply to an entire existing building as if hereafter erected, when the cost of any alterations, additions, or repairs made within any six-month period exceed fifty (50%) percent of the cost of the replacement of the building at the beginning of that six-month period. Sub-Chapter B includes Part 1100 entitled Facilities For Physically Handicapped. Under certain conditions the conversions alterations or additions to buildings may be exempted from Part 1100 Facilities For Physically Handicapped. These conditions are set forth at 9(B) NYCRR Section 1102.2(d).

## 3. New York State Energy Conservation Construction Code

Energy Law §11-101 directs that a State Energy Conservation Construction Code be adopted to protect the health, safety, and security of the people of the State of New York and to ensure a continuing supply of energy for future generations and that such code mandates that economically reasonable energy conservation techniques be used in the design and construction of all new public and private buildings in the State.<sup>12</sup> The State Energy Conservation Construction Code is set forth at 9 NYCRR Parts 7810 to 7815. The purpose of the Code is to

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<sup>12</sup> Variances and modifications to the requirements of the Code may be made by the Commissioner provided that the variance or modification provides for alternative energy conservation standards or requirements to achieve the purposes of the State Energy Conservation Construction Code Act. Energy Law §11-106.

provide statewide uniform regulations for the design of building envelopes to ensure adequate thermal performance; and for the design and selection of mechanical, electrical, and lighting systems and equipment that will enable the efficient use of energy in all new and renovated public and private building construction in New York State. §7810.6 of the State Energy Conservation Construction Code provides that with respect to substantial renovations of existing buildings, whenever such substantial renovations equal more than 50% of any building system, measured in units appropriate to that system, within any twelve-month period, that portion of such building system that is replaced shall be made to conform to the provisions of the Code. Systems or portions of systems not replaced by the renovation are not required to conform except as noted in paragraph (3) of §7810.6(d). Systems most commonly affected by this requirement include, but are not limited to, the following: exterior wall, roof/ceiling, floor, slab, piping, ductwork, lighting, furnace, boiler, air conditioner, heat pump, chiller, package terminal air conditioner, and water heater.

With respect to electrical distribution, 9 NYCRR §7813.52(d) provides that all residential buildings other than one- or two-family dwellings must separately meter individual dwelling units to determine the energy consumed by each tenant. Further, an electrical meter is defined as a mechanical/electrical device which can individually measure the electricity consumed by each dwelling unit and which is owned and operated by the electric utility.

### III. OTHER CONSIDERATIONS

#### A. LEASE PROVISIONS AND THE IMPACT UPON A COOPERATIVE'S ABILITY TO SUBMETER

##### 1. Generally

The corporate documents governing a cooperative -- the certificate of incorporation, by-laws, and proprietary lease or occupancy agreement (referred to herein as "lease") -- may present a barrier to conversion by the cooperative to submetering.

Many cooperative corporations have leases that obligate the cooperative to provide electricity to the tenant-shareholders. The documents governing cooperatives typically provide that the cooperative's obligations under the lease cannot be changed unless the lease itself is changed in conformity with the certificate of incorporation, by-laws, and lease. Depending on the corporate documents of the particular cooperative, this may be either a simple matter or one that appears impossible. The leases of many cooperatives provide that the services provided to the tenant may be varied by the board of directors of the cooperative in the board's sole discretion. An example of such a lease clause is:

Lessor shall maintain and manage the Building as a first-class apartment building, and shall keep the elevators and public halls, cellars and stairways clean and properly lighted and heated, and shall provide the number of attendants requisite, in the judgment of the Directors, for the proper care and service of the Building, and shall provide the apartment with a proper and sufficient supply of hot and cold water and of heat, and if there is central air conditioning equipment supplied by the Lessor, air conditioning when deemed appropriate by the Directors. **The covenants by the Lessor herein contained are subject, however, to the discretionary power of the Directors to determine from time to time what services and what attendants shall be proper and the manner of maintaining and operating the Building, and also what existing services shall be increased, reduced, changed, modified or terminated.**

Additionally, most leases provide that the lease may be amended by the approval of lessees owning at least 75% of the cooperative shares then issued so long as the change does not adversely affect the rights granted to purchasers of unsold shares by the lease or the purchasers of unsold shares agree to the change.

Thus, a cooperative that provides electricity to its tenants via master metering would be able to change to submetering in the discretion of the board of directors where the lease allows the services provided to be changed at the discretion of the board of directors provided the requirements contained in regulations of the PSC

are met.<sup>13</sup> In those cases where the lease does not provide that the services provided to the tenants can be changed in the discretion of the board of directors, the lease has to be changed in accordance with the amendment provisions of the lease.

However, not all leases grant the board of directors discretion to change the services provided to lessees and not all leases have amendment provisions. For example, a typical clause found in the leases for cooperatives that receive assistance in the form of mortgage insurance pursuant to Section 213 of the National Housing Act and are supervised by the Department of Housing and Urban Development (HUD), obligates the cooperative to provide electricity to its members:

The Corporation shall provide water, electricity, heat and gas in amounts which it deems reasonable. The member shall pay for all other utilities.

The lease from which the above clause is taken does not, however, have a provision that allows the lease to be amended. Thus, it would appear at first glance that the cooperative would not be able to change from master metering to submetering absent intervention of the supervising agency authorizing such a change. It could be argued that the words "in amounts which it deems reasonable" grants the cooperative the right to stop providing electricity. However, this language could also be interpreted to require the supply of reasonable quantities of electricity.

Even in the event that the supervising agency did authorize a lease amendment, a change in the lease could very well be challenged by lessees since there is generally no provision in these leases allowing for their amendment.

Many of the "213" cooperatives have refinanced or are in the process of refinancing their underlying mortgages and thereby effectively becoming conventional cooperatives. These 213 cooperatives should be encouraged to adopt new leases which include amendment provisions and provisions allowing the cooperative to submeter and collect electric charges as rent.

If a cooperative adopted a lease containing the provisions set forth below it would have the ability to submeter and collect electric charges as rent.

#### CARRYING CHARGES.

A. The Member agrees to pay to the Corporation in equal monthly installments, on the first day of each month after the date hereof, in advance, without set-off or deduction of any kind, sums referred to herein as "Carrying Charges", equal to the Member's proportionate share of the sum required by the Corporation, as estimated in advance from time to

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<sup>13</sup> In residential cooperatives where all tenants are shareholders the PSC requires shareholder approval of conversion to submetering by a majority of shareholders. See discussion in Section IIA.

time by the Board of Directors, to meet its expenses for the current fiscal year, including but not limited to the following items:

- (1) The cost of all operating expenses of the Development and services furnished.
- (2) The cost of necessary management and administration and corporate expense.
- (3) The amount of all taxes, water charges, sewer rents and assessments levied against the Development or the Corporation or which it is required to pay, and ground rent, if any.
- (4) The cost of fire and extended coverage insurance on the Development and such other insurance as the Corporation may effect or as may be required by any mortgage.
- (5) **The cost of furnishing water, electricity, heat, gas, garbage and trash collection, and other utilities, if furnished by the Corporation, except that the cost of furnishing gas, water and/or electricity may be billed to the Member for amounts consumed as measured by a meter or submeter.**
- (6) All reserves set up by the Board of Directors.
- (7) The estimated cost of necessary repairs, maintenance and replacements of the Development to be made by the Corporation.
- (8) The amount of principal, interest, mortgage insurance premiums, and other required payments on any mortgage on the Development, except to the extent the same are included in the foregoing items.
- (9) Any other necessary expenses of the Corporation approved by the Board of Directors, including deficiencies, if any, for prior periods.

**UTILITIES.**

Subject to the provisions of subparagraph (5) of Article 3 of this Agreement, the Corporation shall provide and pay for water, electricity, heat and gas in amounts which it deems reasonable, when furnished by the Corporation. The Member shall pay for all other utilities.

Certain cooperative leases specifically authorize a change to submetering or direct metering. For example, the lease of one New York State Mitchell-Lama, which includes electricity within the services to be provided to its lessees, also in a separate clause provides:

The Housing Company may without further notice discontinue the unmetered service of electric current to the demised premises, in which event the carrying charges hereinabove provided for shall be reduced by that portion

thereof allocated to the cost of electricity on the books of the Housing Company. In the event such condition occurs, and if electrical current be supplied by the Housing Company through a meter, the Cooperator covenants and agrees to purchase the same from the Housing Company or the Housing Company's designated agent at the terms, classification and rates not in excess of those charged to such customers by the public utilities corporation serving the part of the city where the building is located. Bills therefor shall be rendered at such time as the Housing Company may elect, and the amount, as computed from a meter, shall be deemed to be, and be paid, as additional carrying charges.

## 2. Agency Intervention For Supervised Cooperatives

As a matter of general policy, the City of New York Housing Development Administration ("HDA"), the predecessor of HPD, in October 1975, issued a departmental memorandum concerning housing companies under its jurisdiction, which stated in pertinent part:

While the housing company usually covenants to furnish utilities in conjunction with a legal obligation imposed upon owners under the Housing Maintenance Code to provide electric lighting fixtures and equipment, and although the renewal of the occupancy agreement upon the same covenants and terms is typically a contractual right of the tenant-cooperator, a Board of Directors, assuming shareholder approval of the conversion and approval of the HDA, is empowered to revise the occupancy agreement form so as to delete the housing company's responsibility for providing electricity and to provide for individual metering in all future agreements.

The HDA concluded in its October 24, 1975 departmental memorandum that the board of directors is without authority to unilaterally compel a conversion from master to individual electric metering in housing companies.

DHCR, in its January 19, 1977 Management Bureau Memorandum #77-B-1 directed that the following paragraph concerning installation of meters must be substituted for Section 25 of the standard lease and Section 15 of the standard occupancy agreement in all residential leases as well as in all commercial leases entered into by housing companies under its jurisdiction:

If unmetered electricity and/or gas is furnished by Landlord (the Company), the Landlord (Company) may, with the approval of the Commissioner, discontinue such service(s) to the demised premises in which event the rent (carrying charges) shall be reduced by that portion thereof allocated to the cost of such service(s) on the books of the Landlord (Company). In the event such condition occurs, and (i) if such service(s) be supplied by the Landlord (Company) through a meter, the Tenant (Cooperator) covenants and agrees to purchase the same from the Landlord (Company) or the Landlord's (Company's) designated agent at the terms, classification and rates not in excess of those charged to such consumers by the appropriate public utility corporation and bills therefore shall be rendered at such time as the Landlord (Company) may elect, and the amount, as computed from a meter, shall be deemed to be and be paid, as additional rent; or (ii) if such service(s) are discontinued by the Landlord (Company), the Landlord (Company) shall permit the Tenant (Cooperator) to receive such service(s) direct from the

appropriate public utility corporation and shall permit the Landlord's (Company's) pipes, wires and conduits to be used for such purpose to the extent available, suitable and safely capable of handling.<sup>14</sup>

#### B. ARE SUBMETERED ELECTRICAL CHARGES RENT?

Whether submetered electrical charges and the administrative costs associated with a submetering installation may be properly characterized as rent creates a level of uncertainty that is a deterrent to submetering.

The implications of this issue are far broader than may be immediately apparent.

The primary legal tool available to an owner to compel the payment of rent is the non-payment of rent summary proceeding. The hallmarks of the summary proceeding are the relatively simple pleading requirements, the summary nature of the procedure followed in Landlord and Tenant Court, and the prompt disposition by trial of issues raised by the parties. The pre-trial procedures that are available to litigants in an ordinary action are severely proscribed in a summary proceeding. In addition, the proceeding is commenced contemporaneously with placing the case on the calendar for trial. In a typical action, several months or years may pass before a case is considered ready to be placed on a trial calendar. Summary proceedings therefore represent a far more expeditious and cost effective means of collecting unpaid rent than an ordinary action against the tenant.

Moreover, the summary proceeding carries with it the threat of eviction if the owner is successful -- a strong inducement to the tenant to make payment of amounts due.

As their name implies, non-payment of rent summary proceedings are available only for the recovery of amounts owed by a tenant as rent. Other amounts that may be owed by a tenant to an owner, such as the costs of repairing damage done by the tenant's negligence, may not be recovered in a non-payment of rent summary proceeding unless the lease agreement under which the tenant leases the premises specifically provides that such costs shall constitute rent and be recoverable as rent if unpaid.

Clearly it would not be difficult to insert into apartment leases a provision that submetered electrical charges constitute rent that may be collected as such from the tenant and for failure to pay which the tenant may be evicted. This characterization, however, raises a number of issues that are not as easily resolved and create an additional level of uncertainty with respect to the collectability of submetered electric charges.

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<sup>14</sup> The approach of the HDA differs markedly from the approach of DHCR. The HDA requires the approval of the shareholders and the HDA while DHCR unilaterally amends the lease to include a provision allowing cooperatives to switch to metered electricity. While the HDA October 24, 1975 departmental memorandum does not indicate the margin of shareholder approval required, the Business Corporation Law ("BCL") provides that a simple majority vote of the shareholders present and voting at a meeting at which a quorum is present is sufficient for any corporate action unless the certificate of incorporation provides otherwise. BCL Sections 601, 614(b), 616(a)(2).

In the rent regulated sector, rents payable by tenants are heavily regulated. Only the actual legal regulated rent may be recovered from a tenant. All forms of rent regulation restrict the amount of rent that can be charged for an apartment and/or the increases in rent that can be passed on to a tenant upon expiration and renewal of the tenancy. Charging amounts in excess of the legal regulated rent constitute an illegal overcharge. Under the rent regulation system, overcharges may subject the owner to triple damage awards in favor of the tenant. Owners of rent regulated housing are thus justifiably concerned that they not be accused of rent overcharges where submetered electric is billed to the tenants.

In other words, if submetered electric charges and related administrative expenses are characterized as rent so as to make summary proceedings available for the eviction of tenants who fail to pay these charges, this characterization could subject an owner to triple damage rent overcharge complaints based upon the fluctuating nature of the electrical charges billed to the tenant. Conversely, if this problem is avoided by characterizing the submetered electric charges as something other than rent, the summary proceeding for eviction of the tenant would not be available in the event of non-payment.

Other problems are involved in this issue in the supervised sector. In supervised housing, rents are fixed at rent hearings or pursuant to similar public procedures. In the City of New York, a local law restricts the Department of Housing Preservation and Development to one rent hearing of this type every two years. Rents should be fixed as a result of this hearing. Submetered electric charges, however, will fluctuate. Whether this represents an impermissible failure to fix the rent as required by applicable statute is an area of uncertainty that represents a deterrent to submetering installations among owners of supervised housing, particularly in the rental sector.

Other issues raised by the characterization of submetered electric charges and related administrative expenses as rent or non-rent include: the impact on the Senior Citizen Rent Increase Exemption program, under which New York City subsidizes the rent of low income senior citizens; the Federal Section 8 rent subsidiary program, which subsidizes the rents of low income tenants throughout the country; and the requirements of various programs that rent increases not exceed a certain specified percentage.

The resolution of these issues is critical to the implementation of submetering in rent regulated housing.

### C. NEW YORK CITY'S SENIOR CITIZEN RENT INCREASE EXEMPTION PROGRAM (SCRIE)<sup>15</sup>

SCRIE benefits do not extend to utility costs. Where shareholders are billed lump sum carrying charges (for instance, \$450.00/month electric included), SCIE will deduct a fixed amount of money from the carrying charges and apportion it to utilities. The figure currently used is \$13.00/room (half rooms included). Of the \$13.00, \$2.00 is allotted to gas and the remaining \$11.00 to electric. For a 3 1/2 room apartment with a \$450.00 carrying charge expense, the amount of \$45.50 ( $3.5 \times \$13.00$ ) would be deducted from the carrying charges and apportioned to utilities. For SCIE purposes, the applicant's base carrying charges would be calculated at \$404.50/month. Income guidelines for SCIE recipients require that one-third of the recipient's monthly income be applied toward the payment of rent. A SCIE applicant whose monthly income is \$1,260.00 must apply \$420.00 towards the payment of rent. The differential (if any) between one-third of the recipient's income and carrying charges due (as determined by SCIE guidelines) is then supplemented. The above applicant who is billed \$450.00 lump sum carrying charges would not be eligible for SCIE assistance, as \$420.00 exceeds the monthly carrying charges of \$404.50 (\$450.00 - \$45.50 utility allotment). This same applicant may be eligible for SCIE assistance if monthly carrying charges remained at \$450.00 and the cooperative installed electric submeters. If the SCIE Bureau was notified that meters were installed, only \$7.00 for utilities (\$2.00/room for gas) would be deducted from the monthly carrying charges of \$450.00. The same applicant whose one-third monthly income remains at \$420.00 is now eligible for a \$23.00 SCIE supplement/month; the \$23.00 being the differential between the applicant's income required to be applied to rent, \$420.00, and the SCIE determination of carrying charges at \$443.00.

It would seem that submetering would benefit SCIE applicants by indirectly increasing the proportion of carrying charges deemed "rent" for SCIE purposes. This raises several issues. If the electric charges were previously included in the monthly carrying-charges, would base carrying charges have to be reduced as a result of submetering? Notification issues are also raised. The SCIE Bureau expects the cooperative to notify it of the effective date of submetering. In theory, the SCIE Bureau should then adjust the SCIE rent calculation, thereby affecting amounts received by recipients. Whether the "rent" figure stays the same for the remainder of the year in which the submeters are installed or adjusted at the commencement of the new year has not yet been determined by the SCIE Bureau. The SCIE Director has indicated that SCIE has no set policy in place addressing this issue, at least in part because submetering has not been widely implemented.

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<sup>15</sup> Discussion based on September, 1994 telephone conversation with Nancy Fugena, Director of SCIE

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## APPENDIX D - GRIEVANCE AND DISPUTE RESOLUTION PROCEDURES

This Appendix contains the following:

- (1) Proposed Dispute Resolution Procedure for DHCR and HUD
- (2) Generic Grievance Procedures
- (3) Excerpt from HPD regulations relating to Grievance Procedures.

### **(1) PROPOSED DHCR AND HUD DISPUTE RESOLUTION PROCEDURES**

The following grievance/dispute resolution procedure is recommended for adoption by HUD and DHCR for their publicly-assisted housing portfolio. The procedures are readily adaptable to rentals and cooperatives. HPD has regulations in place for cooperatives, which are including in Appendix D, Section (3).

A shareholder (complainant) with a complaint related to the operation of a submeter, a submeter billing amount or practice, or any related submetering issues shall present to the owner/Board of Directors, through its managing agent, a written complaint that may be in letter form, including the action or relief requested and shall attach to the complaint copies of canceled checks or other evidence of payment of any contested submetered electrical charges.

If the complainant has paid the disputed charges, the owner/Board shall process the complaint as set forth below. If the complainant has not paid the disputed charges, but is otherwise up-to-date in the payment of rent/carrying charges -- and the disputed charges are fifty percent (50%) or more higher than the highest charge for any comparable time period during the prior twelve months, the owner/Board is obligated to process the complaint. If, however, the disputed charge is unpaid and is less than fifty percent (50%) higher than the highest charge for any comparable time period during the prior twelve months, and/or the complainant's rent/carrying charges are not otherwise up-to-date, the owner/Board may summarily reject the complaint and **file a verified petition with the supervising agency setting forth the grounds why the lease/occupancy agreement should be terminated.**

A copy of the petition shall be served upon the complainant and a hearing with respect to the allegations set forth in the petition shall be held by the supervising agency. The parties may be represented by counsel and may summon witnesses to testify on their behalf. The hearing officer shall submit a written report of his findings and recommendations to the commissioner. The commissioner shall thereafter advise the parties in writing whether a Certificate of Eviction shall be issued. The commissioner's final decision shall be binding on the parties, subject to judicial review.

Upon receipt of a written complaint regarding **administrative** matters, the owner/Board or its managing agent has thirty (30) business days to respond. The response must either acknowledge the validity of the complaint

Upon receipt of a written complaint regarding **administrative** matters, the owner/Board or its managing agent has thirty (30) business days to respond. The response must either acknowledge the validity of the complaint and set forth the remedy to correct the error or reject the complaint and advise the complainant as to the reasons for the rejection. The complaint may bring an unsolved matter before the supervising agency if:

- (1) The owner/Board or its managing agent fails to respond to the initial complaint within the thirty (30) business day period
- (2) The owner/Board or its managing agent rejects the complaint
- (3) The owner/Board or its managing agent accepts the complaint, but the proposed remedy is unsatisfactory to the complainant
- (4) The owner/Board or its managing agent accepts the complaint, but fails to effect the agreed upon remedy within thirty (30) additional business days from the date of acceptance by the complainant.

Upon receipt of a written complaint regarding submeter malfunction, the owner/Board or its managing agent shall arrange for testing of the submeter within ten (10) business days after receipt of the complaint. Solely at the discretion of the owner/Board or its managing agent, an independent meter tester or a representative of the metering company employed by the owner/Board shall provide the owner/Board or its managing agent with a written report regarding the accuracy of the submeter within thirty (30) business days from the date the submeter is tested. The owner/Board or its managing agent shall provide a copy of the test results to the complainant within ten (10) business days after receipt.

If the results of the submeter test confirm that the submeter is functioning accurately, the complainant must pay any open electricity charges within fifteen (15) business days from receipt of the test results or be subject to an administrative hearing as described above. If the submeter is found to be defective, the owner/Board shall include with the copy of the test report a proposed remedy to correct the defect and an appropriate billing adjustment. If this complaint was the first initiated by this complainant, the owner/Board shall pay the cost of the test, despite the outcome. The cost of resolving subsequent complaints regarding submeter accuracy shall be borne by the party in error.

The complainant may bring an unresolved submeter dispute to the supervising agency if the complainant is dissatisfied with the proposed remedy and/or billing adjustment or if the owner/Board fails to implement the remedy or make the billing adjustment within thirty (30) business days from the date of acceptance of the remedy and billing adjustment by the complainant.

A complainant, dissatisfied with the determination of the owner/Board as delineated above, may request an agency review by filing a written protest with the supervising agency within thirty (30) business days from the complainant's receipt of the owner/Board determination. A copy of the owner/Board's response, a copy of the test report, and other pertinent documents shall be included with the protest. Upon receipt of the protest, the

supervising agency shall have the complaint and response reviewed. The agency may require an independent inspection of the submeter, may seek to inspect building records, may call a conference of the parties to dispute, or take any other steps necessary to resolve the dispute. The agency representative designated to review the protest shall, within a reasonable time period, submit a written report of his or her findings and a recommended disposition of the matter. Once the report is accepted by the agency commissioner, a copy shall be sent to the owner/Board or its managing agent and the complainant. The determination of the agency is final, subject to judicial review.

The complainant must provide access to the submeter during normal business hours upon reasonable notice by the meter tester. If the complainant refuses access to the submeter within fourteen (14) business days from the date of receipt by the owner/Board of the initial complaint and the outstanding electricity charges remain unpaid, the owner/Board may apply to the supervising agency for a certificate of eviction without further notice.

## **(2) GENERIC DISPUTE RESOLUTION PROCEDURES**

Upon completion of the interview process and the two submetering forums, the Project Team proceeded to analyze the data collected. One consistent thread runs through the testimony -- that of procedural uncertainty -- and the one aspect of uncertainty that was emphasized by agencies, owners/Boards, and tenants/shareholders alike is the lack of a standardized grievance/dispute resolution procedure. Every agency declared that no submetering application would go forward without a procedure in place. Owners sought to be assured that they will be able to collect submetering charges and tenants would not consider support of submetering without a mechanism to resolve faulty meter and erroneous billing issues.

At the second submetering forum, a number of agency participants expressed the view that if a standardized grievance procedure were established, it could conceivably be adopted by the agencies and the housing companies under their jurisdiction. The following is a proposed set of guidelines for dispute resolution:

### Dispute Resolution

A standardized dispute resolution procedure should be adopted for handling disputes regarding submetered electricity charges. References in the PSC regulation to the Home Energy Fair Practices Act should be deleted and an applicant seeking permission to submeter should be required to affirmatively adopt a standardized dispute resolution procedure prescribed by PSC.

The first level of dispute resolution should be handled by the owner/Board/management. Disagreements that cannot be resolved at this level would be referred to an administrative agency charged with the responsibility for oversight of these matters. In the case of publicly assisted buildings, it would be the respective supervising agency. In the private and rent regulated sectors, a determination would have to be made as to which entity

would accept responsibility for dispute resolutions. In seeking to balance the potential for tenant/shareholder abuse in fabricating billing disputes to avoid payment and owner/Board abuse in refusing to remedy legitimate tenant complaints, the following format is recommended.

#### Complaint Procedure

To initiate a review of their bill, a tenant/shareholder (complainant) shall present to the owner/Board in writing a complaint relating to the operation of a submeter, a submeter billing amount or practice, or any related submetering issues. The complaint may be in letter form indicating the action or relief requested. If the complainant has paid the disputed charges, the owner/Board is obligated to process the complaint as set forth below. If the complainant has **not** paid the disputed charges, but is otherwise up-to-date in the payment of rent/carrying charges and the disputed charges are fifty (50%) percent or more higher than the highest charge for any comparable period (i.e., month) during the prior twelve months, the owner/Board is obligated to process the complaint. If, however, the disputed charge is unpaid and is less than fifty (50%) percent higher than the highest charge during the prior twelve months, and/or the complainant's rent/carrying charges are not otherwise up-to-date, the owner/Board is entitled to summarily reject the complaint and initiate suit against the complainant for the recovery of the money due or for eviction. HPD regulations presently in effect **mandate** that prior to the commencement of an eviction proceeding based solely upon non-payment of submetered electricity charges, the matter must be brought before the agency. A determination will have to be made regarding this issue.

If the complaint relates to **administrative** matters, the owner/Board shall be obligated to respond to the complaint within thirty (30) business days after receipt of the complaint. The response must either acknowledge the validity of the complaint and set forth the remedy to correct the error or reject the complaint and advise the complainant as to the reasons for the rejection. The complainant may bring an unresolved matter before an appropriate agency if:

- (1) The owner/Board fails to respond to the initial complaint within the thirty (30) business day period
- (2) The owner/Board rejects the complaint
- (3) The owner/Board accepts the complaint, but the proposed remedy is unsatisfactory to the complainant
- (4) The owner/Board accepts the complaint, but fails to effect the agreed upon remedy within thirty (30) additional business days from the date of acceptance by the complainant.

If the complaint relates to submeter malfunction, the owner/Board is obligated to arrange for testing of the submeter within ten (10) business days after receipt of the complaint. An independent meter tester or a representative of the metering company employed by the owner/Board must provide the owner/Board with a written report regarding the accuracy of the submeter within **thirty (30) business days from the date the submeter is tested**. The owner/Board is obligated to provide a copy of the test results to the complainant

within ten (10) business days after receipt by the owner/Board. For the complaint to be processed, the complainant must provide access to the submeter during normal business hours upon reasonable notice by the meter tester.

If the results of the submeter test confirm that the submeter is functioning accurately, the complainant must pay any open electricity charges within fifteen (15) business days from receipt of the test results or be subject to legal action. If the submeter is found to be defective, the owner/Board must include with the copy of the test report, a proposed remedy to correct the defect, and an appropriate billing adjustment. If this complaint was the first initiated by this complainant, the owner/Board will pay the cost of the test, despite the outcome. The cost of resolving subsequent complaints regarding submeter accuracy will be borne by the party in error.

The complainant may bring an unresolved submeter dispute to the attention of the appropriate administrative agency if the complainant is dissatisfied with the proposed remedy and/or billing adjustment or if the owner/Board fails to implement the remedy within thirty (30) business days from the date of acceptance of the remedy by the complainant.

#### Agency Review

A complainant, dissatisfied with the first level of dispute resolution, may request a review of the owner/Board's determination by filing a written protest with the appropriate administrative agency within thirty (30) business days from the complainant's receipt of the owner/Board determination.

Upon receipt of the protest, the agency shall have the complaint and response reviewed. The agency may require an independent inspection of the submeter, may seek to inspect building records, may call a conference of the parties to the dispute, or take any other steps necessary to resolve the dispute. The agency representative designated to review the protest shall, within a reasonable time period, submit a written report of his or her findings and a recommended disposition of the matter. Once the report is accepted by the agency commissioner charged with the responsibility for oversight, a copy shall be sent to the owner/Board and the complainant. The determination of the agency is final, subject to review by an Article 78 proceeding.

#### Unresolved Issue

State-of-the-art technology presently does not generally enable the owner/Board to **shut off** electric service to the tenant/shareholder for refusal to pay submetering charges, given that all efforts at mediation have failed. Even if technology permits, the most effective goal of the dispute resolution mechanism should be to facilitate the collection of electricity charges as if they were rent or common charges, rather than the additional capability to turn off the electric service. Given that the amount of the shortfall in rent/common charges due to the failure to pay for electricity charges is sufficient to trigger provisions in the lease justifying eviction, this provision

could be applied in cases where all mediation efforts have failed and the tenant/shareholder continues to withhold the amount corresponding to electricity charges.

**(3) HPD REGULATIONS RELATING TO GRIEVANCE PROCEDURES**

*Excerpts* from RCNY (6-30-91) Chapter 3 - City-Aided Limited Profit Housing Companies, §3-11, pages 11655-11657:

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(b) *Submetering of Electricity.* Wherever allowable as determined by the Public Service Commission, a housing company which is master metered for electricity may, pursuant to HPD approval, install equipment for the submetering of electrical charges within dwelling units and bill cooperators for their individual consumption, plus administrative costs and amortization of equipment. A housing company seeking to convert to submetering must comply with all requirements of the Public Service Commission with respect to such conversion. Rent/carrying charges shall continue to reflect the cost of electricity for public areas and usages.

**(4) Grievance Procedures.**

(i) The tenant/cooperator (complainant) shall present to the housing company or its managing agent, a written complaint which may be in letter form, including the action or relief requested and shall attach to the complaint copies of cancelled checks or other evidence of payment of any contested submetered electrical charges. No complaint will be processed without proof of payment.

(ii) The housing company or its managing agent shall investigate and respond to the complainant in writing within ten (10) days of the receipt of the complaint. The complainant shall be advised of the disposition of the complaint and the reasons therefor.

(iii) If the complainant is dissatisfied with the managing agent's response, he or she may request a review of said determination by filing a written protest with HPD within fourteen (14) days from the date of the response. No particular form of protest is required.

(iv) Upon receipt of the protest, HPD shall have a representative review the complaint and the response by management. If necessary, an inspection of the meter may be ordered or a conference may be scheduled with the housing company or its managing agent and the complainant. HPD's representative shall, within a reasonable time period, submit to the Assistant Commissioner or a designee of the Division of Housing Preservation of HPD, a written report containing a recommended disposition of the matter. A copy of the report shall be sent to the housing company and to the complainant.

(v) The Assistant Commissioner or a designee shall review the report and shall either affirm, modify or reject the report in writing to all concerned parties.

(iv) Prior to the commencement of an eviction proceeding based solely upon non-payment of submetered electrical charges, the housing company through its attorney must submit a verified petition to HPD setting forth the grounds why the occupancy agreement should be terminated. A copy of the petition shall be served upon the cooperator and a hearing, with respect to the allegations set forth in the petition, shall be held by HPD. The parties may be represented by counsel and may summon witnesses to testify on their behalf. The hearing officer shall submit a written report to the Assistant Commissioner of his findings. The Assistant Commissioner shall thereafter advise the parties in writing whether the hearing officer's recommendation is accepted, modified or rejected.

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## APPENDIX E - Project Team Biosketches

Herbert E. Hirschfeld, P.E. - Project Manager. Mr. Hirschfeld has devoted most of his professional consulting practice to the field of electrical submetering since the reinstitution of electrical submetering by the PSC in New York State in 1979. He has worked with NYSERDA and DHCR as a Technical Consultant on the Demonstration of New Submetering Technologies Program, was co-project manager and co-author of the Demonstration of New Submetering Technologies (NYSERDA Report 86-8), has worked with the New York State Energy Office, and served as project manager on providing consulting services to the Building Advanced Technology Surveys (BATS) program, and was the Technical Consultant to the Project Team supporting the Consolidated Edison Residential Submetering Program.

Joseph S. Lopes, Vice President and Principal of Applied Energy Group, Inc. - Project Administrator and Prime Contractor. In his capacity with AEG, Mr. Lopes has assisted every New York State utility in demand side management, customer load research, and economic analysis, and has made numerous presentations and filings before the New York State Public Service Commission. He was recently a member of the consulting team to support the Consolidated Edison Residential Submetering Program and served as the Consulting Team Project Manager during most of the project.

Fredric S. Goldner, C.E.M. - Principal of Energy Management & Research Associates and Assistant Project Manager. Mr. Goldner is involved in endeavors ranging from research to DSM program design to software development and program evaluation. Some of his research has resulted in the setting of new standards for the energy and housing communities. Prior to EMRA, Mr. Goldner spent 8 years at the New York City Department of Housing Preservation and Development (HPD) in various capacities, including Technical Director and Director of Research & Analysis at the Energy Conservation Division. His expertise is in addressing energy-related matters within the multi-family housing sector of New York City.

Ruth Lerner, Consultant. Ms. Lerner has served New York City as a member of the City Council and distinguished herself during her 13 years as Assistant Commissioner of the New York City Department of Housing Preservation and Development (HPD). Her expertise is in assessing the political and regulatory aspects of this project. Her current position is Managing Director of Waterside Plaza, a large residential rental complex.

Howard Schechter - Attorney at Law. Mr. Schechter is a founding partner of Schechter & Brucker, P.C., a New York City law firm specializing in real estate, serving as legal counsel to 85 cooperatives and condominiums located throughout New York City, Westchester, and Nassau Counties, and to various tenant organizations and owners. He has been active with all the major Federal, New York City and New York State agencies that regulate and supervise housing. Mr. Schechter served as the legal expert for the project and utilized the resources of his firm in the performance of the legal research.